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*EDITORS:*

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# EDUCATIONAL REVIEW

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**January, 1891**

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# EDUCATIONAL REVIEW,

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## I.

### THE SHORTENING OF THE COLLEGE CURRICULUM.

The question of shortening the college curriculum was brought before the public early in the current year by a proposition that was seriously considered in the oldest, richest, and most widely developed university in the land. The example of Harvard has great weight in all educational circles, and a proposal like this was sure to open an animated discussion.

The official utterances of President Eliot, and of other authorities in Harvard, may be found in his annual reports as President since 1885-86.<sup>1</sup> These papers indicate that the discussion is still in the stage of preliminary inquiry, and there is no public sign of an immediate conclusion. It is a curious fact (as I am informed) that no affirmative statement has yet been made in Cambridge, on the side of shortening the course. A negative statement has been made by a committee of the Board of Overseers. President Eliot says, (Report for 1888-89) "Wherever the fault and whatever the remedy, it is clear that the degree of Bachelor of Arts is taken in the United States later than in any other country in which the degree is used, and too late for the best interests of the individuals who aspire to it, and of the institutions which confer it." A report presented to the Overseers of Harvard by a committee consisting of H. W. Putnam and Roger Wolcott, takes a conservative position.

<sup>1</sup> 1885-86, p. 14; 1886-87, pp. 14, 16, 75, 76; 1887-88, pp. 12, 83; 1888-89, p. 21.



Among noteworthy and easily accessible articles bearing upon the subject may be named an essay on the Use and Limits of Academic Culture, by Professor N. S. Shaler, of Harvard, in the *Atlantic Monthly* for August, 1890; and an editorial in *The Nation* for August 7, 1890. A paper on Uniform Courses in Colleges, by Professor H. A. Fischer, of Wheaton College, contains (p. 28) an interesting summary of "the time-requirements" of twenty-nine colleges, including the work of preparation.\* An article by Principal Bancroft of Andover, published in *The Independent*, September 4, 1890, is important, though very brief. He claims that it is not so important to shorten the educational period, as to make every part fruitful. It is important to bear in mind that it is a diminution of time that is advocated,—not a diminution of subjects to be studied. The report of President Capen of Tufts College, dated September 18, 1890, contains a vigorous protest against the shortening of undergraduate courses. He says it is better to spend three years in a fitting school and four years in the college, than four years in the fitting school and three in the college.

No general conclusion can be quickly reached on such a question. It must be settled in each institution according to its own circumstances. It must be tried in the local court before it is submitted to the court of appeals, that is, to the public. It does not follow that if one institution, even the strongest and most influential, decides to shorten its course, others will likewise do so. There is no probability that three or four hundred colleges will advocate or consent to curtailment. A strong conservative resistance will be developed by the love of Americans for that which is characteristic in our college system. Whatever its merits or demerits, it is our own. Our scholars are wonted to it; our preparatory schools are adapted to it; the public revere it. New institutions may begin with new methods; but the older colleges are always bound by the fetters of tradition when a fundamental change is proposed. Nevertheless, improvements of great signifi-

\* Illinois State Teachers' Association (College Section), December, 1888.

cance have been introduced within the last twenty-five years—for example, the permission of elective studies; the superior requirements for admission; the increased attention to modern languages; the facilities for scientific instruction. Other changes are sure to come—and it is possible, if not probable, that among them the curriculum may be generally restricted to three years. It is worth while, however, to bear in mind that the number four has nothing sacred or mystical about it. It is an accidental, not an essential, limit. It is not significant in English, French, or German education. We may endeavor to trace its origin to the mediæval quadrivium, but that should introduce us to four great subjects, not to a quadrennium. There is really no reason but usage why the college course should not be eight or more years, as in the German Gymnasium, or a number of terms equivalent to three years in the English universities.

The curtailment of the curriculum is chiefly urged for this reason. The number of persons who proceed to professional schools after taking a college course is much smaller than it should be; it is diminishing; and those who pursue a collegiate and then a professional course postpone, till too late a period, the actual business of life. For all such persons, a year of preparatory work can well be spared. Professor Shaler calls attention to a "dangerous distinction" that is often made between a pure and a practical or professional education. The objections to the curtailment of the course are numerous; for example, (*a*) the country is wonted to the four years plan, and our existing arrangements can only be changed with difficulty; (*b*) the curriculum is now crowded, and there is danger that curtailment will involve repletion; (*c*) the college cannot afford to lose the income which comes from tuition fees collected during four years. Consequently, Professor Shaler proposes modifications of the original proposition. We may, he says, (*a*) give the degree of B.A. in exceptional cases, at the end of three years, while retaining for general use the four year period; or, (*b*) we may allow a qualified student to begin his professional studies in the third year of his col-

lege course; or, (c) we may adopt both these methods of procedure. [www.libtool.com.cn](http://www.libtool.com.cn)

The discussion reveals a good deal of dissatisfaction with the existing state of things—and, whatever opinion we may hold upon the question proposed, it is worth while to discover, if we can, the real difficulty, and then search for remedies. If I understand the complainants, the dissatisfaction is this: professional men—lawyers, physicians, and ministers, as well as those who are devoted to other modern professions—begin their professional courses, as a rule, without having had that liberal preparatory education which the college curriculum has been supposed to give, and which its advocates believe it fitted to give. Those who go to college enter their professional life too late. I believe that at Cambridge it is only the Medical Faculty that has asked for a change; the Law School declined to ask it. Besides, many who pursue professional courses avoid the college altogether.

One of the most persistent attempts to point out and to repair the difficulty has been made during a period of several years past by the American Academy of Medicine. Dr. C. McIntire,<sup>3</sup> of Easton, Pa., presented to that body in 1882, some instructive statistics on this point. Among other things they show that (in 1851) of 12,400 alumni of eight colleges, but 7.5 per cent. became physicians; and that (in 1882) of 38,054 alumni of fifty-eight colleges, but 9.2 per cent. became physicians. He made a special study of those parts of the country near his own residence in Easton, and he found that of one hundred physicians, eighty had no collegiate education whatever, and seven of the rest had followed a partial course. An examination of the Harvard registers revealed to him the fact that prior to this century 69.2 per cent. of the medical men whose names are there given had received

<sup>3</sup> Dr. McIntire, in a note dated December 6, 1890, says that the American Academy of Medicine has been lately engaged in an inquiry as to the relative significance of the degrees of B.S., Ph.B., etc., when compared with the ordinary A.B. degree. A report upon the subject has just been made to the Academy, which will soon be published in abstract.

the degree of B.A. In the first twenty-five years of this century 66 per cent. of the Doctors of Medicine had previously become Bachelors of Arts. Then came a surprising fall. Among the medical graduates from 1826 to 1879 but 35 per cent. had received a baccalaureate diploma. He gives a more striking illustration of the state of the times when he shows from the report of the United States Commissioner of Education for 1880, that among 18,000 students reported in schools of law, medicine, theology, only fifty-eight per cent. had received a degree in Arts or Science. This would indicate that half the professional students of 1880 in this country were not Bachelors of Arts. But, in comparing the statistics of recent decades with those of the early part of the century, it is important to bear in mind that the best preparatory schools now give as good an education as was then given by the colleges.

As remedial agencies for this acknowledged difficulty I make the following suggestions:—

(a) The authorities in our educational system should really as well as nominally distinguish between the requirements of three scholastic periods, namely, the School, the College, and the University; or in other words between what is essential, what is liberal, and what is special in a prolonged education.

(b) The period of college life, which of late years has been carried forward so that it extends on the average from 18.5 years to 22.5 years (in many, perhaps, in most of the older colleges), may be brought back to an earlier age, say from 16 to 20 years.

(c) The significance of the baccalaureate degree should be restored,—so that it may be, at least, a trustworthy certificate, an approximate measure, both of the capacity and of the acquisitions of the possessor. In one way or another, a consensus should be reached as to the "dignities, rights, and privileges to that degree appertaining."

(d) The rigidity of the class system should be relaxed,—so that those who are exceptionally favored or exceptionally

strong may, if they choose, run the course in less than the average time; and likewise so that any who are embarrassed by ill health, the necessity of earning a support, or the inadequacy of their early opportunities, may spend more than the usual time without any implied discredit,—indeed, without attracting any attention. The exaggerated emphasis given to the class system in our colleges seems to me most unfortunate. (e) The enormous waste of time and energy at the school period, the time of preparation for college, must be arrested. The warning of President Eliot on this subject was most timely. It ought to be heeded everywhere. It may be found in the *Atlantic Monthly* for August, 1888. There is also a comment upon this article by Professor Fisk of Evanston, Ill.<sup>4</sup>

If these remedies could be adopted, what would be the result? School life would usually end at sixteen years of age,—when “matriculation” in a college would indicate that the scholar was ready for higher studies. College life would usually end at twenty years of age,—when a Bachelor’s degree would denote the attainment of a liberal education. Those who are fleet would go over the course in less time, and those who are handicapped would proceed at a slower rate. The hares would generally win; but sometimes, the turtles. Professional or special education would then continue as long as the scholar might wish,—three years being probably the usual period in schools of law, medicine, and theology. The young man would thus receive at twenty-three years, or upwards, his professional certificate or his diploma as a Doctor of Philosophy. He would have finished his university pupilage. An education like this would usually extend over eleven years; four in the preparatory school (from twelve to sixteen); four in college (from sixteen to twenty); and three in a professional school (from twenty to twenty-three); but the period might be shortened or lengthened according to individual abilities or disabilities. If then the stronger universities would take the ground that, as a rule, none should be admitted to the professional

<sup>4</sup>In the Proceedings of the Illinois Teachers’ Association (College Section), 1888.

courses, or to the freedom of university instruction, until they had attained a Bachelor's degree, or in some other way acquired a corresponding preparation for advanced work,—the reproaches, of which we are conscious, would soon disappear, and higher education would be more generally diffused, more wisely ordered, more serviceable to the public.

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## FRUITFUL LINES OF INVESTIGATION IN PSYCHOLOGY.

The study of psychology has become of late very popular with the teaching profession. The normal schools have taken it up in a more earnest manner than ever before. Teachers' reading circles are grappling with it, educational writers are appealing to it. We are told that education deals with the development of the mind, and that the science of pedagogics must be grounded on psychology if it is to have a rational basis. In view of this emphasis on its study it becomes a very practical question, What lines in psychology are profitable for the teacher to pursue? I offer the following brief contribution to the answer to this question.

In the first place, educational psychology is studied in order to find the grounds of prevailing educational theories. The majority would not study it at all if they knew that it would sap the foundations of their spiritual beliefs. If a study of psychology were sure to lead to materialism—to a belief that "the brain secretes mind as the liver secretes bile," and that the soul is not independent of bodily organs any more than the sound of a bell is independent of vibrating metal and air; if psychology meant the denial of immortality, and freedom, and God—the denial of all spiritual existence—it is safe to say that teachers, who are the most conservative class of people next to the lawyers and the clergy, would not study it. If psychology is to be useful in grounding our theory of education it must not be of such a character as will destroy all theories of education. The student who seeks truth fearless of its consequences, of course will not flinch. He will read the Sibylline books even if the oracles pronounce his eternal death. If the truth and final outcome be affirmative, he also will find it. But the teacher who seeks a ground for his work, for the what and

why of his teaching, will not be thus intrepid unless he has chosen to devote his life to this branch of knowledge. At least he would not counsel all teachers to study psychology, were it sure to lead to negative results. Only on condition that all psychology furnishes affirmative grounds for the ideas that rule our civilization will it do to recommend it indiscriminately as the study for teachers. If there are different species of treatises on this subject, some affirmative and some negative, then it is necessary first of all to classify these treatises and commend only those which will serve the purpose. Assuming the latter alternative as the actual state of facts, I offer the following remarks:

There are three classes of works on psychology before the public. The first class contains the most numerous treatises. It comprises works written from the so-called standpoint of common sense. By this phrase it understands the direct and explicit assumption, without criticism, of the point of view taken by the common consciousness of the people. It adopts the current moral and religious convictions; the traditional notions in regard to mind and matter. These it sets forth with a show of system, more or less happily conceived. So far as they preserve their dogmatic tone these treatises are healthful and assuring to the reader, whether a teacher or otherwise. The best work of this first class is that of Victor Cousin, to be found in the third part of his *History of Modern Philosophy*. It consists of a detailed critique of Locke from the point of view of common sense. The aggregate of convictions that constitute the common consciousness is marshaled against the materialism set forth in the celebrated "Essay on the Human Understanding." The discussion is as exciting as a tournament to any one who has begun to think on the foundations of human knowledge. While this treatise of Cousin is by far the best, there are many good works of its kind. One may name those of the Scotch philosophers not affected with Kantianism, also such French writers as Compayré, and a score of American compends based on the same common ground.

The second class of psychological treatises includes two sub-



classes: first, those which make the senses the source of all our knowledge, and secondly, those that seek in the study of the brain and nervous system the explanation of the phenomena of mind. Both of these sub-classes agree in making mental action something organic—a function of the physical organism, instead of placing it in a soul transcending the physical body and controlling the same. The materialistic theory, in other words, seeks to explain the mind through the functions of matter, instead of explaining the organization of the body and all life processes as having their origin in the self-activity of souls. Locke and his widespread school of psychology, together with the physiological psychologists from Gall and Spurzheim to Broca and the school of Wundt and Ferrier, belong to this second class. Although their writings contain many hints for pedagogics as regards hygiene and pathology, the entire drift of their thought is negative to the aggregate of ethical and religious convictions which the age holds in its “common sense.” For that “common sense” acts on the presupposition that man is morally responsible for what he eats, and is not merely the passive product of it. It holds that man is an immortal soul, transcendent of matter, and charged with the ethical mandate to subdue the body and use it only as an instrument for transcendent purpose; namely, for the knowing and willing of what is divine. All our laws, manners, and customs, our literature and our art, as well as all our institutions, are based on this spiritual presupposition. Now, since education is simply the means of initiating youth into the forms and convictions of our civilization, we can see how negative is the attitude of all forms of materialism. Its study by the teacher, unless he is able to escape its implications, will be injurious. The only cure is to hold firmly to the dogmatic basis or to move forward to the psychology founded on philosophical insight. Without this resort to the first or third basis, agnosticism is the only result of studying physiological psychology or materialism.

The third class is composed of works on rational psychology. The name “rational” is given to psychology to indicate an in-

vestigation of the *a priori* elements of cognition—an investigation of the constitution of the rational soul as transcending matter and sensuous experience. It has two forms: that derived from Aristotle, and that derived from Kant. The word “transcendental” has come into use from Kant to indicate what is derived from the mind itself and not from experience or external perception. There are elements in our consciousness that are not derived from experience. These, as Kant points out, are the categories or mental forms without which experience would be impossible. The Aristotelian form of psychology is also transcendental, inasmuch as it holds to the soul as separate from the body (*χωριστόν*), and the active cause of all organic forms of life. Any theory that is based on mind as an independent, self-active being is of this third order of psychology. If it denies self-activity as transcending matter and as the cause of life and intelligence, it belongs to the second order of psychology. If it assumes life and mind as transcendent, without permitting itself to investigate the grounds of its assumption, it belongs to the first order of psychology.

Sir William Hamilton (whose writings belong to the second class above described) led the attack against dogmatic psychology by a criticism of Cousin which, for a time, completely overwhelmed the dogmatic presentation of psychology. His “law of the conditioned” made impossible any pretense of dealing with the infinite or absolute in any form, on the part of all who could not refute the premises on which that law was based. Those premises were an investigation of our conceptions of space and time. Having shown, as he thought, that we can neither think space nor time as infinite nor as finite, he enunciated his law of the conditioned, and became thereby the founder of the new school of agnosticism. Mansel popularized the doctrine, and Herbert Spencer avowedly adopted it from Mansel. The unknowable includes religious ideas. They contain the idea of infinitude in them which is inconceivable according to Hamilton. Whatever involves the thinking of the infinite is, therefore, inconceivable; the word may exist, but there is no corresponding concept to it possible.

It is clear enough that for teachers or students who have come to understand the agnostic theory, there is no further use for the first order of psychological treatises based on dogmatism. The refutation of agnosticism must be found, if at all, in the third order of treatises: those based on the ontology of Aristotle or on the critical method of the Kantian school.

Every person who has first begun to think for himself on philosophical subjects will be found to use the forms of thought (categories) of external observation. He will think everything under the form of thing and environment. Now such objects as life and mind, being self-activities, cannot be thought or pictured, because they do not have and cannot have the form of thing and environment. The thinker must learn to content himself with seeing the necessity of self-activity as the form of true individuality, without trying to image or picture it as a thing with environment. Introspection never sees anything but thoughts, feelings, and volitions; and sense-perception never sees anything but things and environment. Feelings, thoughts, and volitions are forms of self-activity. But we readily infer self-activity from the appearance of things and environments,—for example, from the form of a man we infer life and a rational soul, from his spoken words we infer his thoughts and feelings, from his actions changing his environment we infer his volitions. All observation of life and mind must be accomplished through the intermediation of introspection, because we must interpret by the analogy of our own feelings, ideas, and volitions, the inward purpose of the object. Of course we cannot perceive the inward purpose by our senses. The old phrenological conception of the brain with its numerous organs was a great hindrance in psychological study to him who held it. He fell into the habit of picturing each peculiar feeling or idea as the activity of a definite brain tract, and by this he was drawn away from the specific study of those feelings and ideas themselves.

To think that which is universal as a particular thing, is of course to misconceive it. To think a self-activity as the product of a special brain-tract is certainly to misconceive it.

Now it is more than probable that the mind uses different brain-tracts for different uses. But we must not suppose that it is the brain that does the thinking. The brain is, perhaps, the instrument, or in some way related to the expression of the thought on the outer world. At present physiological psychology has discovered special functions of movement connected with some twenty tracts of the brain. If in process of time a thousand functions of thought and feeling and volition were to be connected with a corresponding number of brain-tracts, this would not advance us one particle nearer toward the explanation of mind as a function of the brain than we were when we knew only the general fact that the brain is the center of the nervous system, and that the mind receives through it its knowledge of the outer world, and through it likewise transmits its volitions to modify its environment. The telegraph operator cannot be explained as a function of his wires and machines. The self of self-activity must in the nature of things be transcendent, and not a thing, but an individualized energy. A brain is, of course, a thing; but it has been built by an energy and it is used by an energy—the soul.

But I must hasten to say that I do not mean to disparage or discourage physiological psychology. For it is certainly the best part of physiology, and will bring with it its stores of important knowledge, useful in hygiene and the pathology of education. I wish only to point out that it leads to the habit of conceiving the mind as a function instead of a self-activity unless corrected by the study of the third class of treatises named, those that expound the nature of self-activity.

The most fruitful subject of investigation in educational psychology is the relative amount of synthesis required in the thinking of different orders of thoughts—say the thought of *thing* compared with the thought of *force*; the thought of *force* with that of *cause*; the thought of *cause* with that of *life*; the thought of *life* with that of *sensation*; the thought of *sensation* with that of *thinking*. Take an example on a more concrete plane, that of arithmetic: the difficulty of thinking fractions compared with the difficulty of thinking simple num-

bers is well understood. It is because the fraction requires a synthesis of two simple numbers—so that the two numbers are still retained as two and yet thought together into one simple result.

Psychological investigation can discover the relation between three orders of thought: (*a*) that which conceives everything in the form of independent thing: (*b*) that which conceives everything as relative and dependent on something essentially connected with it: and (*c*) that which conceives all being as self-active or else as phase or element of self-activity. The discrimination of these stages of thinking and the process of elevating the mind from the weaker power of synthesis, which belongs to the lowest order of thinking, to the strongest power of synthesis, which belongs to the third order of thinking—these form the central interest of pedagogics.

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### III.

#### IS THERE A SCIENCE OF EDUCATION? (I)

This opening number of a new review for the study of educational problems must naturally contain some article of a very general character, wherein the prospects and difficulties of the whole undertaking are discussed. That the editor should have intrusted to me the task of writing such a general survey of problems is not only an act of very kindly courtesy toward myself, but a sign of his own willingness to make the difficulties of the doctrine of education manifest from the outset. For the academic student of philosophy and of human nature loves the problems of his profession too much to regard or to depict them as easy; the university teacher is in general trained to reflect even more than to advise; and, for my own part, I have always felt unwilling to apply so pretentious and comforting a name as "Science" to any exposition of the laborious and problematic art of the educator. Yet if in this article I make doubts and difficulties prominent, as it is my office to do, I hope that before I am done it will be clear that my aim is as positive as my method is at times negative. A fragmentary, but still not wholly unsuggestive, program of investigations, such as may profitably be pursued by students of the art of education, an indication of certain significant needs of modern pedagogy, a warning against overhasty generalization, and still an encouragement to every loving observer of children to study the science of psychology without neglecting the intricacies of daily life, and to use wisely his own warm experience, rather than to trust to the mere letter of pedagogical dogmas—such are some of the things that I should like to furnish in my article. I have to make a number of critical and negative observations. I do not want to dishearten, rather do I long to strengthen the interest of teachers in the theoretical aspects of their profession.

## I.

A natural text for an essay upon the question of our title is just at present furnished by a widely known and much-discussed paper, read before the Academy of Sciences at Berlin, in July, 1888, and published in the proceedings of that body.<sup>1</sup> The author, Wilhelm Dilthey, Professor of Philosophy in the University of Berlin, is known as a many-sided and cautious student, especially of the more historical and humane aspects of philosophy. His excursion into the field of pedagogy is marked by all his usual caution and learning. His question is essentially our present one: "The Possibility of an universally valid Pedagogical Science." His beginning is negative and critical in tone; his statement of the limitations of the "universally valid doctrine of pedagogy" is highly noteworthy; his skepticism is keen; and yet the outcome of his whole article is, after all, hopeful, and even inspiring. I cannot do better than to begin by summarizing his views. I wish that I could hope to supplement them by anything that approached their knowledge of the subject, and their constructive power.

Dilthey begins by observing that all the prominent pedagogical systems, such as those of Herbart, Schleiermacher, Spencer, Bain, Beneke, Waitz, agree in one respect, that they pretend "to define the end of education, the value of the various branches of study, and the methods of instruction, in an universally valid fashion, and consequently for wholly different times and peoples." And this pretense, says Dilthey, at the very outset of his argument,—this pretense is precisely parallel to that of the old-fashioned theories of the state,—theories which, disregarding history and the varieties of circumstance, undertook to fix for all humanity the absolute forms of political life; and, in consequence, drove men to a revolt against the whole historical social order. This sort of theorizing belonged to the seventeenth and eighteenth centuries, culminated in the French Revolution, and has been

<sup>1</sup> W. Dilthey, *Ueber die Möglichkeit einer allgemeingültigen pädagogischen Wissenschaft*, Sitzungsberichte der Berliner Akademie der Wissenschaften, 1888, pp. 807-832.

replaced in our day by the historical method in political science,—a method which ignores the theoretical “Constitutions” of the *doctrinaires*, and which knows that political organizations are far too vital in their individual traits to be subject to any abstract formulation of the details of the “universally valid” social order. Now pedagogy, as embodied in such “systems” as have just been mentioned, represents precisely this old fashion of theorizing. Pedagogy arose in the seventeenth century, developed farther in the eighteenth, with the “naturalistic” theories, assumed a “natural” universality of aim and method as present, under all human conditions, for the educator, and so became the “comrade of natural theology, of the philosophy of law, and of abstract political economy.” “Elsewhere,” continues Dilthey, “the historical school has replaced naturalism”; pedagogy alone has, in this respect, refused to progress. As a fact, however, human nature cannot be adequately described through any abstractly universal formulation of its traits. Human nature, as a product of evolution, differs from nation to nation, from century to century. Nor is even an abstractly universal formulation of the ethical end of life a useful undertaking. “No moral system has ever yet been able to win universal recognition” (p. 808). The ends of life can only be defined with constant reference to the vital and growing motives and impulses of concrete humanity; and as the latter change so do the ends themselves, with the ethical systems that embody them. Hence the educator cannot hope to have defined for him, with abstract universality, either the material upon which he must always work,—namely, human nature,—nor the end toward which he must always aim,—namely, the highest moral perfection of his pupil. Both these matters are modified for him by the course of evolution, and by the actual social environment.

And yet, with all this necessary limitation, does there not remain a field for pedagogical science? Yes, answers Dilthey, in case, not the abstract description of human nature, and of the ends of living, but the truly psychological study of the



typical forms of human evolution is pursued in the fashion which the historical and biological investigations of modern times have rendered possible. There are a few general laws that hold, not so much as to the content of human nature, but as to the fashion of its organic growth. These biological laws will turn out to have a practical significance. Human nature, namely, no matter how much it varies, in content or in ideals, is always in the first place a collection of impulses, of instincts, of feelings, and of tendencies (*Gefühle und Triebe*) which, from the outset of life, have a teleological character; that is, a character whereby they are adapted to the preservation of the individual in the environment in which the child is placed. These various reactions of feeling and impulse, however, these natural and teleological "reflexes," of each organism (such, for instance, as the reactions of hunger and of shyness, of curiosity and of friendliness), are at the outset, in the individual child, "not in organic connection with one another." No child begins with organized conduct. Its early impulses are as chaotic in their entirety as they are useful in their individual quality. "Observe the child; his desire for food, his avoidance of bodily injury, his social friendliness, appear all of them as isolated impulses, with no relation to the needs of his life as a whole, with no sense of their relative value. Like sunlight and shadow, one feeling chases another across his countenance" (p. 816). It is thus also with the savage. Usefulness of the single reaction, unteleological disorganization of the entirety of the reactions—such is the law of the early stages of human life. The growth, now, of mental life, "produces by continual adaptation those relations amongst" these elementary impulses, "whereby a teleological and complete unity of the character in the individual and in society" shall ideally come to pass. Such complete unity, to be sure, we none of us ever reach. No culture wins to the service of the organism and of the society the united and final co-operation of all human impulses. We all have our chaotic moments, and our anarchical desires. Nor has any form of civilization attained in its completeness the end of an entire organization of all the original impulses in

full and mutual adaptation. Nor yet, again, is an abstractly universal description of ~~just what~~ this unity of human life would be, accessible for us. And yet, thus, after all, is the general problem of education (not, to be sure, its general solution) to be defined for our "science." Not the one common end of life, in its precise content, but the type of human growth, in so far as it is growth, is after this fashion expressed. At the outset of life the human being is a chaos of impulses, each useful in itself, but all relatively independent. From the point of view of the highest ideal of growth, these impulses are to be brought from chaos to such complete order that not only in the individual, but in his relations to society, there shall be no chaos left, and only complete unity of life. And the educator is to do what he can to further such a growth in the child. Could we now describe in definite and material terms the content of this ideal of the perfect unity of character, could we tell what the man, and what the social order, would be like, in which the ideal were thus absolutely realized, then indeed we should have that "universal" theory of society and of education which the eighteenth century dreamed of. As a fact, however, we cannot describe the perfectly organized character because we have never seen it, and are subject in our judgment of what tends toward it to the vicissitudes and the accidents of our age and our nation. Any concrete account and picture of the ideal state that we may attempt will, therefore, have elements of chaos left in it. Any complete plan of education that we may devise will, furthermore, have defects, and only a transient significance. But there remains a sense in which the undertakings of pedagogy will be capable of scientific and general discussion. To the educator we in effect say: "Work against the chaos of impulses, by using the very impulses themselves as the material for good order. In a word, organize." Meanwhile, although the actual content of any attempted organization of life will be "historically determined," and so imperfect and transient, relatively general accounts can be given of processes that *do* increase the orderliness of the life of the child. Such accounts will take the form of "pedagogical rules," whose

number Dilthey, of course, leaves indefinite. In short, scientific pedagogy far from telling the teacher finally and completely just what human nature is, and must be, and just what to do with it, will be limited to pointing out what does, on the whole, tend toward good order and toward the organization of impulses into character. "This is the whole province of pedagogy," as a general science. Its application to the conditions of a particular time, nation, family, and child, will be a matter of art, not of science. And "therefore, no concrete educational questions can be solved in terms of an universally valid science." Such questions will always contain elements of uncertainty, will always require the practical skill of the individual educator, and will always receive answers that will vary with time and occasion.

The concluding section of Dilthey's paper is devoted to the mapping out of the province of pedagogy as thus defined. After an historical study of the growth of education, of its social relations, and of the general ways in which the child may be considered as at all plastic to the educator's purposes, scientific pedagogy would study the typical growth of the orderly life of impulse as it is manifested (1) in the games of childhood (universally human devices these for organizing infantile impulses), (2) in the consciously intellectual growth, that is, in the perceptive, attentive, memorizing, and reflective life of childhood and youth, and (3) in the parallel processes of the organization of the will. Rules would here be suggested by the science at every point; yet they would never be rules that the educator could immediately apply, except with constant reference to the conditions of his own nation, age, and child. Universal these rules would be, yet never universal in so far as they were precise guides in the concrete case. Aids they would be, but never substitutes for personal insight. In short, pedagogy, as a "science," would be a good staff and a bad crutch.

## II.

So far, in substance, Dilthey. As I summarize his discussion, I feel the necessary but disagreeable abstractness of my own

form of statement. Brevity such as this must needs do injustice to so finely conceived and thoughtfully elaborated a paper as Dilthey's. In one sense, indeed, Dilthey's essay may be said to contain little novelty. To the philosophical student its conclusions will be in some measure familiar. It is in their application to our present problem that these words are so wholesome. The lesson of the historical as well as of the biological sciences is that when you undertake to discuss the growth of a complex organism you must not expect to deduce all the wealth of the details of this life from your account of the general type of the growth itself. The practical application of this lesson is not far to seek; and yet immature theorists so often miss this application. 'Are you to interfere for a purpose with the growing organism, your knowledge of the type will be able to help you, and in so far there will be a possible science to guide your interference. If, then, you are an educator, and have to influence for a moral and social purpose the growth of a child, or of a youth, your knowledge, say of psychology, ought to aid you in your work; and in so far there will be a scientific element in education. Only there is all the while, the other, the more immediately practical side of your undertaking, namely, just the application of your insight into that typical growth as such, to the direction of your dealing with the individual living organism itself with the child, or with the youth. And just here it is the detail that will often concern you more than the type. Just what science abstracts from and ignores, just that you now most need to know. Your own surroundings, say as Frenchman or as American; your position as teacher of the sensitive child that needs tenderness, or of the rugged and sluggish child that needs awakening; your place as defender of this or of that worthy ideal, say of this, religious creed, or of that, of this social tradition or of some other; your relation as private tutor to the individual child, or as public teacher to the larger class of many children; your experience of the accidental variations of just your own pupils' lives and destinies—all these things will properly interfere with anything like a truly

scientific application of your pedagogical principles. You will degrade science,—not help your children,—if you persist in seeing only the “scientific” aspects of your pedagogy. True pedagogy is an art. A noteworthy German text-book of psychiatry, now on my library shelves, observes that the alienist’s art, the care and cure of insanity, is one that “can indeed be learned, but that cannot be taught.” And yet this text-book is itself a fine little compendium of the principles of the scientific treatment of the insane. Well, if alienism can be learned but not taught, how much more shall this not be the case with pedagogy! Disease seems indeed endlessly wealthy; nervous patients furnish to the alienist a world of capricious problems. But, nevertheless, the riches of health are greater still than the riches of disease; and the art of the true pedagogue could still less be taught in its entirety than can the art of the alienist. It is abstraction that simplifies; and abstraction is invaluable to science. But he who returns from science to life is a poor pupil if he has not learned the art of forgetting his formulas at the right moment, and of loving the live thing more than the describable type.

All these observations of mine are so far mere common-places. I almost repent having written them down. And yet, from one point of view, how necessary they seem to be—necessary, alas! not only for the pedants who are continually pretending to have discovered this or that complete and scientific and final “system of pedagogy,” whereby alone all children may be saved,—but also for those unreflective lovers of child life who are indeed often so much better than the pedants, but who falsely imagine that because science cannot furnish a final “system” for all times, teachers, nations, and pupils, science is therefore worthless for the pedagogue. Both parties in such a controversy as that between these pedants and their unlearned opponents are in the wrong. There is no “science of education” that will not need constant and vast adaptation to the needs of this teacher or of that, constant modification in the presence of the live pupil, constant supplementing by the divine skill of the born teacher’s instincts.

This being true, there is, indeed, no "science of education" whose formulas will not need at the right moment to be forgotten. Yet, on the other hand, it makes great difference to you whether or no you do possess the science that you can be wise enough at the right moment to forget. Ignorance is one thing; the power voluntarily to ignore is quite another thing. The former is a weakness; the latter a high spiritual power. Universally valid your "system" never can be; therefore hold it not as system. But universally significant your scientific insight may become to you, if you once possess it, and can bear in mind that it is after all abstract, and yet noteworthy as an abstraction. Teachers then do need a scientific training for their calling. Instinct, unchastened by science, is blindly self-confident, and when it goes astray its fall from grace is irreparable; its very innocence then proves its doom. Teachers who know nothing of the reflective aspects of their calling, who do not try to comprehend as well as to love their pupils, who despise science because it cannot take the place of devotion and of instinct, may indeed be successful, and in any case, as I just said, their state, so long as by chance they do not go far astray, is vastly better than the present state of those pedants who have heard of modern science, of nerve-cells, and of apperception, and who forthwith have developed or copied some hundreds of systematic principles of "pedagogical method." The unreflective, I say, if the kindly light of nature leads them amid the encircling gloom of educational problems, are, indeed, so far, better than the pedants, who still think that God means to save his people by numbered or unnumbered paragraphs. But then, the pedants, after all, have been trying to learn, after their own fashion. They have formed a habit of learning. And if they are not already too old with their "science," they may perchance yet learn a little more, namely, that this, too, is vanity unless life supplements it. And whenever the pedants do learn this latter fact, they may take counsel of instinct and then become truly wise. For true wisdom is just reason set aglow by instinct. But the unlearned, on the other hand, are trusting only to the kindly

light of nature itself. Therefore, if by chance some will-o'-the-wisp lead them astray, they will soon be finally unable to distinguish true from false, and will perish miserably. Healthy instinct outdoes vainly abstract learning. But imperfect learning can be corrected by more instruction; while untutored instinct, once corrupted, is lost.

To both parties to the controversy, then, to the pedants with their systems and to the unlearned with their instincts, we must offer the same suggestion as to the place of science in education. On the whole, special points of difference aside, I should agree with Dilthey. There is no universally valid science of pedagogy that is capable of any complete formulation, and of direct application to individual pupils and teachers. Nor will there ever be one so long as human nature develops, through cross-breeding in each new generation, individual types that never were there before; so long as history furnishes, in every age, novel social environments, new forms of faith, new ideals, a new industrial organization, and thus new problems for the educator. So long as these things go on, the educator's calling will be an art to whose beauty and complexity no science will be adequate. But, on the other hand, it is in vain that the inadequacy of science is made a sufficient excuse for knowing nothing of it. The more inadequate science is when alone, the more need of using it as a beginning when we set about our task. For the inadequacy of beginnings is always an indication that if we are to go further we ought at least to comprehend these beginnings themselves. Instinct needs science, not as a substitute, but as a partial support. Or, as I said, when you teach, you must know when to forget formulas; but you must have learned them in order to be able to forget them.

Yet enough of these generalities. It remains, in this paper, to point out certain portions of modern scientific research that promise to be most useful to the educator, within the limits that have been set in the foregoing to all such usefulness. Of pedagogy as a single and determinate science, I have always had serious suspicions; and the reasons for these

I have now sufficiently formulated. That the teacher needs to know all that he can (1) of the subjects that he is to teach, and (2) of certain branches of science that promise to be of service to all teachers in general, whatever their special callings, I have never doubted. I reject the pedagogical system. I believe in the training of teachers. And this training, in so far as theoretical science can be of general service to its ends, I conceive to be determined by two considerations. The first is that the teacher should be, as I may word it, a naturalist, loving and, as far as may be, scientifically comprehending the life of childhood and youth, just as other naturalists try to comprehend the life of other organisms. The second is that the teacher should be a man of rational ideals, knowing what moral and social ends he wants to serve, and why he regards them as worthy. The second consideration, being, with all its importance, the one capable of the briefer treatment here, I shall put next in order. The first consideration will then be summarily dealt with as I close.

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#### IV.

### THE LIMITS OF STATE CONTROL IN EDUCATION.

The common impression that education may be for good or for evil seems to be without authority. It can only be for good. It has reference only to mental and moral development. There may undoubtedly be mental development without moral growth, with artistic scoundrelism as a result, but this comes from the lack of education rather than a consequence of it. Education in its true sense is the harmonious development of the whole human nature up to the best and highest possibilities.

Dr. Francis Lieber—and there is no higher authority—says that a state, in the general meaning of the term, is, in brief, an association of individuals for the maintenance of those rights which are essential to all its members and which can be enforced. It exists for the better obtaining of the true ends of each individual and of society collectively. Then one of the principal ends for which states are organized is the promotion of education.

Mental and moral development may be slight or it may be very extended. All cannot attain the highest development. The multitude only acquires the elements. A liberal development of the best qualities of human nature has a money value. Then it may be pertinently asked if the many should contribute this money value to the few. If so, then there should be compensations of some kind. Are there such, and if so, what are they? Education may lead in directions as to the advisability of which people will differ in opinion; it may even enter fields to which some may object on conscientious grounds. How far ought the state to persist in spite of such differences or such conscientious objections? Education is promoted by processes of endless variety, by instruc-

tors of different degrees of competency and experience, and therefore of differing degrees of value measured by a money standard, and also by innumerable artificial helps and appliances, some simple and inexpensive, others elaborate and costly. How far ought the state to go in providing these? To what extent ought the state to provide the facilities and helps for the mental and moral development of its citizens, and how far should it go in controlling the directions in which such development should proceed and the processes by which it may be secured?

Again referring to Dr. Lieber's exposition of the purposes for which governments are maintained, we recall that it is to the end that all individual rights which are enforceable may be enforced, and the true ends of society promoted. The rights and interests of all members of a state are to be equally considered. One cannot be aided at the cost of another, unless it be as the indirect result of a public necessity. If self-preservation is the first law of human existence, it is none the less so of governmental existence. Whatever is deemed essential to the existence and the most complete fulfillment of the purposes of the collective body, may be done, although it may operate dissimilarly or inequitably as between individuals. It seems certain that nothing can be essential to the healthful existence of the general body which will antagonize the rights or conflict with the convictions of any individual. Aside from maintaining the general organization, the entire body must treat every individual like every other individual, taking into account the inevitable disparity in circumstances.

It would seem safe to say that the more liberally a people is educated and the more generally education is diffused among the whole mass, the more will happiness abound and the more secure and effective will be the governmental organization. It would also seem safe to say that some education, and that generally diffused, is imperatively essential to the life of a well-ordered state, competent to promote the ends for which it exists.

It is said that that government is the best which governs

the least. Perhaps it might better be said that that people is the happiest and the strongest which requires the supervision and restraints of government the least. But, again, is not that putting the proposition in the wrong way? Would it not be still better to say that the more intelligence and moral sense a people possesses the smaller is the occasion for governmental interference? The world's experience seems to show that popular intelligence is at once the best safeguard of a constitutional state, and the best safeguard against the necessity of a frequent or harsh exercise of its powers. Then it would seem to follow that government is bound to foster and encourage education, it is bound to aid all agencies which may contribute to the intellectual vigor and the moral sense of the people, to an unlimited extent, so far as it may do so without violating the principle that all individuals must be treated alike. It must regard this principle. One must not be helped at the cost of another. Individuality must have free play. That is the best government which gives conscience a chance and helps individuality to make the most of itself. That is the wisest statesmanship which will reduce the necessity for state interference in individual affairs and the exercise of governmental power to a minimum. Experience shows that education, sufficiently elaborated or sufficiently diffused to attain this end, does not result from the normal development of individual character or the mere smile of governmental favor. Unless general authority is exercised and substantial aid extended, ignorance and viciousness grow more rapidly than intelligence and virtue. Then the state must provide educational facilities and must control and direct educational processes so far as may be necessary to its own security and the most perfect attainment of the ends for which it exists.

There will be differences of opinion, which it is not the province of this brief article to undertake to determine, as to how much and what education the state should provide, and what may wisely and safely be left to the affluent circumstances or the intelligence and enterprise of individuals. Two or three general and obvious principles may be safely laid

down, however. The state manifestly ought not to require one of its members to pay for the support of education to which he may properly object on conscientious ground. Public education must be along lines which are not of doubtful expediency and which are clearly of public and general utility. The elements of an education must be provided most thoroughly and completely, for these may be extended to all children, and with them all have the implements with which to make more extended conquests. Beyond an elementary education, it may be said that the true rule would be different in different cases. As material resources are developed and wealth accumulates, public educational facilities may very properly be improved and enlarged. Great states must necessarily make larger and better provision for public education than small ones, for large cities and thickly settled territory greatly augment the probability of illiteracy and vice. Under such circumstances the necessity for public education becomes more and more imperative and the successful administration of public educational processes becomes more and more difficult. Again, it is not enough for the state to attempt to educate the poor alone, any more than it was once enough to provide a few great universities for the rich. The education of the rich and poor together is of the highest public importance. The sciences and the fine arts, the cultivation of public æsthetic taste and a love for the beautiful, are all substantial supports of the government. So is history and the consequent exemplification of the world's struggles for freedom and liberty, with the accompanying examples of heroic deeds and ennobling thoughts. These things elevate the soul, and this is, in the highest sense, material to the endurance of a state. Education by the state necessarily extends so far as to effect discipline, exact obedience, and inspire respect for authority. The great importance of this is very commonly overlooked. The government must develop a feeling of loyalty and a spirit of patriotism, and it can do it more effectually in connection with public educational work than in any other way. Indeed, this is public educational work of the first value, and it would

seem that it must be so regarded, or practically fail of public attention. Innumerable other considerations might be easily adduced as aids in determining how far, and in what directions, governments should go in providing public educational facilities for the people. In a word, constitutional governments rest upon public institutions which are at once the support of and the check upon governmental power, and states should do, in the way of public education, whatever will add to the substantiality of these institutions, for they bring quiet, contentment, and happiness to all the people by strengthening and controlling the governmental arm and by nourishing confidence in and respect for the governmental authority. Whatever the government does undertake to do, it must do with thoroughness and completeness. It must not undertake to do everything. It must have good reasons for what it does. Its plans must be well defined. Its purposes must be well understood. It must execute its purposes with precision. Respect for public authority is dependent upon this. Whatever the state undertakes to do in educational work, it must accomplish. It must justify its proceeding. If it levies taxes for educational purposes, it must justify the exercise of the high power of taxation, and it must show results commensurate with the outlay. It cannot be expected to do this unless it exercises control.

This does not mean that it shall directly erect all buildings, prescribe all studies, or appoint all teachers. That is not the American way and it is not the best way. We administer all of our public business, except what is of a most general character, by and through local assemblages and local officers and agents. We accomplish more than one purpose in this way. This has always been strikingly true of our educational business. This fact, it may be remarked, has led to some unfortunate misapprehension. The feeling has been quite common that educational affairs were only matters of local concern and that each city, village, town, or school district was at liberty to carry on its school business in its own way, no matter whether its way was a good way or a bad way, or indeed,

that if it so pleased it might decline to carry on educational business altogether. **On principle and in fact that is impossible.** The essential element in all this work is the power of taxation. Without it, all else would be impossible. This power does not inhere in cities, towns, villages, or districts. It proceeds entirely from the legislative and executive authority. So far as educational interests are concerned in this country, it proceeds from the several states. It is true that they do not exercise it directly in all cases. The State of New York collects by direct taxation this year more than four millions of dollars for educational purposes. Cities and districts collect seventeen millions more, but they do it only by the express statutory authority of the state. The authority which exercises this power directly, or which delegates the right to exercise it, the authority from which it proceeds, must be responsible for the manner in which it is exercised and for the results which flow from its exercise.

While, therefore, the state must necessarily administer the details of its public educational work through local meetings, officers, and agents, it must exercise sufficient control to make certain that its general purposes are not thwarted, but that results are attained which justify the exercise of the taxing power. It need not prescribe the style of architecture in which buildings shall be erected, nor their cost, but it must require that sufficient room is provided for all pupils, and that buildings shall be constructed in accord with well-known scientific principles, and particularly that they shall be healthful and cheerful, so that they may help rather than hinder the work of the schools. The state need not limit the extent of the course of instruction, but it may very properly say that certain branches are of general necessity and must be pursued. The state need not say who shall teach the schools, but it is bound to say who shall not, if it expects to attain desirable general results.

In short, the government need not assume to limit or control all of the public educational work which a locality may wish to undertake, but it is bound to see that what is done

shall conform to its general plans and purposes, and shall be of such a character that it may be properly supported by funds resulting from general taxation. And it is bound to see that the educational facilities in all localities are sufficient in extent and of such a character as will insure results which it deems essential to the well-being of the state.

It may be pertinently added in conclusion, that if states carry on educational work in an efficient and comprehensive way, so as to be helpful everywhere and to make sure of desirable general results, there will be infinitely less local jealousy and antagonism in consequence of the close governmental supervision and control, than will appear at the slightest intervention of nerveless, indecisive, and fruitless governmental action.

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V.

THE HERBARTIAN SYSTEM OF PEDAGOGICS. (I)

The attention of American teachers is invited to a brief consideration of the pedagogical system of Johann Friedrich Herbart, who was born at Oldenburg in the year of American independence, 1776, and who died in the university town of Göttingen, in 1841. He was one of those enthusiastic students who gathered about Fichte at Jena at the time when German philosophy was at its zenith, and was himself destined to strike out a new line of development from the Kantian basis. Herbart was, after Krug, Kant's successor in the chair of philosophy at Königsberg, and was afterward professor at Göttingen. He was the friend of Pestalozzi, some of whose work he scientifically extended. The subject of pedagogics early claimed his attention and interest, and it may safely be said that more than any other man he deserves the distinction of having reduced the subject of education to a science. For its sake he destroyed an old and created a new psychology. In originality and logical consistency in working out pedagogics as a system, Herbart is unrivaled. His influence is growing with increasing rapidity, for his followers have made concrete the thoughts that with him were abstractions. No other system of pedagogics can approach Herbart's in scientific completeness, and although he has many opponents among thinking men, yet all acknowledge his great service. His school is represented in Germany by the *Verein für wissenschaftliche Pädagogik*, which has branches in all parts of the country.

Though no American is likely to accept in their completeness all the results at which Herbart arrives, yet I know of no other system which contains half so much that is of direct and suggestive value. The rigid scientific character of Herbart's



work makes it particularly valuable for all teachers whose minds are not yet freed from the ruling empiricism of the present time.

Herbart is the first great philosopher who devoted his main attention to pedagogics, and whose system in all its parts stands in close relation to this as an end. With him metaphysics, psychology, ethics, and pedagogics form a system, each of whose parts is essential to the others. The tendency among contemporary adherents of Herbart is to ignore very largely his metaphysics, and to develop the more strictly pedagogical phases of his thought. It will therefore be the aim of this outline to exhibit so much of the Herbartian psychology and ethics as will suffice to give the proper interpretation to the pedagogical doctrines. It will not be advisable to attempt an explanation of all the points touched upon, for such an explanation would involve writing an introduction to philosophy in general.

Before tracing our way through the sciences which lie at the basis of pedagogics, it may be of assistance to take a somewhat general view of the whole field, even though it anticipates somewhat that which must be more fully treated later.

Herbart was a personal friend and admirer of Pestalozzi, but never a disciple. The chief merits of Pestalozzi's doctrines, he says, lie neither in the method nor the matter of his education, but in the fact that he proceeds to *give the child an experience*, instead of presupposing one for it. On this point Herbart and Pestalozzi are at one in accepting the doctrine of Aristotle: that it is the principal business of education to supplement what nature and association with others do for the child. But Herbart regards the methods of Pestalozzi as merely an element in a complete system; and though he often agrees with him, he does so because he holds certain psychological views which Pestalozzi did not share.

There are two diametrically opposite schools of pedagogy, one of which is best represented by Fröbel, the other by Herbart. The one doctrine may be described as the germ or plant theory, the other as the forming or art theory. The

germ or plant theory presupposes germs of power implanted in the soul which are to be developed. The forming or art theory presupposes that education is a matter of outward influence, not dependent upon an inner working power or faculty. It is only the body of man, says Herbart, which, like the germ of a plant, brings its future form with it into the world. Education is with him a giving and a drawing out (*geben und entziehen*) and by no means a mere caring for and waiting (*Aussicht und Wartung*). "Man, who may become a wild beast or a personified Reason, needs the art which builds, which constructs him, that he may have the right form."<sup>1</sup>

Herbart stands in an intimate relation to the great leaders of pedagogical thought, both ancient and modern. With Socrates he accepts the building of moral character as the great end of education; with Plato he holds that intellectual culture is a necessary means to this end; and with Aristotle, as we have seen, he regards education as a supplement to the experience derived from nature and the mingling with men in society. His relations to preceding philosophers are quite as complicated in the field of metaphysics. An extender of one side of Kantianism, he returns to the Eleatics for a correct notion of being, to the Atomists for the notion of the multiplicity of being, to Wolff for "clear notions and well-grounded proofs," and to Kant for a "science out of notions."

#### HERBART'S PSYCHOLOGY.

The soul itself is a *real*, that is, a simple essence of single quality, non-spatial, and not conditioned by time; hence indestructible and immortal. The phenomena of soul life, which, for want of a better name may be called its representations (*Vorstellungen*), together with the states or conditions of the same, are the results of the self-preservation of the soul against the action of other reals. For a knowledge of these metaphysical monads, which Herbart calls reals, the reader is referred to the various histories of speculative philosophy. All men-

<sup>1</sup> In the preface to the writer's *Essentials of Method* an attempt is made to harmonize the germ and architectural theories of education.

tal life, then, arises from these representations, their reciprocal action, and their states or conditions (*Zustände*). It is now plain why Herbart enters upon a polemic against the old psychology, which hypostasizes certain conditions of the representations into independent *faculties* (*Vermögen*), or powers of the mind. The old psychology he declares to be merely a formal explanation of psychical facts, and not what psychology to have any value must be, namely, a real explanation of mental phenomena. Memory, imagination, feeling, desire, will, etc., are then not faculties of the soul, but merely representations in their various states and relations. It is the business of psychology to show how these arise, and that of pedagogics to see that the needful concepts be found in the child's mind in their proper connection and relation. No other system assigns to the teacher so important a function as this, and no other is so well adapted for practical application in the work of education. If memory, feeling, and will depend upon the number, kind, and relation of representations, how exalted is the position of the teacher in whose hands the determination of these things lies! He is no longer the mere feeder and observer of mind, but the architect, at whose magic touch the stately and beautiful structure is to arise. The memory, the sensibilities, the moral character are all to grow into forms of strength and beauty under his plastic touch.

We next find a presentation of the doctrine of the stability of representations, according to which a representation, though sinking below the threshold of consciousness, yet remains in the soul as a striving to represent.<sup>2</sup> The unity of

<sup>2</sup> Prof. Bowne, in his *Introduction to Psychological Theory*, has borrowed the hammer of Thor and gone about, a veritable modern Jack the Giant Killer, hurling his weapon at Herbart and all the other psychological giants who have ventured to advance theories of the reproduction of ideas. After laying them all low, he gives us the following as his own insight on the subject: "All movements of ideas, so far as they are not due to volition, result from the mental tendency to reproduce past forms of activity when some factor of those forms is given" (p. 94). This appears to mean that the mind has a tendency to reproduce when there has been a partial reproduction. How true! The earth has a tendency to rotate after it has made a partial rotation! Doubtless, or it would not go. But why should man thus take to his back at the foot of the bottomless pit? To accept in good faith the attitude

the soul demands that when two different representations appear together in consciousness, they should unite : but being as a rule different they hinder (*hemmen*) each other, or resist any union. If there is but one representation in consciousness, this claims the full energy of the mind ; but if there are two representations present at the same time, each will lose in intensity according to the strength of its opponent, with which it cannot unite. Upon this rests the possibility of applying a mathematical calculation to the psychological mechanism of representations. We have therefore the statics and mechanics of mind ; not, as some have wrongly supposed, to try to measure in numbers the strength of the representations, but "to recognize in these mathematical formulas the general laws of psychical phenomena."<sup>3</sup> The whole calculation, which is often exceedingly complicated, has immediate reference to the combination and reproduction of representations. As before remarked, all psychical phenomena are explained from the states or conditions of the representations. Representations as already spoken of, are the primary states or conditions (*Zustände*) of the soul ; but there is a second group of these states called the secondary conditions. These fall into two classes, (*a*) feeling, (*b*) desire, out of which follows will. The life of the soul is one of representations. Everything that furthers these, furthers also the activity of the soul ; everything which hinders a free representing activity, hinders also the life of the soul. Out of the consciousness of a furthering or of a hindering of the play of representations arises feeling. When the flow of

toward the explanation of mental phenomena implied in Prof. Bowne's critique, would be to do nothing. As well might Kant and La Place have said : the cosmos is an inscrutable mystery ; it is therefore vain to propose a nebular hypothesis. From Prof. Bowne's standpoint, how idle is the undulatory theory of light or the atomic theory in chemistry ! Men have learned that, even should they not arrive at ultimate truth, they can at any rate attain to something just as satisfactory, namely, hypotheses that serve to rationalize the facts. So whether Herbart's explanation of mental phenomena is the ultimate truth or not, has but little bearing on its practical usefulness. If it explains mental facts so as to throw light on the problems of education, it is so far pedagogically sound. The only English exposition of the doctrines of this school is in Lindner's *Empirical Psychology*.

<sup>3</sup> Herbart's *Lehrbuch zur Einleitung in die Philosophie* (Ed. Hartenstein), p. 295.

representations is furthered there arise pleasant feelings ; when hindered or checked, unpleasant or painful ones come into existence. "Feelings and desires are not something alongside of or external to representations, least of all are there particular faculties for them ; but they are changeable conditions of those representations in which they had their seat."<sup>4</sup>

Desire is, in general, that state of mind in which there is a striving to bring about some other state not now present, the upward striving of a representation against opposing representations already in consciousness. Out of desire grows will, when the attainment of the desire appears to the mind as possible. Desire, in accordance with its notion, seeks satisfaction. If this appears to be impossible, the desire remains mere wish ; but if the end appears to be attainable then desire becomes will, which manifests itself in action. It is of great importance in the understanding of Herbart's pedagogics to understand clearly his notion of will. With him the will is a thoroughly realistic element. Or, to speak in Kantian phrase, it is only the empirical character of will which Herbart accepts. He rejects entirely the intelligible character, or free will, because the education of a will that is out of the reach of space and time, and hence of all phenomenal influences, is unthinkable. "Freedom of the will," he says, "is acquired, like the reason, and is limited like it. For it is nothing but the possibility that the strongest mass of representations may become the seat of a characteristic will, which lifts itself above all other excitations and impulses of the psychical life. Children, and intoxicated or delirious persons, are not free ; the first because they have gained no character, *i.e.*, no decidedly ruling masses of representations ; the second because a hindrance lies in the way of the representation-masses which are present."<sup>5</sup>

Herbart acknowledges no categorical imperative. The will is the representation in its completeness and power. It is a force driving to action, but itself without personal self-con-

<sup>4</sup> Herbart, *op. cit.*, p. 301.

<sup>5</sup> Herbart, *op. cit.* p. 307.

sciousness. It lies upon the objective side of psychical life whereas consciousness, æsthetic judgments and ideas lie upon the subjective side. Just as a man knows himself, so he knows his will as an objective fact. The characteristic of the will is its relation to the practical; it grows "through the courage of the deed," for though the deed follows the will, yet the will gets its strength and decision through action.<sup>6</sup> Such is Herbart's conception of the will. Lying upon the objective side of the soul, and having no inner and original connection with moral and æsthetic judgments and ideas, it must be brought into living connection with the latter, that it may be entirely and unconditionally determined by the moral judgment. This is the business of education, and leads us to a consideration of

#### HERBART'S ETHICS.

Here also Herbart starts from an empirical basis. With him, ethics cannot rest upon an objective law of freedom, for this is excluded by his psychology. His treatment of the subject is psychological and subjective, rather than transcendental and objective, as with Kant. He starts from the fact that along with our power of forming theoretical judgments there goes the power of *passing judgment*, or of expressing approval or disapproval of any given object, without any regard to the origin of the same. These judgments of approbation or disapprobation always have reference to the relations which exist between the representations, and are generally very complicated; but Herbart argues that there must be a few non-reducible ones from which all the others may be deduced. The science of these simple relations which have to do with approval or disapproval, Herbart calls æsthetics. The consideration of that part of æsthetics which has to do with the predicates "beautiful" or "ugly," he leaves to those who come after him, and confines himself to those simple relations of the will which touch upon moral action, or ethics. Those simple relations of the will which form the object of original

<sup>6</sup> Herbart, *Allgemeine Pädagogik*, Buch iii., cap. 4.

moral approval or disapproval are called the *moral ideas*, of which there are five. The first is that of *inner freedom*, or the agreement of the will with its own law-giving judgment. "By inner freedom we do not mean the pure self-determination of the will, but that independence of sense-impulses which is united with its dependence upon moral impulse. The will is free when it tears itself loose from the yoke of desire that it may subordinate itself to the good and serve the same."<sup>1</sup> But children at first have no law-giving judgment. Their perception of what is good and right is weak and dim, hence the necessity of their following for a time a foreign law-giving will, that of the parent or teacher. Law may be a pattern for will, but legality is only a step toward inner freedom. The child must gradually acquire correctness and strength of insight, or judgment, *i.e.*, law-giving will. Here is work for education to do. It is one of the most interesting phases of Herbartian pedagogics to see how it is possible to train the will as systematically and as effectively as we now train the intellect. If the American desire to build up moral character in pupils is to become anything more than a pious wish, we must have something definite in the pedagogics of will-training. We can find at least a beginning here in the Herbartian system.

The second idea is that of *efficiency*, as a correct measure of the strength at which the judgment, or the law-giving will, should arrive. This conception involves the factors strength, concentration, and harmonious action of the will.

The two ideas already defined are seen to have really no content; they are rather mere rules, or forms of morality, and hence are called the *formal ideas*.

We are to look to the three following ideas for a determination of the content of morality. The third idea is that of *good-will*, or the will which makes the foreign good its object; the fourth that of *rights*, as the rule of agreement between different individuals and the displeasure in strife; and fifth

<sup>1</sup> Drobisch, *Religionsphilosophie*, p. 177.

that of *equity*, as the reward for good and bad actions. There are then three universal virtues: Love, sense of legal right, and sense of equity. We need not stop here to trace the relations of these ideas to social life and government, but may proceed at once to that which has immediate reference to the work of education.

The idea of inner freedom is the idea of ideas, the presupposition of all virtues, and out of it springs Herbart's notion of the end of education. Virtue is the sum total of pedagogical aim, it is the idea of inner freedom growing in our person into permanent actuality.<sup>8</sup> The development of moral character as the highest aim of man, and therefore of education, must be universally acknowledged.

#### HERBART'S PEDAGOGICS.

This is the necessary end and aim of education, but subordinated to this as its conditions we find a number of possible ends of education. These are determined, not by the teacher or by the pupil, but by the aims, the desires, the needs of the future man. Education must make these possible to him. It must think of the "activity of the ongrowing man in general, the quantity of his direct inner life and activity," not so much as a many-sided business but as a many-sided mental receptivity. "All must be lovers of all, each a master of one thing." This leads to one of the most interesting and valuable departments of Herbart's work, his demand for *gleichschwebende Vielseitigkeit des Interesse*,—i.e., a harmonious many-sidedness of interest.

We have seen that, with Herbart, the building of moral character is the great end and aid of education, but character building is the building of the will, so that the real worth of instruction is measured by its influence upon the will. One need not go far to find examples of great learning combined with great weakness of moral character. The reason for this is to be found in the fact that learning has been imparted in

<sup>8</sup> Herbart's *Umriss pädagogischer Vorlesungen*, § 8.



such a way that interest has not been aroused. The word interest is used in a double sense. The common conception of its function in school is that it is desirable as a means to an end. Pupils should have their interest aroused that they may the better impress upon their minds the matter to be learned. This is receptive interest. But this does not of itself make it certain that a range of thought will be produced out of which will proceed an energetic will. Herbart's conception of interest, however, includes the foregoing and much more; it is of interest not merely as a transient means in education, but as an end, that he speaks. Interest shall not be merely a temporary thing, but continuous, "far following." It shall be something that takes hold of the whole soul of a child, that passes through the stages of pleasure, desire, will, and action. It means in general "the kind of mental activity that instruction should incite, in that it does not stop with mere knowledge, for one thinks of knowledge as a store which might be lacking, without the owner being another than he is. Whoever, on the contrary, holds fast to something known and seeks to extend it, he has interest for this thing."<sup>9</sup> Again, the interest which instruction should excite is direct and not indirect. It should not arise from emulation, or hope of good marks, or a fine position in life. It proceeds from pure love for a subject, finding its reward in the study itself. It is not impelled by selfishness, or fear, or ambition. It is therefore the duty of the teacher to avoid all those means which arouse the indirect interest, for this may hinder the excitation of the direct interest which is the very aim and end of instruction itself.<sup>10</sup>

But the idea of the direct interest needs a further determination. Does not one constantly see about him narrow, barren lives; men and women whose whole existence is bound up in some one ruling idea? Does he not see men whose only thought is money, or notoriety, and women whose life is

<sup>9</sup> Herbart, *Umriss pädagogischer Vorlesungen*, § 62.

<sup>10</sup> Compare Ziller, *Grundlegung zur Lehre vom erziehenden Unterricht*, p. 247.

summed up in the word fashion, or pride, or ambition? Is it not clear that all the most sacred and valuable possibilities and duties of life are neglected or despised, that life itself is likely to become barren and worthless even to the possessor when its one prop and support is taken away? Such limited, one-sided lives must be avoided through the arousing of a many-sided interest. "In a many-sided interest," says Kern, "the pupil should find a moral support and protection against the servitude that springs from the rule of desire and passion. It should protect him from the errors that are the consequence of idleness; it should arm him against the fitful chances of fortune; it should make life again valuable and desirable, even when a cruel fate has robbed it of its most cherished object; it should enable one to find a new calling if driven from the old; it should elevate him to a standpoint from which the goods and successes of earthly striving appear as the accidental, by which his real self is not affected, and above which the moral character stands free and sublime."<sup>11</sup>

To specify more particularly, one may divide these many-sided interests into two groups or classes, namely, interests arising from knowledge, and interests arising from association with others, as in the family, the church, the school, society.

Of interest as related to knowledge we may distinguish:

1. The empirical interest, or the pleasure excited in the mind by the change and novelty which arise from a presentation of the manifold and variegated. This is the starting point in education, and supplies the *raison d'être* of the kindergarten and all the concrete work of observation in the primary school.

2. The speculative interest, or the search for the causal connection of things to which the dark, or problematical, or mysterious impels the mind. "He who rejoices upon looking into the starry heavens has the empirical interest; he who reflects upon the conditions of their origin has the speculative interest."<sup>12</sup> It is the speculative interest to which we appeal.

<sup>11</sup> Kern, *Grundriss der Pädagogik*, § 12.

<sup>12</sup> Uter, *Vorschule der Pädagogik Herbart's*, p. 46.

when we teach pupils to see and look for the reasons of things ; when we teach them to look beyond the facts to the laws that unify them and make them appear in their rational connection.

✓ It pertains to the stage of generalization in instruction.

3. The æsthetic interest, or that which is aroused by regarding, not the manifoldness and variety of things or their causal connection, but their relations to each other, whether in the world of sense or of thought. It is the interest aroused by the beautiful in nature, in art, or in morals.

The interest which arises from association with others is of a sympathetic nature, in which the following points may be distinguished :

1. The sympathetic interest, or that which is aroused by the joy or sorrow of others. It is one of the beautiful things in the kindergarten that it cultivates so exquisitely the sympathetic interest between child and child.

If this feeling of individual sympathy is extended by a knowledge of the greater relations of society into feeling respecting the welfare of large numbers, we have :

2. The social interest. This is, of course, a cultivation of the great institutional interests of the Anglo-Saxon race. It lies at the basis of patriotism and its kindred virtues. When, finally, the interest is directed to the history and destiny of mankind, when it is as clear to the understanding as to the feelings that the ordering of the history of man involves something more than mere human power, and that therefore the history of each individual does not lie entirely in his own hands, then fear and hope gather in the heart"<sup>12</sup> This we call

3. The religious interest.

Finally, just as one-sidedness of interest must be avoided, so must an unsymmetrical development be prevented. The growth of interest must be harmonious (*gleichschwebend*).

"Interest is the light with which Herbart, once for all, has brought the dark and tortuous course of dialectics into the

<sup>12</sup> Ufer, *Vorschule der Pädagogik Herbart's*, p. 47.

clearness of day. It is the charmed word which alone gives power to instruction to call the spirit of youth and to make it serve the aim of the master. It is the lever of education, which, lightly and joyfully moved by the teacher, can alone bring the youthful will into the desired activity and direction."<sup>14</sup>

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<sup>14</sup> Dr. R. Staude, *Pädagogische Studien*, Hrsg. von W. Rein, Heft II.

## VI.

### DISCUSSIONS.

#### CO-EDUCATION OF THE SEXES IN BOSTON PUBLIC SCHOOLS.

Girls were first admitted to the public schools of Boston in 1790. They were on an equal footing with boys in all classes until 1830, when a separation was established in four out of the nine schools then carried on. This separation has widened, until now there are fifteen schools for boys alone; fifteen for girls alone; seventy-four classes in mixed schools, of which thirty-nine are of boys alone and thirty-five of girls alone; leaving only about thirty-six per cent. of all the public school pupils who are really co-educated.

The subject of co-education had not been discussed in the school board since 1830 until March, 1890, when it was introduced by Mr. Winship, a progressive member of the school committee, who with Mrs. Fifield and Dr. Green, was appointed to consider and report upon the question "with special reference to future school-buildings."

In September last this sub-committee presented a majority and a minority report. The majority report was very exhaustive, giving not only the opinions and arguments of the committee, but those of a long list of teachers, school superintendents, physicians, and clergymen; the great majority of whom were in favor of co-education. Dr. Green, who signed the minority report, quoted no authorities, but based his argument, which he reiterated personally before the school committee, on the moral dangers for either sex and the physical danger for girls, as well as the moral shock to the community of a movement for co-education. Other arguments on the same side were as follows: the necessity of specific mental and moral adaptation of instruction and treatment according to sex; the difficulty of adapting the manual training and the physical training of the schools to the needs of a mixed class; the detrimental effect upon attention to study, of the personal preference of boys and girls associated together; the trouble

of finding teachers suited to mixed classes; the chances of social intercourse which would not be sanctioned by parents; the inconvenience of reconstructing school-houses to meet the demands of co-education, and especially the great expenditure necessary to such reconstruction; the ill-timed and uncalled-for occasion of the proposition for co-education; and finally, the urgent need of appropriations of money in other and more important directions of school work.

The arguments in favor of co-education presented in the majority report, and urged in the discussion before the school committee, were mainly as follows: the sexes are brought together in the home and in the community, at the beginning and end of school life, and are therefore intended by nature to be educated together and should be trained for life together; as they are destined for marriage, they should know each other well during youth and hold natural and unconscious, rather than artificial and clandestine, relations with each other; the sexes being complementary by nature they need each other's companionship at one period of life as well as another, at school as well as at home; boys need the refining influence of girls, and girls the strengthening influence of boys during their school life; early and more or less intimate acquaintance with the thoughts, habits, and feelings of the opposite sex will lead to nobler character, earlier and happier marriages, and save from temptation and vice; the stimulus, too, of emulation between the sexes is a healthy one, tending to correct the faults of either; co-education corrects the morbid tendencies of puberty; the earlier intellectual maturity of girls and slower mental development of boys balance and correct each other; the steady conscientiousness of girls and the robust activity of boys are mutually helpful; the occasional relaxation desirable for girls is more than made up by their greater ambition and thoroughness; the association of the sexes gives a healthful animation to recitation; it tends to put either sex under the instruction of the opposite sex, which always works to advantage; it is the best system for the teacher, giving him more breadth of treatment and more variety of outlook; the views of life which pupils obtain from a teacher of both boys and girls will not be partial and unreal, but stereoscopic and complete; discipline will be much easier in mixed classes than in boys' classes; all the trend of the higher civilization is in the direction of associating the sexes in all the activities of life;

as the equality of educational privilege is more widely granted, the association of the sexes in educational opportunity will be more fully admitted.

After an earnest discussion of the whole matter, action was indefinitely postponed, the advocates of co-education yielding to the financial and prudential argument for the present, but in no degree yielding their belief in the doctrine, and the persuasion of its resuscitation at no distant day. The press and progressive expression everywhere indorsed the majority report of the committee. As one of the Board of Supervisors I responded by letter to the appeal of the sub-committee, giving my unqualified assent to co-education as one of the essential conditions of a well-founded and harmonious education for both boys and girls, from childhood to maturity, in school, college, and professional study.

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#### THE BENNETT LAW.

The problem of public education in the states of the Northwest has been affected by the circumstances of their settlement. Occupation in the West has not proceeded slowly, giving time for voluntary effort, but very rapidly, demanding immediate and collective action. The foreign immigration has not been uniformly scattered among established communities and absorbed into them, but often distinct nationalities have taken a decisive part in giving society its very first terms. Germans, Norwegians, Swedes, Poles, have occupied special localities, certain villages, portions of cities, and have been in them, from the beginning, a comparatively independent and controlling force.

Wisconsin is a typical northwestern state. Its schools are organized throughout on a public basis. Its common schools, high schools, normal schools, and university are parts of one system, made in many ways to minister to each other. Yet, owing to this marked diversity of religious, social, and national characteristics in different localities, there is necessarily a great difference, in various portions of the state, in the form and efficiency of instruction, especially in primary work. The parochial schools in connection with the Roman Catholic and

the Lutheran churches have, to a very considerable degree, displaced public schools; and the public schools in communities in which one or other of these faiths has been in the ascendency have sometimes assumed a form corresponding to these influences. In the parochial schools, the English language has often not been used, nor always been taught; and the teachers in the public schools—at least in a few instances—have had but a slipping hold on American methods. This broad provision for public education on the one hand, and this weakness in its conditions on the other, give occasion to peculiar difficulties.

The first controversy of the past year concerned the use of the Bible. Certain Roman Catholics in Edgerton complained of the daily reading of the Scriptures in the public schools, and brought their complaint before the courts. The first decision was adverse to them, and the case was carried to the Supreme Court. The Supreme Court decided that the use of the Bible in the public schools comes under the constitutional prohibition of "sectarian" instruction. This decision was of the more moment, as the state has taken to itself the whole field of education, from the lowest to the highest institutions. The decision drew out some very vigorous expressions of dissent.

The second discussion, which has become mixed up with politics, and fallen a prey to the confusion, passion, and demagogism incident to such strife, pertains to the teaching of certain studies in the English language in parochial schools, so far as they are allowed to take the place of public instruction. The Bennett law—of which the significant section is, "No school shall be regarded as a school, under this act, unless there shall be taught therein, as part of the elementary education of children, reading, writing, arithmetic, and United States history, in the English language"—was passed by the last Legislature without excitement, without opposition, without any political division. It arose from the impression made upon the minds of a few by the fact that education in the state did not, in all cases, result in a knowledge of the English language.

Existing laws, faithfully applied, were sufficient to have removed the evil. The same period of attendance as that required by the Bennett law—twelve weeks each year, between the ages of seven and fifteen—had been required at either a



private or a public school. The private school had been defined as one giving instruction in the branches called for in the public schools. These required branches were somewhat more extended than those enumerated in the Bennett law. The Bennett law thus originated in a sudden impulse to do what had been previously enjoined by law, but was partially neglected in its administration. It either arose in connection with some ignorance of existing laws, or from a desire to reanimate them by a new and explicit announcement.

The Roman Catholic and Lutheran churches, whose parochial schools are of increasing moment to them, unexpectedly objected to this law. Governor Hoard, with considerable personal enthusiasm, supported the law. It thus assumed sudden political importance, and secured an interest that would have hardly fallen to it on a purely educational basis. So far as there was any real issue in it, it lay in the question, whether the parochial schools, now a distinct and powerful factor in education, should be allowed practically to go their own way, and the children of the state connected with them be left to their tender care, whatever that might be, or whether the state should reassert the right it had previously claimed of enforced education, defining the term education to suit its own sense of the public wants. This question has now, by virtue of its relation to politics, fallen into a confusion from which it must emerge by the force of events, rather than as a result of any political action.

The Republican party took up the issue reluctantly, and pronounced on it in its platform in a very contradictory way. In support of the Bennett law, it declared: "We affirm the right and duty of the state to enact laws that will guarantee to all children sufficient instruction in the legal language of the state to enable them to read and write the same." In conciliation of the opposed religious sentiment, it affirmed: "The Republican party recognizes as valuable auxiliaries in the work of popular education the private and parochial schools supported without aid from public funds, and disclaims absolutely any purpose whatever to interfere in any manner with such schools, either as to their terms, government, or branches to be taught therein."

The Democratic party accepted the issue with more readiness, but was hardly more consistent in its presentation of it. In its platform it pronounced the Bennett law to be "a local

manifestation of the settled Republican policy of paternalism." On the other hand, it asserted: "Favoring laws providing for the compulsory attendance at school of all children, we believe that the school law in force prior to the passage of the Bennett law guaranteed to all children of the state opportunity for education, and in this essential feature was stronger than the Bennett law. . . . We therefore denounce that law as unnecessary, unwise, unconstitutional, and un-Democratic, and demand its repeal." The controversy has not, therefore, involved any clear division of policy between the two political parties; and the purpose of the campaign being accomplished, "the little red school-house" is likely to retire again into the background. The Republicans strove to defend the law, and were yet ready to rob it of any immediate significance. The Democrats rejected the law, but affirmed their general adherence to its underlying principle, compulsory education. As is well known, the Republican party was defeated in a strongly Republican state, and a legislature pledged to the repeal of the Bennett law has been elected.

The controversy has, however, more significance than these political results would seem to indicate, and will tend to affect seriously the school question. Parochial schools have been quietly gaining ground. The Lutherans report 376 schools and 20,394 scholars. The Roman Catholics report 264 schools and 36,271 scholars. The ostensible reason for these schools—the want of religious instruction in the public schools—has received new weight from the decision of the Supreme Court excluding the Bible. The Bennett law broke in on the tacit acceptance by the state of private training, whatever it might be, in place of its own instruction. This interference, though involved in existing laws, when thus distinctly put, met with decided opposition by those whose beliefs and familiar methods had come to center in parochial work. The law, therefore, uncovered a real difference and a real difficulty, which had made their appearance in the quiet progress of events. Nor will it now be easy, after public attention has been drawn to this discrepancy between the theory of public schools, and the practice under it, either to enforce old laws or to give vigor to new ones. The politicians are glad to be happily rid of the whole subject. The parochial schools have made—even though the laws of the state should remain in their present form—a practical step toward independence.

This will tend to widen the division between them and the public schools, and lead them to advance, in due time, a claim very difficult to resist, either to be released from the burdens of the public system or to be equal partakers in its funds. The conflict lies between the force of American ideas and alien institutions which are trying to plant themselves among us.

The course of events in Illinois has been somewhat similar to that in Wisconsin, though not so decisive. Attendance has been required at prayers in the State University at Champaign; excuses being granted to those who asked them on grounds of religious belief. A young man refused to attend and refused to request permission of absence. He was expelled. The case is now before the courts.

A "Compulsory Educational Law" has been in operation since July, 1889. The Republicans were not especially identified with its passage, but showed a disposition to espouse it in the recent political strife. States like Iowa and Minnesota show circumstances almost identical with those of Wisconsin.

A question akin to this of the Bennett law, though of much inferior significance, has been the giving of instruction in the German language in public schools. In cities like Milwaukee and Chicago, in which the German population is large, this instruction has been freely admitted.

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#### THE REPEAL OF THE COMPULSORY EDUCATION LAWS IN WISCONSIN AND ILLINOIS.

In 1879 a law was passed by the Wisconsin Legislature requiring parents and guardians to send children between the ages of seven and fifteen years to "a public or private school for at least twelve weeks in each school year." This law exempted from penalty for its violation all persons residing "more than two miles distant" from the school-house in their district "by the nearest traveled road." Persons failing to comply with the provisions of the act were liable to a fine of \$5 to \$10 for the first offense and from \$10 to \$30 for each subsequent offense. This fine was to be collected by the school district director or president of the Board, and paid into the school fund. It was further enacted that any school

officer who neglected to prosecute within fifteen days after a written notice has been served on him would be liable to a fine of not less than \$10 nor more than \$20. A similar law was passed by the Legislature of the State of Illinois in 1883. State Superintendent Edwards in his annual report in 1887 declared this law inoperative, and expressed a doubt whether in all more than one hundred children attended school because of its existence. He stated further that if the tables of statistics were of any value they indicated that 266,658 children, between the ages of six and twenty-one, did not attend any school. He urged, therefore, such amendment of the compulsory act as would secure more general attendance. Then followed the enactment of the law of 1889.

In Wisconsin many questions arose concerning the interpretation of the law of 1879. Among them were: What is "a private school"? What studies must be taught to meet the requirements of the law? Have children who have been taught in the elementary subjects in a foreign language met the requirements?

The department of education, interpreting the law, stated that any private school in which "the elementary branches required to be taught in the public schools" were subjects of instruction was a school, and that in public schools "instruction must be given in English as the common language of the country." As in Illinois, however, it was discovered that the law was not strictly enforced, and the spirit of it was evaded even in certain public schools, where German was taught as the language of the school. To correct what was considered defective in the law of 1879, the now famous Bennett law was passed in 1889, requiring that children from seven to fourteen years of age should attend a public or private school twelve consecutive weeks each year. The definition of "a school" was explicitly stated as follows: No school shall be regarded as a school under this act unless there shall be taught therein, as part of the elementary education of children, reading, writing, arithmetic, and United States history in the English language.

It was provided, however, that any child should be excused from the attendance required under the act, (1) if the parent should not be able to send the child to school, (2) if instruction had "otherwise been given for a like period of time to such child in the elementary branches commonly taught in the

public schools," or (3) if the child "has already acquired such elementary branches of learning," or (4) if "his physical or mental condition is such as to render attendance inexpedient or impracticable."

The Illinois law passed in 1889 is in the main the same, excepting that it requires each child to attend school "at least sixteen weeks, at least eight weeks of which attendance shall be consecutive."

It defines a school in the same terms as in the Bennett law, adding one subject of instruction,—geography. It also authorizes the boards of education to employ truant officers, "to arrest children of a school-going age, who habitually haunt public places and have no lawful occupation, and also truant children who absent themselves from school without leave, and to place them in charge of the teacher having charge of the public school which the said children are by law entitled to attend."

Immediately there arose opposition to these laws in both states, chiefly from the ecclesiastics who had charge of parochial schools, but notably as among those Lutheran and Roman Catholic schools in which German was taught almost exclusively. The claim was made that the state should not dictate what subjects should be taught in these schools, nor should it have the supervisory power over them implied in the law. It is an openly confessed fact that in many of these schools the teachers are not qualified to give instruction in English. The claim is made, however, that English is taught incidentally, and that the compulsory feature is therefore unnecessary. The Lutherans also assert that they are not opposed to compulsory education *per se*. Both of these religious organizations have a large number of adherents in these states, and in both the ultra-German element controls the policy of the churches. Roman Catholic and Lutheran conventions were held, and resolutions were passed by those bodies, condemning the Bennett law in the most vigorous language, and demanding its unconditional repeal. They promised their united support to that party and to those candidates that would promise to vote for its repeal. The Democratic party accepted the offer, received the promised support of the Lutherans, Roman Catholics, and of other foreigners who had received the impression that this was a "nativist" warfare against instruction in their mother tongue, retained the adhe-

rents of the party, as a rule, who believe in free trade, received accessions of some former Republicans who were dissatisfied with the recent legislation on the tariff, and rode on to victory with overwhelming majorities in both states. The country, not prepared for the result, stands appalled in the presence of what it conceives to be a menace to our institutions and our government. Well may patriots view the situation with concern should it be true that we have in these northwestern states, where the percentage of increase in population is greater than in any other section, an organized force, under ecclesiastical control, that will persistently thwart any legislative action by which we may hope to lessen the alarming amount of illiteracy in the United States. The increase of population in these two states alone in the last decade is 1,108,865, and the larger population of it is of foreign birth or ancestry. Statistics will prove that two thirds of the population of Wisconsin and about sixty per cent. of that of Illinois is of foreign descent, and probably not less than seventy-five per cent. of these are adherents either of the Roman Catholic or of the Lutheran faith. The school population of the State of Wisconsin, by the last census, ages four to twenty, was 592,755. Of these, 354,405 are enrolled in the public schools. The Lutherans claim an enrollment of 20,000 in their schools. The Roman Catholics claimed 36,271 in their Year Book, published in January, 1890. Allowing 60,000 for these two churches, and 10,000 for other private schools, there remain nearly 90,000 persons of school age to be accounted for. At this rate it would not be surprising to find that several thousand children in the state, between the ages of seven and fourteen, should be reached by a compulsory law. The gain in population of the compulsory age this year is 10,714; the gain in attendance at the public schools is 15,300. The inference is that there has been considerable increase in attendance because of the Bennett law, and yet there has been but one prosecution under the Bennett law, and that was non-suited.

The most significant and unfortunate revelation is the fact that masses of voters may be controlled and sent to the polls to vote, *nilly, willy*, for the candidate whom the church authorities favor. Yet it is not surprising that they do so when we recall what their education has been. Moreover, this very loyalty to church indicates possibilities of patriotic devotion to country when they become fully Americanized and con-

vinced of the necessity of a new patriotism. Possibly the most startling announcements made during the recent canvass came from the lips of adherents of the Roman hierarchy, who said: "The public schools are in danger and their friends should rally to their support."

It would be unjust to class all those who voted against the compulsory laws with the enemies of the public schools. There is no doubt that the public schools have open and concealed enemies among them; but it is also true that there are thousands of persons who, having voted virtually for the repeal of the laws, are ready to defend the schools with their blood, if need be, when they are in real danger.

It is a great misfortune for any class of people in America to live for themselves alone, in their own community, with their horizon bounded by their own customs, institutions, and language. A free and unrestrained commingling of Americans and would-be Americans commercially, socially, and politically would enable each class to appreciate the virtues and respect the customs of the other. The results of the recent elections show the necessity of this. Many foreigners were misinformed as to the purpose of the laws, and their ignorance of our people and institutions was played upon to their own injury. On the other hand, had some of our people appreciated the fact that a long ancestry of associations, under very different conditions, in a distant Fatherland, has implanted deep in the minds and lives of these people customs and prejudices and dispositions,—some quite at variance with ours,—which it will require generations of a new life under the new conditions to eradicate,—the surprise at the result would not have been so great.

This election has emphasized certain suggestive truths:

1. The foreigner needs considerable time and contact with Americans in order to form any correct conception of American ideas and institutions. The ordinary requirement of five years' residence for citizenship is not adequate assurance that he has gained this.

2. Religious ideas are most firmly engrafted by education and heredity, are most tenaciously held, and are not easily uprooted. The Bennett law was a civil, not a religious question; but interpreted as a religious question it carried the masses in two religious bodies because of that fact.

3. The language of one's country or ancestry, like religion,

has a strong conservative influence upon individuals. Either one assailed in reality, or in supposed reality, will arouse opposition and rally unknown defenders.

4. Political parties, as has been often illustrated of late, are on the alert for what will lead to immediate success. They are working for the present. These churches are more far-sighted. They are working for the great future.

5. Americans are over-estimating their assimilative power.

6. A new issue of national importance has come into the field of politics.

If the Democratic party redeems its pledges, the obnoxious laws will be repealed. But others, no doubt, will be placed on the statute books in their place. Wisconsin and Illinois are Anglo-Saxon. The Anglo-Saxon peoples would be untrue to all their traditions if they should stop in the progressive march of intellect which has marked their history for five centuries. The urban population is increasing very rapidly in these states. The occupations are becoming more varied and making greater demands for intelligence and skill. Competition in intellectual and commercial affairs will increase the demand for an English education. We venture to predict that both public and private schools will be benefited, for a time at least, by the discussions and activity that has resulted from this political campaign. Some ecclesiastics are even now demanding better teachers and better methods for their schools.

All patriots, of whatever national origin originally, in every part of the country, will begin to consider seriously the question whether every voter for his own sake, as well as for the security of our republican institutions, should not be guaranteed the right of learning to speak and read intelligently the language of the Constitution of the United States of America.

STATE NORMAL SCHOOL,  
MILWAUKEE, WIS.

J. J. MAPEL.

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#### SELF-TEACHING IN THE INDIAN SCHOOLS.

The child educates himself. The teacher superintends and directs the process. This is, according to Joseph Payne, the fundamental law underlying the science of education. How shall we apply this principle in the Indian school work?

Does the Indian child, in the white man's school, commonly



educate himself? Does he experiment, discover, analyze, and reason? An inspection of fifty school-rooms reveals the contrary. Four fifths, if not nine tenths, of the work done is purely mechanical drill. The imitative powers and the memory alone are exercised. The child reads by rote, he memorizes the combinations in arithmetic, he copies letters and forms, he imitates the actions of his teacher. Is this the fault of the methods employed, or of the subjects taught, or is the defect inherent in the nature of the Indian? Consider for a moment the latter hypothesis. Observe the young Indian out of school. His eye is keen. His brain is alert. He observes every detail of the outside world, and draws inferences from the facts with a promptness and accuracy of which his Caucasian brother is incapable. That moving speck on the distant horizon, this half-effaced footprint in the dust of the road, every sign which appeals to his wonderfully acute senses—tells its story to his active brain. He is all alive. His speaking lineaments and descriptive gestures are a language of themselves; yet a language scarcely fuller of color and vitality than is his warm mother-tongue.

The gap between natural and formal education, as Payne distinguishes them, is in any case a wide one, but in the case of the young Indian it is a frightful gulf. The pupil of the earth and the seasons, the playmate of beast and bird, is imprisoned in a rectangular school-room, and set incomprehensible tasks, in an unknown tongue, by a being of alien race and unlike mental characteristics and habits from his own. He is usually confronted at first by a set of unintelligible symbols—the letters of the alphabet—and required to learn their names. In the same illogical way, certain other symbols, which stand for numbers, are arbitrarily stamped upon his memory. Does he develop intellectual strength under these conditions? Are not his native powers rather stunted and enfeebled? In the dead, repressive atmosphere of the average school-room, this little creature, full of self-reliant energy, becomes an inert, unresponsive, intellectually dependent child. Only in the intervals of release from this unnatural pressure does he revert in some degree to the state of mental and physical vivacity to which he is heir.

A change, almost a revolution, is demanded, both in matter and method, if we are to carry on this work of Indian education in accordance with true pedagogical principles. The In-

dian child must be set to observe facts and to report them. His reasoning powers must be allowed full play. That restlessness and curiosity which are divinely implanted in the young of the human species must be controlled and directed, not repressed. We should not be in a hurry to teach him to read, but rather let him go on teaching himself to see and to think. We should give him time to form new conceptions and to embody them in a new language.

The deepest utterance of this age is an irresistible cry for nature, truth, simplicity. In religion, in social science, in education, the modern mind revolts against the artificial, the conventional, the dogmatic. Were our civilization somewhat more genuine than it is, we should have much more in common with the Indian. We who have to do with the education of their children, may profitably study the Indian habit of mind, and wisely and sympathetically continue in the school-room the processes of development already begun by self and nature.

ELAINE GOODALE.

PINE RIDGE AGENCY,  
SOUTH DAKOTA.

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#### THE NEW YORK KINDERGARTEN ASSOCIATION.

The New York Kindergarten Association has been formed not merely with the view of establishing as great a number as possible of free, unsectarian kindergartens in the metropolis, but also of increasing popular interest in kindergarten methods. The promoters of the movement are well aware of the excellent and devoted kindergarten work already in progress under the auspices of various societies, churches, and individuals. They wish to encourage and increase this work; to extend the benefits of the kindergarten to parts of the city not yet reached or not fully covered by existing institutions; to call public attention to the work done in other cities, as well as in their own, in this direction, and finally to bring before the people and the authorities the question of following the good example of other cities of the country by adopting the kindergarten into the system of public instruction.

Those active in this Association believe that the kindergarten idea has not had the consideration it deserves in New York;

in fact, that New York is behind other and smaller American cities in utilizing one important agency in general education. They believe that the teachers, the philanthropists, the good citizens, should consider more closely the philosophical basis of the kindergarten system; should study more carefully its results, in New York and elsewhere, in the training of the individual child; should inquire more curiously into the effects of the kindergarten in their own and other communities, as an influence not only in the life of the child, but also in the life of the family. They believe that New York, instead of being behind St. Louis, Milwaukee, Boston, and Philadelphia in these matters, should be even more alert than those cities in the mental and moral training of the little children who form so important a part of the enormous population frightfully crowded into narrow confines. They believe in the kindergarten because it is no longer an experiment. They believe in it as a powerful, and, in New York, a neglected means of making better scholars, better lives, better homes, better citizens, and a better city.

RICHARD WATSON GILDER.

NEW YORK

VII.

EDITORIAL.

The EDUCATIONAL REVIEW has been undertaken in the belief that the time has arrived when a periodical of its scope and character is demanded, and will be sustained. There are enough earnest and enthusiastic students of education in America to provide it with a constituency. Inasmuch as all leading articles, discussions, and notices of new books that appear in the REVIEW are to be signed by their authors, it seems proper to announce that the publication of such signed contributions does not necessarily involve editorial indorsement of opinions that may find expression therein. The REVIEW has no policy that is not consistent with the scientific study and discussion of education.

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The recent announcement that a well equipped school of philosophy has been organized at Cornell University is another evidence that the theoretical and speculative studies are not being wholly neglected in our educational development. The increased provision now made in this country for the study of philosophy is very marked. For some years Princeton College has had a very comprehensive scheme of philosophical instruction in operation, and more recently Harvard University and Columbia College have followed the example of their New Jersey sister, and have, on the whole, surpassed her. Meanwhile, at Yale and the universities of Pennsylvania, Wisconsin, and Michigan, activity in a similar direction has been displayed. Now Cornell University, with a very considerable fund in hand for this special purpose, comes forward with a program more ambitious in some respects than those of any of the other institutions. The effect of this development will be salutary. It will not diminish to any appreciable extent the number of students who annually go to Germany to pursue advanced studies in philosophy: Germany will continue to attract those who have the opportunity to go there. But it will have the effect of increasing very

largely the number of students who take an interest in the group of sciences called philosophical, and who desire to continue their studies in them. At Cambridge, New York, Ithaca, Princeton, and other centers there will gradually grow up a very considerable group of philosophical specialists, whose intellectual and literary activity must exercise a marked influence on the thought of the nation. In time we may expect an added seriousness, thoroughness, and scope in our thinking: these are in themselves symbols of a settled and mature civilization. Our rapid material development and the striking progress made by those sciences that may be pursued by purely empirical methods, have prevented our giving any marked attention to the humanities, properly so called. The intellectual life has suffered among us in the past, but this new and very general interest in philosophical study is the harbinger of better things.

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The psychological department, or departments, of Clark University both belong to this development, and also stand outside of it. The new Worcester University centers its attention on a small group of related sciences. Of these the chief is psychology, studied by the most modern methods. It is undoubtedly true that the best and strongest features of several European universities would have to be combined to equal the provision made at Clark for the advanced study of physiological and experimental psychology. In this narrower and more technical field the general interest cannot be so great as in the larger field of philosophy. Yet the student of education is looking to it with hope and confidence. The experimental psychologist is continually raising and discussing questions that bear directly upon educational practice. When these investigations have proceeded farther, it will be possible to speak more definitely, but even now results of the highest importance for the science of education may confidently be expected from the work being carried on in the Worcester laboratories.

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Whatever may be said of the efficiency of school supervision and inspection in general, there is one form of it that is undeniably successful. That is the practice adopted by the

inspectors of training colleges in England. These gentlemen visit the colleges ~~to which they are assigned~~ once or twice in each year, and spend several days in informing themselves as to the physical condition of the school buildings, the methods of instruction and administration adopted, and the progress and proficiency of the pupils. The teachers are then assembled and the inspector makes such comments on their work as occur to him, while opportunity is afforded the teachers to question the inspector and criticise the various regulations put in force by the Education Department. This enables the inspector to learn something as well as the teachers. He then meets the governing board, or trustees, of the school, and points out to them what should be done to render their institution more complete and efficient. In this way the trustees are brought into harmonious relations with the department and are led to take a more active and intelligent interest in their own institution. The practical success of this plan of inspection has been very great, and we commend it to the careful consideration of the University of the State of New York, which is just introducing a formal system of inspection for the academies.

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The spirit that animated the clique that drove Wolff from his chair at Halle is not entirely extinct. In a somewhat changed form it seems to be carrying on its struggle for existence in America. Narrow sectarians and partisan denominationalists are clamoring on every hand for institutions of learning which they themselves can control. All the force that these persons can muster will be used to build up such institutions at the expense of those that are already in existence and doing successful work. We are hearing continually about the vast sums that are to be raised to found and endow Baptist, Methodist, Presbyterian, and other universities. The great state universities of the West, as well as Harvard and Yale, Columbia and Princeton, Johns Hopkins and Cornell, are called secular, atheistic, unfriendly to true religion and sound morals. The wickedness of this movement for sectarian universities is only exceeded by its folly. Every great college or university in this country that has attained a respectable age was founded by Christian men and under Christian influences, and remain essentially Christian to this day. One of the fortunate

features in the development of these great institutions is that they have outgrown the narrow letter of the belief of their founders, while retaining and cherishing its spirit. Their very catholicity is their strength. We can imagine few things more disastrous to higher education in America, than the effective rivalry of these older universities by new and narrowly sectarian institutions. Science cannot and will not be contained within any human formulation of dogma, whether that formula be fifty or ten thousand years old. To attempt it, is to defy the lessons of nearly a thousand years. Imagine a professorship of Baptist chemistry, or Methodist anatomy, or Presbyterian astronomy! Every one who contributes a dollar toward the establishment of a sectarian university is paying to exalt the narrow, the petty, the uncharitable, and to substitute for the pursuit of truth the perpetuation of sectarian belief as the aim of our higher education.

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The elementary school teacher is subject to a new epidemic. It seems to attack principally those just emerging from the state of intellectual sloth and professional inactivity. The teacher who has recently heard of Froebel or Comenius, and who, while in doubt whether to begin to spell psychology with an "s," is very anxious to study it, is almost always stricken. The disease may be called mania-for-degrees. The patient must have some symbol to attach to his name. Plain Mr. or Esq., and, with the other sex, Mrs. or Miss, no longer satisfies. He will promise to read any number of books that he cannot understand, attend innumerable lectures, miscellaneous or other, and occasionally even agree to pay a fee, provided the coveted distinction be forthcoming. Not having had a liberal education, he cannot use the symbols of the Bachelor of Arts. He looks with envy upon the practitioners in law and medicine who, whether college graduates or not, write LL.B. and M.D. after their names. He is, therefore, agitating for a "professional" degree, and seems not unlikely to have it established for his benefit.

All this is very ridiculous and very silly. Degrees have already been so cheapened in this country that they are looked upon with suspicion, if not contempt. The wisest educational thinkers to-day see that if degrees are to be redeemed and restored, they must be made more difficult of attainment. To

add another cheap degree to the already long list is unnecessarily stupid. Rather those already in existence should be cut down. None but a technical degree, which carries its full meaning on its face, should be granted save on the basis of a liberal education. The lawyer, the physician, the clergyman and the teacher should be liberally educated first and professionally trained afterward. Their degree of Bachelor of Arts should be necessary to qualify them for any professional degree whatsoever. The latter should then be given on the completion of a thorough course of professional training. When this is done a professional degree will mean something, and the teacher may rightly ask to have one as well as his contemporaries in the other professions.

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The tributes paid by the leading journals of Philadelphia to Mr. James MacAlister, upon his retirement from the superintendency of schools in that city, are very gratifying to every one interested in the purifying and uplifting of the common school system. Eight years ago Mr. MacAlister went to Philadelphia from Milwaukee. He found a great city with no central organization or administration for its schools. The real control was divided among a large number of local or ward boards, each intent upon aggrandizing itself. The newly elected city superintendent had no office provided for him, no staff of assistants and clerks, no records, not even a chair to sit on. The schools of Philadelphia had sunk to a very low state. The teaching corps was neither efficient nor enthusiastic, and the methods of instruction in use were as bad as could be. With the tact and ability that have distinguished his career, Mr. MacAlister set to work to bring order out of the chaos. Step by step a central system of administration was built up. The course of study was revised from top to bottom. Modern methods of teaching were gradually introduced. The teachers themselves were reached and touched by the enthusiasm and energy of their chief. The result is marvelous. The schools of eight years ago have disappeared. To-day the schools of Philadelphia are held up as an example of what city schools ought to be. Nowhere in this country has the improvement been so great, either absolutely or relatively. Yet all of this had been accomplished against great odds. Personal and local jealousies, political pressure, the inertia of a stupidity



enamored of itself, have all opposed this progress. It has been made, however, and it is most gratifying to know that the intelligence and morality of Philadelphia appreciate it and are grateful for it.

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Mr. MacAlister resigns to accept the presidency of the Drexel Institute, an educational foundation of great possibilities, the future of which is entirely in his hands. The land which has been set aside, and the buildings now in process of erection, represent a value of at least \$500,000. To this sum Mr. Drexel has added \$1,000,000 more to serve as a permanent endowment. This very generous and ample provision is made, as we understand it, for the purpose of providing a center of educational activity from which shall go out sound educational doctrine of every kind. Classes are to be held, manual training is to be further studied and developed, lectures are to be given, and a great educational library and museum, of which the whole country will be proud, may be added. It is too soon to speak with any definiteness as to the plan of operations, for Mr. MacAlister himself has as yet announced nothing. It may safely be said, however, that in his hands, and with Mr. Drexel's wise and generous care, it will be an institution of great value to the country. In New York, in Brooklyn, in Boston, in Chicago, and now in Philadelphia, private funds are providing most liberally for the extension and elevation of the public school system. This is a hopeful sign. It is an earnest that when the ordinary agencies of the state are either unable or unwilling to reflect in their practice the best educational thought of the time, private munificence will be at hand to spur them on.

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There is something pathetic about the professional isolation of the New England schoolmasters. They meet and talk and write; while other persons are going on to carry into effect what these New England gentlemen keep saying is desirable and should be done. A case in point is the subject of professional preparation for secondary teachers. For some time past—more particularly at the meeting of the American Institute of Instruction in July last, and at the annual meeting of the New England Association of Colleges and Preparatory Schools, held in Boston a few weeks since—this subject has received the formal attention of the New Eng-

land teachers. But in the various papers and addresses at their meetings, as they are reported, there is no trace of any knowledge of what progress has been made in other parts of the country toward a solution of the problem. Germany and France are pointed to as models of sound practice, at the very moment when educationists in those countries are studying with thoughtful care the new departures in America, and expressing themselves as convinced that they have something to learn here.

It may interest the New England schoolmasters to learn that the University of the State of New York contains at least five great institutions which are accomplishing, along slightly different lines, but with the same general aim, just what seems to be desired in New England. Instead of wasting their time in theorizing and planning, these New England teachers could employ their time to greater advantage by observing and learning. In his paper at the Boston meeting President Capen, of Tufts College, said that four methods of training secondary teachers are proposed: (1) advanced courses in existing normal schools, (2) chairs of pedagogics in the colleges, (3) pedagogical schools in connection with the universities, (4) the creation of a separate and special institution. Did President Capen not know—or if not, why not—that every one of these four suggestions had been carried out, and successfully carried out, in the State of New York? Did he not know that in half a dozen western states steps in the same direction were being taken? One speaker seemed pleased with the ridiculous suggestion that an appropriation of \$7500 would suffice to start such an institution as was desired. President Eliot promptly punctured this bubble. Another seemed to think that one man, a sort of endowed Socrates, is all that is wanted, and that the ambitious and the capable will flock from all parts of the country to hear him. Still another wondered whether any students could be found to attend such an institution if it were opened. And so the tiresome discussion went on. The situation it discloses is one of almost hopeless ignorance of the best educational thought and practice in this country.

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For the benefit of these New England schoolmasters we will point out that in New York advanced courses of instruction are given at the Oswego Normal School, and that the

organization and plan of the State Normal College at Albany will repay careful study. At Cornell University and at Columbia College advanced instruction, of university grade, is given in the history, science, and art of teaching. Scores of students of the highest character, many of them teachers of considerable experience, are in attendance on these courses. At the University of the City of New York a school of pedagogics has been established on the same plane as the schools of law and medicine. At the present time some six or eight courses of instruction are in progress, attended by over two hundred students, most of whom are college and normal school graduates. A few rods distant stands the New York College for the Training of Teachers, established for the sole and specific purpose of offering professional training to intending teachers of any grade. No such thorough and complete instruction in pedagogic science as this institution offers and contemplates has ever been given in this country. It costs already, not \$7500, but more than \$50,000 a year. All of the institutions named, except the Oswego Normal School, are members of the University of the State of New York and under the general supervision and control of the Regents. They are thus public institutions. They complement each other's work, and between them cover the field in a most admirable way. In New England they seem to know nothing about this, although many graduates of New England colleges are availing themselves of the opportunities that the New York institutions afford. The time is past when New England can take a leading position on this important question. The pioneer work has been done elsewhere. Massachusetts will have to seek "a fresh jewel for her diadem"—as one of her representatives called it—in some other mine.

VIII.

REVIEWS.

**Essays on Educational Reformers.** By ROBERT HEBERT QUICK, M.A. New York : D. Appleton & Co., 1890, pp. xxxiv., 500.

Whether from the standpoint of the educationist or of the student of pure literature, the publication of this new edition of the *Educational Reformers* is a cause for most sincere congratulation. It does not often happen that a book which so long stood as the only book in English on the history of education should, after twenty-two years, in its second edition, merit the distinction of being "the most valuable history of education in our mother tongue, fit only to be compared with Karl von Raumer's *Geschichte der Pädagogik* for its presentation of essentials and for the sanity of its verdicts."

Whatever excellent points the first edition had, the new possesses, with all the added attractiveness and worth that twenty years might be expected to give to a book which had originally so "good a title and so good a plan." There is a ripeness in the judgments, a finished quality in the style, and a general tone of breadth and completeness in this new book that serve to illustrate, in a very interesting way, the process of the development of the subject in the author's mind and the way he has, by thought and research, gained insight or, as Dr. Harris would say, reached "the third stage of knowing." But these points will appear only when the second volume is read in the light of the first; so that we are safe in saying that the most cordial welcome to the edition of 1890 will come from those who have appreciated its predecessor. Viewed in this light, the fact that one of Mr. Quick's volunteer American publishers should have bethought himself of publishing a new lot of the old books just on the eve of the appearance of the new, is seen to be in reality the best possible preparation for the latter's reception.

Although this edition has nearly double the number of pages of the first, the new material has been disposed with much skill. So true is the author's sense of perspective that, while there are many exceedingly entertaining bits of erudition.

notes by the way, and quotations interesting but not vital, these are never allowed to cumber the text, but, by judicious use of fine print, foot-notes, and appendix, a perfect balance is maintained between the *multum* and the *multa*. We have, also, not only a new preface by the author, a table of contents, which is by no means uninteresting reading by itself, and a complete index, but one of Dr. Harris' characteristic prefaces, by which the editor has so materially enhanced the worth of the whole series. A most attractive feature is the appendix, in which the author takes us quite into his confidence, and, in a delightful easy-chair chat, lets us into some secrets about the book's history, writes in his best vein on sundry educational matters (on which he still has plenty to say), and most entertainingly introduces us to the educational books in his library.

Among the noteworthy changes we observe that Mulcaster, whose pedagogic fame, at least, for the "eighteen hundreds," began with a two-page space in the appendix, has been promoted to a twelve-page chapter by himself—one of the most readable chapters in the book. Ascham, Montaigne, and Ratke, also, have each a chapter; and, although Milton figures inconspicuously among "some English writers before Locke," it is said that "whatever we little people may say about the suggestions of the Tractate, Milton will remain one of the greatest educators of mankind." There are new chapters on Sturm, the Port-Royalists, and Rabelais, besides two introductory chapters on the Renaissance, and a conclusion in which is given a bird's-eye view of the whole period covered by the book.

While many of the chapters have been retouched and elaborated, some have been entirely rewritten. Such are those on Locke, Rousseau, and Pestalozzi. Here the treatment is as vigorous and able as it was fresh and entertaining in the case of the old-fashioned writers, Hoole, Petty, and the rest. In treating of Locke the author has succeeded admirably in "getting at the tap-root of his system." The "caution against classifiers" which appears in the course of this chapter is timely and well worth heeding. In this edition, as in the first, Rousseau is allowed to speak for himself. The selections as well as the comments upon them, have been made with rare good judgment; the translations, both here and throughout the book, have all the grace and force of the original. Nearly one fifth of the book is devoted to Pestalozzi. It will not be speaking

in too high terms of this essay to affirm that nowhere in English does there exist, within the compass of barely one hundred pages, so complete a picture of the man and so suggestive and profound an exposition and critique of his work for education. We note in this connection, as also in several other portions of the book, significant comments on the English school system. While not one of the strictures formerly made has been withdrawn, many have been added. It is even asserted that "there is such a thing as education we may say the English practically deny."

Mr. Quick has claimed for his first book "a good plan," in that he "aimed to tell, about the few people who seemed specially worth knowing about, only just what was specially worth knowing"; and we may claim for the author, in this second edition, not only that he has done this in such a delightful style that his book will win readers for its literary merit as well as for its pedagogic value, but that so much of the "immortal portion of history"—as Guizot has styled it—has been woven into it, that what was a sketch has become a history. The grasp and the insight throughout, in the generalizations, and in the comparisons of men, systems and times, combine to render this one of the most valuable and stimulating books in all the literature of education.

For these reasons the *Educational Reformers* will stand, as it always has stood from the time when "all the good books were in German," on every "best list" which a teacher may recommend to his friends to read and own. There is certainly little reason to doubt that the teachers of America, who "kept alive his old book for him," will be keenly appreciative of the merits of this new one.

It must have seemed to those who have observed that the dedication to Henry Barnard appears in both the English and the American edition, a peculiarly graceful and fitting thing that the author who has done so much to lead teachers to the enthusiastic study of educational history should have dedicated the work in which he has rendered his chief service to education, "to him who gave to the English language an educational literature."

WALTER L. HERVEY.

**The Elements of Psychology.** By GABRIEL COMPAYRÉ. Translated by WILLIAM H. PAYNE, LL.D. Boston: Lee & Shepard, 1890, pp. v., 316.

The object of the study of psychology on the part of teachers is two-fold. First, inasmuch as the teacher's work deals with the development of the mind, it is necessary, or at least desirable, to be able to recognize and discriminate the various mental activities and know something (by hearsay, at least) of their laws of development. Otherwise the teacher will be unable to analyze a given case before him, and, without analysis, how can he diagnose any case of arrested development on the part of his pupils? A more valuable and more permanent effect of the study of psychology is looked for in the discipline which it gives the student in a second and higher order of observation than that first one which is developed by the use of our senses in external observation. Sense-perception and the study of objects in space and time use a fundamental category or form of thought different from that used by introspection or consciousness. External observation presupposes that all its objects are things with environments, and that there is interrelation between them in such a manner that the things depend on the environments. This is the form of all external perception, and it is evident that it furnishes the basis for materialism and the denial of immaterial principles in life and mind, as well as all forms of spiritual being. There can be no freedom or self-activity or true individuality perceived by the senses, or indeed conceivable, in the form of thinking which uses the data of sense-perception.

Introspection, on the other hand, knows nothing of thing and environment. It takes cognizance only of feelings, ideas, and volitions—three forms of self-activity. The facts of introspection give us all of our data for thinking true individuality,—for thinking independent being, or totality, or freedom, or responsibility. Hence the psychological form of observation alone makes possible ethics and morality, the knowledge of God and immortality. Introspection gives us noumena, while sense-perception gives us only phenomena—noumena meaning self-determined beings, ultimate realities like the responsible will; phenomena meaning dependent beings, things whose determinations are to be traced to influences received from their environments.

The first question we ask, therefore, on approaching a new work on psychology is: Does it discriminate between

outer and inner observation in such a way as to develop in the student this second order of observation? The student will be found to have the first order of observation already. Will the study of the psychological treatise in question tend to develop in him a new faculty which he now possesses only in a rudimental form? Then comes our second question, which inquires whether the book before us presents a good inventory of mental activities well described and their laws of development noted. Professor Payne has done many good services for his professional brethren, and among his best labors are his translations of the works of Compayré, relating to the history of education, the theory and practice of education (*Cours de Pédagogie*) and this work relating to psychology. The views of the French university professor are at once conservative and fair-minded. He supports the doctrines that uphold civilization like pillars—the doctrines of the moral law, human liberty, the existence of God, and the immortality of the soul. He sets forth the utility of the study of psychology for the teacher in his introduction, basing it on the importance of self-knowledge and the fact that history can be understood only by its aid, and that no other foundation is discovered for ethics: "Theoretically ethics is based on psychology. Liberty, which conditions the existence of morals, and conscience, which is its governing law—liberty and conscience are psychological facts. The principles of ethics are really intelligible only to those who have traced their origin to psychology and have tested their validity in their own consciousness."

In most places he shows an appreciation of the self-activity of mind. On p. 76 he says: "The intelligence is not merely a vase which is gradually filled with the knowledge which the senses and the consciousness are daily pouring into it; but it is a self-existing force which has its own tendencies, instincts, and its inflexible laws. . . . At first only the mirror of things . . . it reacts on the elements of knowledge furnished it by sense-perception and by consciousness; takes possession of them, modifies them, transforms them, rises to the highest conceptions."

While commending his affirmative attitude toward spiritual truths, and his judicial impartiality, however, one must remark that the author goes too far in some of his admissions, and often neutralizes the effect of his spiritual affirmations by



granting validity to counter-statements, which leave him at best in an agnostic attitude. For example (p. 137) he seems to lose out of view the ego as self-determining, and to fall back upon the crude theories of the associationalists that treat consciousness as a series of states rather than as a sustained energy of self-activity. "Each state of consciousness is determined by a previous state of consciousness. There is an intellectual determinism just as there is a physical determinism." Of course, if any and all states of consciousness are products of the self-activity of the ego, this application of the law of external observation, namely of thing (or event) and environment does not hold, because the ever present ego is the determining cause of states of consciousness, and it is not the past state that causes the present state. The past state enters the present, it is true, but not as formative cause; it enters only as material upon which the ego acts as formative cause, modifying it into a new state. With this defective view of determinism we should expect that the author would be unable to defend the cause of free will against the argument from strongest motives. His statement of this argument (p. 276) is as follows: "The soul is a balance whose pans are loaded; the beam always inclines in the direction of the pan which supports the heavier weight. There can, therefore, be no such thing as liberty, for the mind is determined by the strongest motive." This he attempts to refute (strange to relate!) by the fact of our ignorance in given instances of the relative weight of influence which motives of different kinds may exert. This is the ostrich's method of escaping the hunters: he hides his head in the sand. "The objection," says Compayré, "would be irrefutable if we knew in advance what motive is the strongest . . . the strongest motive is that according to which we determine our conduct, but we do not know that it is the strongest until after our will has declared itself. The objection drawn from motives then leaves the question open, and it is nowise proved that motive is the determining cause of our action." Here he admits that the strongest motive prevails, but at the same time denies it because we do not know the strongest motive until we see it prevail. This "refutation" would refute all determinism in nature as well as in mind. Not knowing, for instance, all the determining elements that enter the problem of the course and range of a ball fired from a cannon, "the question is left open,"

and we are not sure whether the course and range are absolutely determined. But M. Compayré, in the same connection, says: "The strength of the motive is derived in part at least from what our will adds of itself to its natural power. The reasons for acting are not decisive by themselves; they become so only through the consent of the will." This, of course, lifts the question, temporarily, on to another plane than that taken on entering upon this discussion, wherein (p. 275) he states his own view thus: "The resolutions and determinations of the will are always reflective, they are based on intellectual reasons." According to the later statement they are based "in part at least on what our will adds of itself to the natural power of the motive."

The difficulty in this place and in other places, wherever M. Compayré approaches the solid human interests of psychology (God, freedom, immortality,—the knowledge of truth, beauty, and holiness),—the difficulty, I repeat, lies in his attempt to limit the scope of his work to empirical psychology as "the study of the inner facts which constitute the moral life of the man." He wishes to exclude from this work all that belongs to "rational psychology," which is described (p. 39) as "a metaphysical science which attempts to connect these facts with some single principle of the soul." But if we eliminate from the book all the discussions which relate to the nature of the soul not one tenth of it would remain. It is a piece of self-deception on the part of the psychologist to persuade himself that an empirical psychology can be written without reference to rational psychology. It comes of the *naïve* assumption of the point of view of external perception (thing and environment) instead of that of introspection (self-activity). Had M. Compayré kept consistently the point of view of the second order of observation (introspection of self-activity) he could have disposed of the "strongest motive" argument of fatalism with the greatest ease. He could have said, for example: A motive is not a material thing nor force; it is a thought and as such it exists through an act of thinking, which is self-activity. The mind sees what is, and at the same time sees what else might be in the place of what is, and sees that the possibility not yet realized would be more in harmony with the ego. It, therefore, will so change the environment so as to realize this ideal state of existence that it has conceived for the thing. Here then is no fate, but only a double act of self-determina-

tion: (a) The self-active thinking looking upon the reality as it is, creates a concept of an ideal or potential state of existence which would be preferable. This is the motive, not a thing but an unrealized idea. (b) In the next place, the self-active ego, as will, proceeds to nullify and change the real so as to actualize the ideal conceived as motive. This is its second act of self-determination and the complete demonstration of its freedom. To say that any motive determines the will is to say that the will determines itself. If the motive is conceived as a real objective thing, inasmuch as it is not yet realized before the will acts, we have the absurdity of a thing exerting an influence before it exists. The motive is a motive because unrealized; after it becomes real it is no longer a motive.

In the same uncertainty as to the limits between empirical psychology and rational psychology, M. Compayré says (p. 32): "Psychological phenomena are perhaps consequences of certain movements of cerebral matter." In another place (p. 24) he says, "Whether this principle (underlying the facts of psychology) be the material organism and in particular the brain, or, on the contrary, an immaterial cause, an independent substance is in one sense of little importance to this science. It studies real facts and this suffices for it." One might reasonably object here that his conception of science is not adequate. A science is always something more than a mere inventory of facts—it is the combination of those facts into a system in such a manner that each fact throws light on all the others. No such connection can be made without a general principle. Hence principles are just as necessary as facts to form a science. The very first step in psychology, as we have seen already, is to be made only by discarding the fundamental category of external observation (thing limited by environment) and the adoption of the category of a second and higher order of observation, namely, self-activity. This seems "transcendental" and "metaphysical," and may be sneered at by people who are unconscious of their self-contradictions. To get rid of what is transcendental in psychology, what transcends or reaches beyond the sphere of material things moulded and shaped by outside influences, is to get rid of the doctrines of moral freedom, immortality, and God, and also of all possible "facts" on which they can be based. It is a persistent ignoring of the difference between the two orders of observation. Hence we must

enter our protest against such declarations as the following: "The study of a text-book on psychology may be as purely an objective process as the examination of a mineral" (p. 10). The phrase "objective process" here leads to error, by suggesting the use of the category of external perception. "The soul is not a fact of experience. It is a hidden cause of which we know directly only the effects; an unknown substance of which we apprehend only the particular and successive modifications." This ignores the fact that internal observation always perceives self-activity, which is a noumenon as well as phenomenon.

There are a few inaccuracies in the book; a sample of one kind is found on p. 300, where the striated bodies are described as "the expansion immediately above the spinal marrow whose normal function is to serve the instinctive operations," speaking as though this was the only "expansion." The doctrine established by physiological psychology is that the *corpora striata* furnish the center from which go out all volitions, as well as habitual impulses to action through the nerves to the muscles. There may be involuntary action that emanates from a lower part of the spinal chord as a center. But the *optici thalami* are also a part of the "expansion immediately above the spinal marrow," and are supposed to be the center of the nerves of sensation, and hence the focus of the incoming impressions just as the *corpora striata* are the center of the outgoing expressions of the soul. An example of the other kind of inaccuracy is the reference to the index (p. 112) for an account of Laura Bridgman, the account being omitted. This fault-finding, however, must not be prolonged, lest it give the reader the erroneous impression that this very good book falls short of the standard which it in fact attains.

WILLIAM T. HARRIS.

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**Introduction to Philosophy: An Inquiry after a Rational System of Scientific Principles in their Relation to Ultimate Reality.** By GEORGE TRUMBULL LADD, Professor of Philosophy in Yale University. New York: Charles Scribner's Sons, 1890, pp. xii., 426.

Workers in the sphere of the physical sciences are fortunate in the fact that, however little an untrained but intelligent mind may comprehend the processes by which they arrive at results, it may readily be brought, in most instances, to see the

significance and value of the results themselves. In the mental sciences ~~wit is far otherwise.~~ To the mind untrained in reflective analysis, the data upon which such reasonings rest seem highly vague and uncertain, and the processes and results incomprehensible. For this reason, if for no other, such books as this Introduction cannot but be most helpful. It is the preliminary information, which gives the traveler, preparing for a descent upon new territory, some notion of what to expect upon his journey, and some advice in making his preparations.

Professor Ladd's volume ought to be of no little service. Like his other books, it is learned, well planned, and in general clear, though the thought might have been expressed in simpler and less technical language. It contains abundant references to standard works, and the beginner, ignorant of the literature of this new field of study, and much in danger of wasting his energies in reading poor books, may glean useful hints for more extended courses of reading. The book treats first of the history and definition of the term "Philosophy"; of the sources of philosophy, and its problem; of the relation of philosophy to the special sciences, and particularly to psychology; of its spirit and method; and of its divisions. It then takes up the branches of philosophy, thus determined, and devotes a chapter to each. It discusses in their order theory of knowledge, metaphysics, philosophy of nature and philosophy of mind, ethics, æsthetics, and philosophy of religion. It ends with a criticism of tendencies and schools in philosophy, which may be taken as the author's apology for the doctrine contained in the chapters preceding.

The definition of philosophy accepted by Prof. Ladd is (p. 27) as follows: "Philosophy is the progressive rational system of the principles presupposed and ascertained by the particular sciences, in their relation to ultimate Reality." This definition is put forward as gathered from the idea of philosophy presented in the great historical systems, and as including what is essential in the definitions framed by the most prominent thinkers, ancient and modern. The author objects (p. 164) to a thinker's identifying philosophy with his own system of philosophical tenets. Those who do this tell us, he complains, not what philosophy is, but what in their judgment it ought to be. His own definition he attempts to frame so as to avoid this difficulty. The question is, as may readily be seen,

a very important one. Upon one's notion of what philosophy is, will depend ~~one's notion of~~ how philosophy should be divided, and how its divisions should be treated. In the present instance, even the most careless reader must see that the plan and treatment of Prof. Ladd's book arises out of his definition, and would have been different had that been different.

Now there is a rather large class of thinkers to whom Prof. Ladd's definition would not be satisfactory. They would either repudiate it outright, or understand it in such a sense as to disapprove of the treatment accorded it by its author. They would claim, moreover, that the view of philosophy to which it gives expression is not a product of a truly critical study of the history of philosophy—of a study which would distinguish carefully between the forms which a problem has actually taken in the past, and the true statement of the problem, as it presents itself in the light of a later and clearer knowledge. That Prof. Ladd's notion of "reality" and its significance for philosophy is in sympathy with that of the majority of those who consider such problems at all, they would probably be ready to admit. They would, however, maintain that the majority, here as elsewhere, is not infallible; and that a majority, in matters of reflective analysis,—matters in which many seem to be called, and few chosen,—may very well be wrong.

In view of the fact, then, that scholars are divided in their opinions concerning the very foundation, so to speak, of Prof. Ladd's doctrine, and that they will be almost sure to judge his book from the point of view peculiar to themselves, it would be well for one who has not read the volume to accept no one criticism as final. Let him read criticisms from both sides, and then let him read the book and judge. Pending this solution of the difficulty, it may be instructive to indicate here, briefly, the two kinds of criticism (inward or expressed) that the volume is likely to receive.

The man who objects to Prof. Ladd's way of thinking would call the treatment of "knowledge" and "reality," with which chapters viii. and ix. are taken up, loose, vague, and inconsistent. The author, he would say, regards knowledge as the presence in consciousness of certain complexes of mental elements accompanied by a belief (pp. 230, 234, 235), or persuasion (p. 237), or conviction (p. 230), that there exists beyond consciousness (pp. 204, 225, 251) a something called "reality" in

relation to them (chapters viii. and ix. *passim*). The knowledge then, consisting of these two factors, is in consciousness; the "reality" is without. They are in as wholly different worlds as Lazarus and Dives. We get "reality," not immediately, not as itself in consciousness, but as an inference from experience (p. 224, 233); this inference, moreover, cannot be shown to be well founded—though it is unhappily called (p. 233) "legitimate,"—for the belief that gives us "reality" is not rational, but "blind" (pp. 234, 235, 247, 251), and "instinctive" (p. 251). So far, the objector would remark, the reasoning is excellent. It is only necessary to follow out the plain moral of all this, to drop this hypothetical and blindly assume "reality," and look elsewhere for a reality of a more reasonable kind. The author clearly admits that there may be reality other than this, in using the phrase "primary reality of the fact of knowledge" (p. 227). This knowledge is in consciousness and nowhere else. But, our critic would continue, Prof. Ladd does not remain true to these wise utterances. He constantly uses the word "know" to express a certainty above that of a "blind belief" (pp. 195, 229, 230, 233, *et passim*). In the case of the "reality" called self, he makes "to know" synonymous with "to be conscious of" (p. 226), although just after (p. 229) he makes our knowledge of this same "reality" no more than "conviction." He makes a state of consciousness *immediately* known (p. 226) as the state of the "reality" called self, though it is hard to see how  $x$  can be immediately known as the state of  $y$ , when  $y$  is not immediately known at all, but is the object of a "blind belief." He speaks of "reality" as "envisaged" (pp. 195, 224, 233); "given to consciousness" (p. 195), when it has been described as something necessarily beyond consciousness. Worst of all, he declares "knowledge" and "*being* as known" to be identical (p. 226), and cautiously remarks, "It is not every state of consciousness that, as such, is identical with the really existent." To be this, "it must be known as a state of some being, either immediately through self-consciousness by the being whose state it is, or through perception by some other being." What a leap! exclaims our critic, over the great gulf fixed by Prof. Ladd himself between psychical complexes and the "reality" outside them and merely "*believed* to exist" (p. 230). "The really existent" is made synonymous with "reality" (p. 222), and yet is identified with certain states of consciousness. Is the existence of these states

of consciousness merely a matter of blind belief (p. 234)? How can one get "reality" as an *inference* from experience, (pp. 227, 233), if it is *identical* with that experience? Is it not an evidence of complete mystification on the part of the author that he can speak of the "state of consciousness" which is "identical with the really existent" as being known "through perception by some other being?" (p. 226.) Were it not, our critic would claim, for this second class of statements concerning knowledge and "reality," statements wholly inconsistent with those quoted before, Prof. Ladd would never have embraced the opinion that this blindly assumed "reality" is somehow a guarantee of the worth and trustworthiness of conscious experience. When it is recognized that this "reality" is merely a "blind" inference from that which is immediately in consciousness, that it is inferred from the psychical complexes and not they from it, it should be very evident that, whether one be disposed to assume its existence or not, the facts of consciousness remain wholly unchanged. The only thing that runs any risk in the matter is the "reality." If I infer *b* from *a*, and wholly from *a*, I cannot pass back from *b* to *a*, and add anything to the latter. If, on the other hand, I have some immediate or independent knowledge of *b*, I may pass from it to *a*, and change my opinion of the character of this letter. In the second class of expressions quoted, Prof. Ladd may be seen to have inconsistently assumed such independent knowledge of *b*.

Such would be the criticism from one side. From the other it would be said that Prof. Ladd has treated some of the most difficult and perplexing questions in the whole range of thought as clearly and satisfactorily as one can reasonably expect them to be treated. It would be suggested that his utterances concerning "reality" are not more indefinite than those of Plato concerning his "ideas," of Kant concerning his "Thing-in-itself," or of Lotze, whom he closely follows, concerning this same perplexing "reality." The difficulty lies in the subject, not in the treatment. One must not simplify problems by denying factors. The author has tried to make a synthesis which overlooks none of them, and it would be strange if the task were accomplished without difficulty.

Thus the dispute would run, and men would take sides according to their inclination. Both sides, however, ought to welcome Prof. Ladd's book. The man who differs most



widely from its conclusions must still admit the scholarship of its author, and recognize that this treatise will stimulate to reflection. The man who agrees with him will be glad to have the weight of his authority on that side. The volume, which is excellent in typography and attractive in appearance, may be serviceable either as a text-book for advanced students, or as wholesome mental pabulum for the general reader.

GEORGE STUART FULLERTON.

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**Pestalozzi.** Par J. GUILLAUME. Paris : Hachette et Cie., 1890, pp. viii., 453.

This biography of Pestalozzi, by Guillaume, a handsome octavo volume of nearly five hundred pages, appeared in June last like a tribute of honor, simultaneously with the unveiling of the Pestalozzi monument at Yverdon. It is an enlargement of the same author's article in Buisson's *Dictionnaire de pédagogie*, published in 1885. The subsequent publications concerning Pestalozzi have been carefully consulted. Perhaps a sufficiently definite idea of the character and scope of the book can be obtained from a recent notice in the *Pestalozziblaetter*, which says: "The same care it betrays in its typographical execution is noticeable in its contents. That a French printing-office should have been able to furnish the world with a book containing many extensive German quotations, almost without any typographical errors, is a fact worthy of note. Whatever has appeared up to date in the Pestalozzi literature, coming from German, French, or Swiss sources, has been carefully considered by the author. Besides this, the author had access to the treasures of the Musée Pédagogique in Paris, and particularly drew from Rapet's collection of Pestalozziana, which was placed in that museum in 1888. A supplement contains a bibliography of the Pestalozzi literature, from which many interesting items may be gleaned. Very few errors in matters of fact are noticed in this biography, and none of far-reaching importance; but, on the other hand, much that is new, and the result of Guillaume's own investigation, is given. As seems but natural the relations of Pestalozzi to France are mentioned more in detail than would be the case in a similar book written by a German. A remarkable find made by the custodian of the 'Pestalozzistuebchen' lately, is confirmed by Guillaume, namely, that

Pestalozzi, who had become a French citizen in 1792, addresses France as his fatherland in an essay entitled 'Yes or No?' (1793.) It would seem as though some one ought to rise and explain how it comes that Pestalozzi speaks of Germany in like manner in the same essay. While Guillaume used Morf's Pestalozzi biography, published in Zürich, for the greater part of his narrative, he treats one period of Pestalozzi's life quite independently of other sources, and hence is entirely original. This is the period which includes the quarrels between Pestalozzi and his co-laborers. We cannot agree in all particulars with Guillaume's conclusions, but must do homage to his unmistakable desire for impartiality and his honesty in submitting unabridged testimony. The matter is a delicate one, and it is delicately treated."

The book contains a heliotype portrait of Pestalozzi after a crayon portrait by Diogg. M. Guillaume's work may be recommended to readers of French for its completeness and exactness, as well as for its impartiality.

L. R. KLEMM.

**The Growth and Means of Training the Mental Faculty.** By FRANCIS WARNER, M.D. New York: Macmillan & Co., 1890, pp. ix., 222.

This book, the title of which needs revision very badly, consists of a course of lectures delivered at the University of Cambridge in 1888-89 under the auspices of the Teachers' Training Syndicate. It will be remembered that Dr. Fitch's admirable lectures on teaching were prepared for the same purpose. In some respects that critic is right who said that the teachers who listened to Dr. Warner's lectures were hardly to be congratulated, for the philosophy and psychology of the book are crude and dogmatic in the extreme. The hearers must have carried away from the course a very confused idea as to how intellectual development differs from physical training; for Dr. Warner's apparent identification of the two is complete, except when his language is absolutely unintelligible. Thought is called a physical action (p. 39). The expression of a thought—why should any be necessary?—is said to consist in the motor action of a group of cells, and thought is further illuminated by the statement that it "consists in the formation of a union of cells, whose motor or efferent action produces expression of thought (p. 40)." Scores of such pas-

sages, which mark either crude thinking or no thinking at all, are to be found throughout the book. Yet the main theses which it upholds, namely, that the physical expression of children should be carefully studied, and that the study of plant-life throws much light on the study of such expression, are important and interesting. In this fact lie the real suggestiveness and value of the book. If its metaphysics be overlooked or set aside, the practical teacher will gain a great deal of information from its perusal. The nervous, the anæmic, the improperly nourished child is a disturbing element in almost every school-room. Often he is punished for a stupidity or contumacy for which he is not wholly responsible. The contributing conditions are not removed or alleviated, because the signs of their presence are not understood. Concerning all this there is much more to be learned than is hinted at by Dr. Warner, but so far as he goes his directions and suggestions may safely be followed. If his argument leads to the more careful and systematic study of children in any respect, we can forgive him the false metaphysics and bad psychology.

N. M. B.

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**Higher Education of Women in Europe.** By HELENA LANGE; Translated and accompanied by Comparative Statistics by L. R. KLEMM, Ph.D. New York: D. Appleton & Co., 1890, pp. xxxvi., 186.

That the "woman question," with its several corollaries of reasons and of rights, must abide the test applied to other social problems, is now conceded by fair-minded thinkers of both sexes. Throwing many interesting side-lights upon its bearings toward the social institutions of the Old World, Miss Lange's spirited and pithy volume well deserves its place in the International Education Series. Dr. W. T. Harris has materially enriched it by his brief editorial preface. Graphically describing the correlation of various phases of mental activity as influenced by ascending civilization, he deduces the full development of woman's intellectual powers from the complex necessities of modern social and business life. America has already seen this influence verified, to a considerable extent. But it is difficult for educators who deal only with the progressive spirit of the English-speaking peoples and count upon the plastic nature of American public sentiment, to realize the flinty mood of conservatism and prejudice

against which Miss Lange marshals her arguments, drawn from the practice of enlightened nations, from the structure of the social organism, from the interests of German wage-earners, from the needs and capacities of woman herself. Her own excellent work in the Victoria Lyceum is well known; as woman and as patriot she pleads for the mental emancipation of her countrywomen. She naturally describes the opening of the English universities to women with some fullness of detail; since they show an interesting relation between supply and demand, and offer many points of possible analogy to German conditions. Her chapter on "Moral Education in England and Germany" is rich in suggestion to teachers. Referring distinctly, but without acrimony, to many current errors of omission and commission, she proposes sundry practical reforms which attest discriminating study of mental processes within and without the school-room. Her plan for school training along a line which she styles "knowledge of life," might well be applied in the betterment of free public schools in the United States. Although she has treated only of girls' schools and their necessities, teachers of boys will find her proposed measures entirely practicable. Boys are even more alive than girls to the rich suggestiveness of everyday fact; but many of the schools where they must seek their training are dominated by conventional standards of the most deadening sort. "A school system can rise only with outspoken individuality," asserts Miss Lange. "Individualities always stimulate. . . . It should at last be comprehended that a 'scattered line' in the great battle [which] culture is fighting is preferable to a 'closed line.'"

We should take issue with our author's statement that the English language and poetic literature are less rich than the German in the subject-matter of "humane culture." But this undervaluation of that royal line which began with Chaucer and has culminated in Wordsworth, Tennyson, and Browning, is entirely at variance with the prevailing spirit of her judgments,—an isolated instance of the *Bornirheit* (narrow provincialism) which German customs have done their utmost to foster among German women. In connection with the subject of "Intellectual Education in England and Germany," is to be noted Miss Lange's discussion of language-study, its phases and its evolution; also her plea, no less cogent than bold, for making mathematics and the natural

sciences prominent features in women's advanced education. Her frank confession that the conventionally educated woman shows a tendency to "intellectual lameness" in the later periods of her development, meets critics half-way, and is balanced by the advocacy of these remedial agents.

A considerable body of interesting information concerning the opportunities allowed to women by Continental universities, is presented in convenient form. Miss Lange accounts for much of the censure heretofore passed upon the women who have used them, by the absence of such generous provision for residence and social countenance as characterizes women's colleges in England. The whole situation, with its lights and shadows, is effectively used as a background for her characterization of the selfish and exclusive spirit of the German and Austrian universities, and of those men who mould public opinion in the two countries. The peculiarities of German family life, the attitude of German women, the reasons for the pressure now felt at university gates, the assumptions of the conservative and the sentimentalist—all are analyzed in the spirit of tolerance, only to be subjected at last to the *reductio ad absurdum*. There can be few liberal American readers, least of all among those who understand the struggle for existence which now goes on in the great middle class of populous Germans, who will not agree with Miss Lange's conclusions, and desire success for the small band of enlightened workers whom she represents.

It is, unfortunately, not possible to bestow much praise upon the well-meant labors of the translator. His English is of that bungling sort which often maintains the German sentential structure in defiance of pure diction, sometimes at the expense of clearness. He has followed the preface with charts and tables designed to show numerical ratios between the men and women at present pursuing university study in America and Europe; between male and female teachers employed in public schools, and many details concerning the development of institutions for the higher education of women in the United States. The American reader is somewhat startled at seeing Smith College accredited with "a female president"; while at least three out of the nine institutions named among colleges of high rank, exclusively for women, are colleges only by virtue of their state charters. Many in the next category are of the most pretentious and superficial type. The utmost allow-

ance must, of course, be made for the unreliable nomenclature tolerated in our educational circles. It is impossible to obtain satisfactory data concerning our "colleges" and "universities" even from the official records of the United States Commissioner of Education. But surely the time has gone by for inferring high aims from ambitious names. A clearer line must be drawn between collegiate and secondary school work, if reasoning based thereon is to withstand the onset of conservative opposition.

HELEN HISCOCK BACKUS.

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**Civil Government in the United States considered with some reference to its Origins.** By JOHN FISKE. Boston and New York: Houghton, Mifflin & Co., 1890, pp. xvii., 360.

There has been of late a great amount of pompous nonsense spoken and written about the teaching of patriotism in the schools. We have been asked to believe that patriotism, like the multiplication table, should be committed to memory in a certain specific grade, and that it would remain at hand and useful ever after. This view, or something remarkably like it, has been urged upon public attention with considerable vehemence. Text-books on the subject of "civics," more or less vicious in principle and incorrect in detail, have been written and published, and we believe even used. Yet there is an idea, and a valuable one at that, concealed by this grotesque expression. It is that the structure of the state and the machinery of government should be familiar to every citizen, and hence form a legitimate subject of study in the schools. Perhaps this study should be called politics rather than civics, or Mr. Fiske's term "civil government" may be better than either; but whatever we call it, if it can be kept from being made an end instead of a means, and out of the reach of those text-book makers who seem to be striving to dilute it with folly and ignorance, it will serve a useful purpose and bear good fruit. The French have made much of this branch of instruction since the advent of the Third Republic brought new responsibilities to them as individuals, and many of their text-books on the subject are models of beauty, clearness, and good taste. Others are not so good.

But neither in France nor in the United States has any book appeared that is quite so satisfactory as Mr. Fiske's. It

is not long, it is admirably written and arranged, and, pedagogically speaking, it is a model of what a text-book should be. It is a trite remark that to fully comprehend results, the processes that brought them about must be understood. Mr. Fiske's exhaustive studies in American history, particularly in the period of the foundation of the national government, are especially valuable when he comes to dissect and explain our several political relations. The soundness of Mr. Fiske's method is shown by the fact that he does not begin with the preamble to the Constitution nor with the original Adam's social needs, but with taxation, the concrete, ever-present fact by which every one is made to feel the presence of a government, whether he chooses or is permitted to participate in its selection or not. Some brief statements as to taxation are followed naturally by the subject of local government. Mr. Fiske might speak even more strongly than he does of the importance of understanding all that local government means and implies. Not only has it been a striking characteristic in the political history of the English-speaking people, but it affects both the comfort and the pocket of the individual far more than do the grander concerns of the state and nation. The New England township and the old Virginia county, as typical of the two civilizations that found a home on North American soil, are studied in detail, and the existing state of things traced from its beginning in a way that sheds much light upon its present character. The colonies, the states, and the federal government follow in turn, and occupy the latter half of the book.

Mr. Fiske does not tell us nearly as much as he suggests: and this is perhaps the chief merit of the work considered as a text-book. It is pre-eminently a book to teach from, and the copious bibliographical references combined with the admirable "Suggestive Questions," prepared by Mr. F. A. Hill of Cambridge, will delight every real teacher who uses the book. The Appendix contains such illustrative documents as the Articles of Confederation, the Constitution, *Magna Charta*, the little known *Confirmatio chartarum* of Edward I., a part of the Bill of Rights, the Fundamental Orders of Connecticut, a typical civil service examination paper, the New York Corrupt Practices Act, and some illustrations of the Australian system of voting. All of these give the book a practical character that will tend to make it popular.

If one may trust his reason, that man will best appreciate his privileges and duties as a citizen who understands how they came to be what they are, and who sees clearly their proportionate relations to each other. The empty patriotism which is based upon excitement and expends itself in shouting, will not last long. Its representatives will probably not think much of Mr. Fiske's book.

It jars on us a little to see Thomas Jefferson referred to (p. x.) as our "profoundest political thinker." Mr. Jefferson did his country a great service and was a statesman of high order; but no political thinker who was really profound would have been as much enamored as he was of the jargon of the French Revolution.

N. M. B.

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**Language Work below the High School.** By CHARLES DE GARMO, Ph.D. Bloomington, Ill.: Public-School Journal Publishing Company, 1890, Three parts, pp. 59, 64, 64.

To an American schoolmaster the title of Dr. De Garmo's three little books—pamphlets would perhaps be a better name—is somewhat misleading. Whether rightly or wrongly, the course in graded schools below the high school has been made almost everywhere to cover eight full years. Each of these pamphlets is supposed to supply work for one year, though a longer period might be spent upon it to advantage without incurring the odium attached to President Eliot's charge of "retardation." In no case, however, will these pamphlets provide material, in the hands of even the slowest of teachers, for more than four years' work. Now, as the first pamphlet is assigned to the second or third year of the course, it is evident that the series will not satisfy the demands of graded schools beyond the sixth year. It might be better were our preparatory course to end with the sixth year. It might be a distinct gain if high school methods and high school organization began with the seventh year. As a matter of fact, however, such is not the case; and hence "Language Work below the High School" is clearly a misnomer, because the language work for two years—the seventh and the eighth—is left unprovided for.

Apart from this criticism of the title, Dr. De Garmo's adaptation of language work from the German of Dr. W. Jütting is one of the most interesting studies in method that has



appeared for many a year. Even the preface—that part of a school-book which is usually worthless except for the purpose of catching the eye of a purchaser or furnishing a reviewer with a few phrases for a “notice”—is in the highest degree valuable, because of the history it presents of methods of language-teaching in Germany. A single sentence from the preface presents in brief the general plan and scope of the work: “But in these lessons, simplicity and interest are combined, while, underlying the whole plan is a true philosophical design—one which takes into consideration the experience of the past and builds upon it; which combines with great pedagogical skill the necessary stages of language instruction, viz.: observation, generalization, application.” To observe and compare facts, from the results of observation and comparison to evolve principles and rules, and then to apply these principles and rules in practice, is so obviously the law of method that it would scarcely need to be reiterated, were it not that it is so frequently neglected—not only by teachers, but by the makers of text-books. It is one of the great merits of this series of books that the author never loses sight of this ruling principle. He begins with the simplest form of the English sentence—the subject, a noun; the predicate, an intransitive verb—and thence he proceeds to other simple forms, as those in which the predicate is a verb in the passive voice and those in which the predicate is composed of copula and adjective or noun complement. The formation of these sentence types is enforced in a series of exercises, the variety and ingenuity of which leave nothing to be desired. These are the types of sentences introduced in the first pamphlet, and in the second and third, other types of the simple sentence are similarly treated. Plentifully interspersed with these sentence exercises are easy compositions, which will be a revelation in their simplicity and variety to the teacher who has never thought of doing anything but assigning subjects to be written about, and a veritable luxury to the pupil whose theme-writing has been but a weariness of the flesh. From the sentence work are gradually evolved the rules and definitions of elementary grammar, and for the application of these the composition exercises afford an ample field. Where there is so much to commend in the general plan, it may seem invidious to pick out the flaws; but, truth to tell, the flaws are more numerous than one would expect to find in a work from Dr. De Garmo’s

pen. On the outside of the cover, we are informed that these books constitute "a manual of exercises for the use of the pupil." From this it is fair to assume that the books are intended to be placed in the hands of the pupils. Yet, throughout, directions to the teacher are placed side by side with directions to the pupils in a manner that cannot fail, to say the least, to be confusing to children. Then again, in the directions to pupils, the technical terms of grammar are used long before children can have any adequate idea of their meaning. In the very first exercise—an exercise that is in itself most admirable—the child is directed "in place of the given *nouns*" to "use others which will do as well," to underline the *verb*, and to place the *singular nouns* in the *plural*, and the *plural nouns* in the *singular*. These directions, be it remembered, are issued to a child at the beginning of his second year at school. How much pedagogical truth there may be in the maxim, "Ideas before words," it would perhaps be difficult to state; but truly the sample just cited puts words before ideas with a vengeance. Nor is this an isolated example. Throughout the first two books terms are constantly used before their connotations are comprehended.

Nor when definitions are given, are they always scientific. For instance it is stated that "a modifier of a noun is called an adjective element." An element of what? The author is silent. Is a pupil in his fourth or fifth year in school expected to evolve the meaning out of his inner consciousness? Then, what kind of element is an *adjective* element? And lastly, what is a *modifier*? This word is a comparatively recent addition to the terminology of English grammar, and its meaning is too subtle to be grasped without abundant illustration and exact definition. Here we have illustration in plenty but not a definition. Indeed, were it not that in many places the word is used correctly, it might be doubted whether Dr. De Garmo had himself grasped the connotation of the term; for, on the last page of pamphlet No. III., he speaks of "words which modify verbs." "Words" do not modify verbs. They may modify the meanings of verbs. The compositions which the author gives to be memorized as models are, as a rule, jerky, and occasionally stilted, in style. In at least one case a sentence is given that is anything but a model: "The clock, however, generally has an apparatus for striking, also." Too great care cannot be taken that the language memorized by

children not only shall contain thought of permanent value, but shall be itself worthy of remembrance on account of its artistic beauty. To pure carelessness must be attributed the direction on p. 46 of pamphlet No. III., in which the teacher is admonished to "observe how they (the ordinals) are formed from the cardinals, one, two, etc." It is fortunate that this advice is given to the teacher, and not to the pupil, as there is probably no teacher in America who does not know that "first" is not derived from "one," nor "second" from "two." There are two omissions that will strike the American teacher as, to say the least, peculiar. One of these consists in the treatment, or rather lack of treatment, of punctuation. Even the rules for the terminal points are reserved for the middle of the third pamphlet; and a cursory reading has not disclosed any other rules whatever. To place the rules for punctuation near the end of the work, is perfectly legitimate in a scientific treatment of grammar; but in an elementary work on language it needs no argument to show that punctuation should be taught *pari passu* with the other exercises. Every successful teacher of English knows that this can be done.

The other omission is even more important. There is no adequate drill given on the use of the strong, or so-called irregular, verbs. Now, it is just in the use of these words that children are most liable to error. Their correct use is one of the chief objective points of language teaching. In recent years much of the elementary language work in American schools has been given to drill upon these words, and rightly so. The formation of sentence types is important; but it is equally important to learn those peculiar word forms that are in constant use and that almost invariably lead to mistakes. The two things can, however, be carried on together. With all their faults, however, it must be repeated that the plan of these little books is most admirable. They constitute a most valuable addition to the literature of language teaching.

W. H. M.

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**Longmans' School Geography for North America.** By GEORGE G. CHISHOLM, M.A., B.Sc., and C. H. LEETE, B.A. New York: Longmans, Green & Co., 1890, pp. x., 344.

Unlike the ordinary American text-book on geography, this is of octavo size, contains no maps and comparatively few

illustrations. In the words of the author, "It is not a beginner's book." In fact, it is exhaustive, not to say scientific character would preclude its use in any except the higher grades of grammar schools and in high schools. On opening the book the eye is at once attracted by the unusual appearance of a prospectus preceding the preface and text. Did this contain only the exaggerated claims customary in advertising circulars, we should criticise its propriety. It is, however, so perfect and succinct a statement of what constitutes a good geography, that we cannot forbear to quote the first sentence as a sample of the whole: "The aim of this text-book is to present in an attractive form those facts of geography that are really foundational; *i.e.*, those that are most important to know and most effective as discipline." This will bear critical study. It covers in most compact form the entire range of geographical method.

The authors are to be sincerely congratulated if their geography will stand the self-imposed test. Judged as to attractiveness of form, we have serious doubts whether the American teacher will not prefer the quarto size both as regards cost and convenience of use. It is true that many of the leading text-books are distinguished rather "for what they omit than for what they contain"; still, however, there is good ground to question whether in the time that is given to this study in our American schools, one half or even one third of *Longmans' Geography* can be successfully taught. No complaint need be made on this score if our teachers were generally competent to select for themselves what should or should not be given to pupils to learn. In point of literary style certain portions of the book are lucidly and charmingly written, while other portions, notably the chapters on the United States, are frequently obscure, and sometimes even ungrammatical. As to what facts of geography are (1) foundational, and (2) important to know, there will always be a wide difference of opinion among intelligent teachers. That the alleged facts should be reliable no one will deny. On p. 145 we tried to verify a few. To a description of Boston eighteen lines are given. After reciting that Boston is the capital of Massachusetts and one of the first commercial and manufacturing cities in the Union, a reason is suggested for the choice of the site. The crooked streets are made a subject of especial mention, but this implied criticism is modified by the statement that since the fire

of 1872, they have been considerably straightened. The importance to the great mass of pupils of this information may fairly be doubted. But when the schools of Boston are dismissed with the bare statement that "the high schools are especially well arranged" (no more, no less), we feel sure that the author either lacks discernment or has intentionally administered a rebuff to the "Athens of America."

Lower down upon the same page is this statement: "New Port alternates with Providence in being the capital city of Rhode Island." The spelling has an odd look. Bridgeport is noted for its "extensive factories for the manufacture of sewing-machines." This was true of Bridgeport in times past, but as an illustration of the small permanent value of this class of facts, it may be said that even the ladies' corset industry of Bridgeport is twice as large as the sewing-machine industry. "Hartford is noted for its paper-making." We have no very intimate knowledge of that city, but we are quite sure that paper-making is about the smallest industry it boasts. In fact, we doubt if there are any paper mills in Hartford. Be that as it may, when we consider the authors' statement made on p. viii that they have "really sought to exclude all details which the pupils cannot be expected to *keep permanently in mind* . . . taking care that what the book contains shall be really foundational," we must conclude that the obsolete gazetteer matter above quoted,—and there is a great deal more of the same sort,—slipped into the text without the authors' knowledge or consent.

We should hardly feel justified in giving such prominence to the defects mentioned were not the authors of such eminence that they can ill afford to put upon the market a book with such glaring inconsistencies, and hope to avoid criticism.

If space permitted, we should like to give the many merits of the work. It is scientifically planned, admirably executed in its main features, full to overflowing with interesting geographical knowledge, and for an adult, and possibly for older pupils, by far the most valuable and interesting text-book in geography we have ever seen. We heartily commend it to the most careful perusal of teachers and school officers.

In spite, however, of its great merits we fear its introduction and use will be hampered by just the minor defects that we have noticed.

A. B. P.

**The Elements of Plane and Solid Geometry.** By EDWARD A. BOWSER, LL.D.  
New York : D. Van Nostrand & Co., 1890, pp. vii., 393.

The making of a new text-book on some particular subject for our schools and colleges is not often done to "meet a long-felt want." Neither is the new book called for by the fact that no adequate or satisfactory treatment of that subject can be found in a book already in existence. As in the matter of dress, so in books. Before the publication of Professor Bowser's Geometry there were better—much better—geometries in the market; and if one were called upon to furnish a *raison d'être* for the book, he would find it easiest to explain the necessity for its appearance by urging the imperatives of fashion. Like almost all other American text-books on the subject, it is closely patterned after Legendre, whose book is in turn substantially a translation of Euclid's work. But in some respects Professor Bowser's work is original, and wherever it is original it is bad.

For example, Professor Bowser evidently disapproves of the compact and elegant preliminary matter to be found in his French prototype, for he gives us a substitute. Knowing nothing whatever of the professor, one may safely conjecture that either he has never taught geometry, or that he has taught it badly. For there is a want of that rigid accuracy and compact statement that belong to every excellent teacher of the subject. A few samples of loose and careless statement in his definitions and explanations at the beginning of the work will exemplify this criticism. "If we suppose a solid to be divided into two parts which touch each other, the division between the two parts is a surface" (p. 2, § 6.) If the solid, divided into two parts, happens to be a cube, one may bring the edges, the corners, or the faces of the parts together. The contact will be respectively along a line, at a point, or over a surface.

For the same reason, his next statement is equally unfortunate. "If we suppose a surface cut into two parts which touch each other, the division between the two parts is a line." One may conceive the parts as touching each other in a variety of ways, so as to illustrate what is meant by point, line, or surface. Besides it is not very exact to say that a *division* is a *line*, or a *division* is a *surface*.

In § 10 the author says: "A broken line is a line made up of different successive straight lines." It is if they happen to lie in different directions. Again, "A figure is any definite

combination of points, lines, surfaces, or solids." A beginner unless he happened to know in advance what a figure is, would not get from this a very definite notion of a figure. All the designs of the drawing teacher are "definite combinations of points," etc., but one would hesitate to say that they are figures in the sense regarded in geometry.

"If two lines are to be compared, . . . we find whether their *two ends* can be made to coincide." Of course the professor knows that two lines have *four ends*. "The *enunciation* of a theorem consists of two parts: the *hypothesis*, and the *conclusion*." The theorem may so consist, but the enunciation of it does not.

He tells us that things that are equal to the same thing (or to equal things?) are equal to each other. Notwithstanding the axiom, he makes the first theorem in Book I., *All straight angles are equal to one another*. (He means angles of  $180^\circ$ .) A logical demonstration is just as much required for the proposition, *All ten-foot poles are equal in length*. Nothing is so hard to prove as a self-evident proposition.

The book is full of crudities and solecisms of every kind, and should have no chance in competition with the many scholarly and accurate geometries already before the public.

WILLIAM B. RIDENOUR.

IX.

EDUCATION IN FOREIGN PERIODICALS.

Notes on Education Values.

MR. JAMES WARD, IN THE LONDON "JOURNAL OF EDUCATION."

The idea which the term "Education Values" is meant to convey is to be found as far back as Plato's exposition, in the second and third books of the Republic, of the respective functions of music and gymnastic. Again, after a wide interval, we meet it still more explicitly, though yet without a name, in Bacon's essay *Of Studies*. In Prof. Bain's *Education as a Science* we first come across the name "Education Values," and I think I may add that there, too, we have first any adequate discussion of the thing. A threefold analogy seems to underlie the phrase. Studies may be regarded as exercises, as medicines, or as foods. The first two are, more or less, combined in the passage from Bacon; perhaps it is the last that the use of the word "values" most directly suggests. Physiological text-books have familiarized us with tables exhibiting the respective values of fat and lean, sugar, starch, etc., for the sustenance of brain or muscle, for maintaining warmth, preventing fatigue, and so on. To make a perfect diet we must have so much proteids, so much fat, and so much starch: if we live on bread alone, to get enough of the first of these we must take a great deal too much of the last; if we feed wholly on meat, we must take a large excess of the first to get the requisite equivalents of the others.

✓ And, nowadays, all this is supposed to have some sort of application to the mind; to grow healthy, the mind must be appropriately fed; to develop to the utmost, it must have varied exercise; its specific defects must be met by specific remedies. So it comes that we are led to investigate mental dietetics, mental gymnastics, and mental therapeutics.

✓ When we ask about the education value of a subject, the answer will depend altogether upon the stage at which it is proposed to teach it. There are some, no doubt, ready to affirm that the collective experience of schoolmasters has long since attained to the truth in this matter without waiting



for the pompous parade of scientific deduction. But there are still a good many schools, I suspect, in which grammar lessons are given long before the age of ten, in which Latin precedes French, in which irregularities of accidence are learned in wholesale batches before any *copia verborum*, or any acquaintance with sentence construction is secured at all; many schools, again, in which the multiplication-tables are repeated *en bloc* before they have been verified or understood in detail, in which geometry begins with Euclid's Elements, and the teaching of chemistry with a lesson on oxygen. After all, it does not seem to be so very obvious how widely the natural order of acquisition differs from the logical order of exposition; and perhaps it is one of the evils we owe to the existence of books that they tend to hide this difference.† The education value of a study depends not only on the stage at which it is taught, but also on the mode and order in which it is presented.

There is another evil to which it may be worth while to refer first, and this is an evil which is, perhaps, partly attributable to the absence of books—I mean the practice of learning by rote. This practice has had much to do with dislocating the natural order of studies, and particularly so with grammar and language, religious formulæ, and the like. For lists and formal statements can be learnt long before they can be understood; they may be “committed to memory” as to a sort of mental crop for use in days to come. A vast amount of harm has, I fear, been wrought by habituating the young at the outset to this unnatural use of what is called their memory; and for this there is no denying that the old “faculty psychology” is very largely to blame.

† Even if taught at the proper stage, the education value of a study will depend almost entirely upon the mode in which it is handled, and the order in which its several parts are presented. Thus boldly stated, this proposition is ridiculously obvious, but it covers a number of particulars which have been frequently overlooked. To begin, then, the natural order of acquisition differs widely from the logical order of exposition. Each successive presentation of an advancing science clears away some of the scaffolding by which the science has been built up, and thereby renders it simpler and compact from within, but possibly much less accessible from without. To this continuous condensation or compression of

knowledge there is no assignable limit. But much that is thus extruded as of **only antiquarian** interest will often be found to be educationally of the highest value—assuming, of course, that it is reasonable to expect the order in which the individual can best appropriate knowledge to resemble, at any rate broadly, the order in which the human race at first ascertained and excogitated it. The untrained teacher—the teacher, that is, who knows his subject, but has yet to learn how to use it a means of education—is very apt to begin with the expository order, at least an outline, perhaps has to use a text-book so arranged by a writer who is alike ignorant and unconcerned about education. Reverting to one of the analogies which we have seen to be implied in the phrase “education value,” we are reminded that a given article of diet is entirely altered in its physiological effects by varying its concentration and the form in which it is administered, as with beef-extract, roast beef, and bouillon, for instance. So it is with studies and their effects upon the minds of the young. Many are the instances of the old fallacy of arguing a *dicto simpliciter ad dictum secundum quid*, or the converse, which we may find among the educational advocates of certain studies particularly among writers who, like Mr. Herbert Spencer, press the claims of science in season and out of season. It is not an easy matter to make natural science a generally efficient means of intellectual discipline. This is, in fact, the hardest thing to do with it: there are two other things, both very good, which may much more easily be done with it. It may be imparted as useful information, and I am far from intending that this is not well worth doing. Or again the wonders and the romance of science may serve as an important element of culture: this also is excellent, and well worth doing. But when the place of science in the school curriculum is discussed, it is surely vital to know which of these three qualifications is intended: is it to be practical, cultural, or disciplinary? If the first alone is intended, probably the man who has learnt science can teach it, and a reasonably good text-book of the requisite dimensions may be found ready to hand. The second will make less demand on the teacher’s scientific knowledge, but will require some feeling and imagination, some liberal training and rhetorical skill; here, too, writers like Humboldt, Tyndall, Huxley, and Wallace will provide him with ample printed material. But, to make science a means of

mental discipline, a knowledge of the subject is only half the battle; a knowledge of its history is hardly less important, and a really helpful text-book will be far harder to find.

Another subject, the educational properties and worth of which vary most strikingly with the mode in which it is served up, is mathematics. "The whole science," says Dr. Glaisher, "suffers from want of avenues of approach, and many beautiful branches of mathematics are regarded as difficult and technical merely because they are not easily accessible." These remarks refer, no doubt, to the higher branches of mathematics, but from the point of view of the beginner, are perhaps as true of the lower. The world had probably worn out many an abacus before it constructed the multiplication-table; even the deductive geometry of Euclid was led up to by an age of inductive geometry among the Egyptians. Now, what I am venturing to maintain is that the individual should grow his own mathematics, just as the race has had to do. But I do not propose that he should grow it as if the race had not grown it too. When, however, we set before him mathematics—be it high or low, in its latest, and most generalized, and most compacted form—we are trying to manufacture a mathematician, not to grow one. Mathematical text-books have been usually written by mathematicians, not by educationists; and they have usually mathematics, and not education, as their shaping idea—in a word, these writers are usually professionals, and the aim is primarily professional. Now, the question I would ask is this: "Would not the general education value of mathematics be increased if some of the pains taken to insure expertness of manipulation were directed to insuring rather more insight, and something of a general survey of mathematics as a system?" It is surely often better to have an outline map of the whole country, rather than a piece of the Ordnance Survey of the same size as the map.

But there is still a subject, the extreme importance of which calls for much fuller notice than there is now time for. I mean language and literature, the studies graced with the proud title of the "Humanities." Here, again, the issue as to the place and worth of these studies is confused, spite of much discussion, for want of exact distinctions. There seem to be three things, at any rate, never actually separated in this department of school work, which must be estimated strictly apart before many of the vexed questions as to its value can

be dealt with rationally. They are grammar (or, more generally, philology), translation, and composition or linguistic training, and literature. It is the neglect or the refusal to estimate these elements separately that gives the advocates of the old classical training much of their apparent advantage. Nobody denies the unique excellence of Greek literature or the cultural value of Greek and Roman history. But just in proportion of the beauty and sublimity of the thought and sentiment, just in proportion to the grandeur and heroism of the incidents, must be their relative independence of their original dress. For no one, surely, will confound the necessary dependence of thought on language with the necessary dependence on one particular language. But it is asked, also, whether Greek and Latin accidence and syntax have any specific educational value purely as a discipline, assuming, that is,—as is avowedly the case,—that the many who learn them do not, for one reason or other, obtain any appreciable culture from their literatures thereby. This, I feel, is a harder question to answer, but largely because, as a matter of fact, our whole apparatus for this kind of discipline has been elaborated in connection with Latin and Greek. Supposing it granted that no adequate substitute is at present to hand, it would still be advantageous to consider whether there is anything in the nature of things to prevent the same discipline being secured by other means.

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#### The Education of Women and its Effects.

M. GUSTAVE LE BON IN THE "REVUE SCIENTIFIQUE."

Within what limits can women profit by our system of education? What will they gain or lose, physically, morally, intellectually, by participation in it? What changes will such education effect in women as wives and mothers? To answer these questions a clear notion of the psychology of woman is necessary. The modern educator must study woman, her mental constitution and her aptitudes.

The aim of education is avowedly to develop the faculties possessed by each human being in such manner as to prepare him for the part he must play in life. It will hardly be disputed, even by the most radical thinkers, that as a rule woman's future is bound up in the home and the family. To rear children and to make her surroundings bright, woman

possesses a special endowment which is the gift of nature and not the product of education.

To understand the intellectual constitution of woman and to judge of the effects of our system of education upon her, we must first glance at the facts of intellectual evolution among barbarian and half-civilized peoples. We are then struck by the close analogy which exists between the intellect of woman and that of the primitive races. We find the same inability to reason, or to be influenced by reasoning; the same lack of control of the powers of reflection; the same absence of the critical spirit; the same inaptitude to associate ideas, or to discover affinities or differences; the same indecision of opinion; the same habit of generalizing from a few particular cases, and of drawing inaccurate conclusions from them; the same want of precision, and consequently the same impulsive character, easily swayed by the impulses of the moment.

Together with these characteristics we find a remarkable power of memory, which enables her to assimilate the veneer of our civilization, and to gain the highest honors in examinations. This last point is conceded by the warmest advocates of the higher education of women. Speaking of the results of an examination to which none but highly educated women were admitted, M. E. Manuel, general inspector of public education, writes in an official report recently published: "They (women) have a marvelous memory and a quick perception; their judgment is good, but their opinions are wavering. They are well informed and explain fairly, but are lacking in imagination, reason confusedly, and rarely draw a correct inference." That they reason confusedly is without doubt the distinguishing characteristic of the psychology of woman, but this shortcoming a higher education only increases, for it appeals solely and always to the memory.

But as in the case of half-civilized races, the injury inflicted by our system of education does not cease with this one-sided tendency. Woman is turned from her natural course of development morally, intellectually, and physically. Her true character is falsified; she is taught to regard with contempt the duties which nature provides for her. A rivalry soon arises between herself and man, and a spirit of revolt against that society of which she fancies herself a victim is bred in her.

In the intellectual sphere the same holds true. The enervating exercises to which young girls are condemned, paralyze their natural ability and blunt the delicacy of their intuitions.

But the disastrous effect upon woman physically is even more serious. The vitiated atmosphere of the school-room, the want of exercise, and the lack of life in the open air, combined with the constant cerebral activity, are much more dangerous for her than for man. The result is a generation of nervous and weak women.

The ideal education of woman should include in its curriculum much less of general knowledge than at present and much more that is distinctly feminine. General history should have a prominent place, above all the history of the discoveries of modern science, but there should be few dates, no genealogies, and no details of battles. Some literature, correct ideas of hygiene, of elementary law, and of domestic economy, and at least one foreign language should be taught. Instruction in morals should rest on the responsibility of woman and her exalted place in the family and in society, as a foundation. The present education of woman is not of this kind. Shall we in the future be able to stem the current?

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### BOOKS RECEIVED.

- Arnold, Matthew.**—Sohrab and Rustum. Edited by L. M. Hodgkins. Boston: Leach, Shewell & Sanborn. 16mo, pp. 69. 30 cents.
- Ballard, A.**—Arrows, or the True Aim in Teaching and Study. New York: A. S. Barnes & Co. pp. 100. Teachers' price, 60 cents.
- Barker, Mrs. B. W.**—Blind Mice Calendar. Syracuse: C. W. Bardeen. 14 quarto leaflets. 50 cents.
- Bertenshaw, T. H.**—Longmans' French Course. New York: Longmans, Green & Co. 12mo, iv., pp. 208. 60 cents.
- Bird, C.**—Elementary Geology. New York: Longmans, Green & Co. 16mo, pp. 248. 80 cents.
- Bridgman and Davis.**—Brief Declamations. Selected and edited by H. C. Bridgman and J. C. Davis. New York: Henry Holt & Co. 12mo, pp. 370. Teachers' price, 80 cents.
- Brush, Christine C.**—One Summer's Lessons in Practical Perspective. Boston: Roberts Bros. Illustrated. 16mo, pp. 71. 75 cents, net.
- Coy, E. G.**—Greek for Beginners. New York: American Book Co. 16mo, pp. xvi., 152. \$1.00.
- Fables, Anecdotes, and Stories for the Purposes of Composition, a New Book of.** Boston School Supply Co. 12mo, pp. 184. 50 cents.
- Fletcher, C. R. L.**—Gustavus Adolphus and the Struggle of Protestantism for Existence. New York: G. P. Putnam's Sons. 12mo, pp. xviii., 216. Illustrated. \$1.50.
- Gardiner, S. R.**—A Student's History of England. New York: Longmans, Green & Co. 12mo, pp. xxxii., 378. Vol. I. \$1.20 per vol.
- Harkness, Albert.**—An Easy Method in Latin. New York: American Book Co. 12mo, pp. xii., 348. \$1.20.
- Hug, L. and Stead, R.**—Story of the Nations. Switzerland. New York: G. P. Putnam's Sons. 12mo, pp. xxiii., 430. Illustrated. \$1.50.
- Jago, W.**—Inorganic Chemistry. New York: Longmans, Green & Co. 16mo, pp. xii., 458. 80 cents.

- James, W.—Principles of Psychology. New York: Henry Holt & Co. 2 vols., 8vo, xii., 689; pp. vi., 689. Teachers' price, \$4.80.
- Kingsford, C. L.—The Song of Lewes, Edited with Notes and Introduction. New York: Macmillan & Co. 16mo, pp. xxxvi., 168. \$1.25.
- Laurie, S. S.—Lectures on Language and Linguistic Method in the School. New York: Macmillan & Co. pp. viii., 147. 90 cents.
- Lindsay, T.—The Satires of Juvenal. New York: American Book Co. 16mo, pp. xiii., 226. \$1.00.
- Mahaffy, J. P.—The Greek World under Roman Sway. New York: Macmillan & Co. pp. xiii., 418. \$3.00.
- Monteith, J.—A School and Family Atlas. New York: A. S. Barnes & Co. Quarto, pp. 193. \$3.50.
- Morris, I. H.—Practical Plane and Solid Geometry, including Graphic Arithmetic. New York: Longmans, Green & Co. 12mo, pp. 260. 80 cents.
- Newhall, C. S.—Trees of N. E. America. New York: G. P. Putnam's Sons. 8vo, pp. xvi., 250. \$2.50.
- Parry, C. H.—French Passages for Unseen Translation. Higher Course. New York: Longmans, Green & Co. pp. 180. 80 cents.
- Parry, C. H.—Swiss Travel, being Chapters from Dumas's Impressions de Voyage. New York: Longmans, Green & Co. 16mo, pp. viii., 254. 80 cents.
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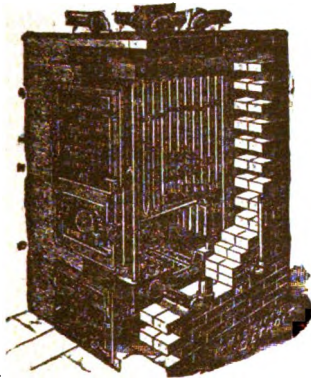
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# EDUCATIONAL REVIEW

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# EDUCATIONAL REVIEW,

*FEBRUARY, 1891.*

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## I.

### THE EDUCATIONAL VALUE OF COLLEGE STUDIES.

Until quite recently the typical college course was very simple. Latin, Greek, and mathematics occupied the important places, and no other studies were allowed to interfere with their successful prosecution. Of late, however, all this has been changed. Many new sciences have grown up, and are demanding and securing places in our college courses. Almost every year sees the advocates of some new science securing the ear of college authorities and getting a representation in the college faculty. The old studies have been reduced in quantity to make place for the new; and yet there is an overcrowding which it seems almost impossible to avoid. Even if the old studies were entirely displaced, there would not be room for all the new ones, if they are pursued in that thorough manner which the advocates of each study demand for it. We cannot, therefore, hope to satisfy all the various elements that wish a representation in the college course; and hence comes the necessity to examine into the claims of each science, to see what it can do for the student, and how it can be taught with the greatest efficiency, and with the greatest economy of time.

A word, however, may be needed to define the place of the college course in a system of education. Elementary education is for the growing child, who is interested only in the living present. The academy takes the boy while yet so young as to need strict discipline and constant supervision. The

college student is a budding man. The interests and feelings of a man are active, but maturity is lacking. He has a love for science, yet without that power for thorough study that comes in later years. The university and professional schools are for the mature man, whose plans for life are already formed, and who wishes to master some science or profession for definite ends. As college life comes just before maturity, that college is the best which gives its students work suitable to this stage of their development, and in constructing such a course of study, a measure of educational values is of vital importance. Before seeking for such a measure, certain important changes in the studies themselves or in their relation to one another, deserve attention, since these changes have greatly modified many aspects of modern education.

In the first place, there is a large increase in the number of deductive sciences. Our ideas on educational matters have been derived largely from the Greeks, and in their time geometry alone had acquired that degree of perfection which made it the typical deductive science. At the beginning of modern times, physics assumed a similar form, and is at the present time almost as deductive and abstract as geometry. It must also be kept in mind that mathematics, if thoroughly studied, now needs a much larger space in the curriculum than was necessary in the time of the Greeks. Elementary geometry was what Plato had in mind when he said that geometry was essential for admission into his school. Now we have a large number of mathematical sciences, each of which has a greater content and is more complicated in its deductions than was the geometry of Plato.

A second peculiarity of our present educational problems lies in the rapid lengthening of the present technical courses, and the additional studies needed to prepare the student to pursue his professional work with advantage. When these studies were first admitted into our colleges, the amount of time given to them was small, while a large part of the work of the student was directed toward his general culture. The higher standards now demanded of professional men require

that the college should devote more time to practical ends. There is also a large increase in the number of studies which directly prepare the student for his profession. These two facts taken together show that but little time is left for those studies which give culture to the student.

The third preliminary fact of importance is, that most of these technical studies require a long course of mathematics before the student can take them up. Mathematics is now a necessity for almost all the physical sciences, and consequently the mathematical studies have to receive an emphasis in all work preparing for them. As an outcome of this change, mathematics must be regarded in a different light from that which has been customary. For a long time it was mainly a culture study. As it led to no practical results, it could be pursued in any manner that best tended to develop the mind of the student, and thus those parts and problems which had the highest culture value could receive an emphasis. As it is now taught, it has lost much of this exceptional position. Professional mathematics is substituted for educational mathematics. In other words, all that does not lead directly to some professional end is cut out of the course of study. The influence exerted by the technical courses upon the college curriculum is so great, that even those who wish to pursue mathematics as a culture study are compelled to study it in books prepared for those who are pursuing it for a practical end, and thus they study the subject in a way fitted for professional work rather than as a means of culture. In all our text-books the influence of the study of mathematics for practical ends is apparent. They emphasize those theorems that have the greatest utility and reduce the other parts to a minimum.

The problem of education values may be looked upon in two ways. We may, first of all, compare the education derived from mathematics, language, physics, chemistry and economics, and inquire which of these studies, as a whole, gives the most culture to the student. This is the way it is usually presented in essays on education. It is said by those who

represent culture, that it is better for the student to become a mathematician or a linguist, even if he does not intend to use the knowledge in his profession, because the power gained will make him a better engineer or chemist. I do not wish to underestimate the importance of this point of view; yet there is another conception of education that I regard as of more importance. It may be stated thus: shall a subject be taught with the view of making the student a master of it, and thus to enable him to obtain a utility from it, or shall it be taught with the purpose of producing the greatest effect upon the mind and culture of the pupil? Can, for example, a student get the educational value of mathematics without becoming a mathematician? Does he have to be a linguist to get a like result from language? If it is not necessary to be a thorough master of mathematics or of languages to get the culture they give, it is important to know what part of the study is of most educational value. All our sciences are complex wholes, some parts of which help the student in his mental growth, while others are detrimental, and even make the student a narrower man instead of a broader one. A long course in a study may be necessary to a person who intends to be a specialist in that study or in a kindred one. The whole is a unit to him, the loss of any part of which would disqualify him for good work in this line. He must do a certain amount of work, not for culture, but for the indispensable knowledge which he needs for the best use of his own science. The educational value, however, lies not in the knowledge imparted, but in the effect upon the student. It gives him a better capacity for work, a faculty to do other work of a like character, purer ideas of life, greater confidence in his intellect, and keener appreciation of his moral obligations. The utility of a study, therefore, and its educational value, cannot be too sharply contrasted. Yet this difference is too much overlooked in forming the college courses. All our practical courses are long and valued for their utility. These courses are split up into parallel sections, each having some one science, or group of sciences, prominent in them. This ten-

dency has been dominant in the history of recent education, and as a result ~~the student usually~~ chooses, early in his college life, between several parallel courses, and takes one for its utility to the exclusion of all others.

If the college course is to be arranged for its educational value, a very different plan must be adopted. Each study must be examined, to see what it can do for the mental development of the student, and only that part of it in which this feature is prominent can be admitted in the college course. This plan would necessitate that each study be divided into two parts; the undergraduate, or college course, where that part is studied which has the greatest influence in developing mental power, and the post-graduate course, where further study is made for utility of the content. It should not be the aim of the first to make a student a mathematician, a linguist, a scientist, or an economist. A senior may be without distinction in these, or other studies, and yet leave college much more strengthened in character and with a greater intellectual power, than if he had won the favor of some one professor by becoming an expert in his line.

I agree heartily with the thinkers of the old school in desiring to keep the college course a culture course. I differ with them, however, by thinking that certain parts of each of the new sciences contain elements that have as great an educational value as that of the old studies which they have displaced. The reason why the mental growth of students of science is at all in question, arises from the fact that the newer sciences are so largely pursued merely for professional ends, and hence different parts of each science receive a very different emphasis from that which would be given to them if pursued solely to develop the intellectual power of the student. A certain chemical analysis, for example, may be absolutely necessary for a student who wishes to analyze sugar; and if a course in chemistry is directed solely to making practical chemists, these parts must receive attention and displace other parts of chemical knowledge which do not lead directly to some practical end.



The main defect of our college courses is not that we are studying the wrong subjects—utility studies instead of culture studies. All studies are utility studies or culture studies according to the manner in which they are taught. The defect lies in the fact that we teach each part or problem in the science for its utility, and not for its educational value. Each lecture or recitation is a preparation for the next one. The part is regarded only in its relation to the whole. Anything not contributing to the knowledge of the whole is cut out, and what is included in the instruction is valued only as a step to the next part or problem. To secure the highest educational value, each problem should be thought of as though it were a whole,—an end in itself,—and the student should acquire a knowledge of it entirely regardless of its utility as a part of the science which he hopes to acquire.

Perhaps the best illustration of what I mean can be found in the elements of geometry as they are now taught. Why, for example, do we find thirty-two propositions in the first book of Euclid? Simply because the thirty-two theorems, together with a few corollaries, are needed for the reasoning of the subsequent books. There are many other problems similar to the thirty-two which we find in Euclid, but they are omitted simply because they do not form a necessary part of the chain of reasoning by which the whole geometry is bound together. The propositions which we use are not those forming the best specimens of reasoning, and therefore most calculated to develop the mind of the student. No time is allowed to diverge from the beaten track. As soon as these necessary propositions are mastered, the student passes on to the next book, where the same process is continued. Here, again, only those problems are found that are of utility to the student in the subsequent books. Everything is cut out that does not lead to this one result. When, therefore, we have ten books of geometry arranged in this way, it seems only just to say that the student obtains from each of them, simply its utility, and not culture, which should be the aim of the student.

To illustrate my meaning further, in showing how geometry might be taught ~~for its educational~~ value, suppose that in Euclid the fifth proposition was omitted, and this the student himself must supply. Would not the effort of the student in endeavoring to supply this missing link be of much greater educational value to him, than the learning of a dozen propositions demonstrated in full in his book? If such a process ~~was~~ pursued, the student would have to guard against many errors of reasoning, from which at present he is kept by the completeness of the demonstration contained in the book. No one thinks of doubting the truth of the demonstration that Euclid gives, nor does the student try of himself to supply another; yet all the various elementary propositions could be proved in some other way should the student be given the time and the proper encouragement to work at them.

Not only has the mathematics in geometries sunk from an educational to a utility study, but a condensed form of mathematics has taken the place of the completer demonstration of the old geometries. Algebraic demonstrations are substituted for those of Euclid, which, while they add to the completeness and utility of the study, yet are at the expense of its educational value. The student does not realize what has been proved; he passively assents to the conclusions that have been reached in ways of which he is not fully cognizant.

What is true of mathematics is also to a large degree true of the study of physics. There has been a complete change in the character of physics during the last fifty years. The old demonstrations, which were based on experiment, have been displaced by mathematical formulæ. Astronomy, also, has gone through this change in the course of its development, although not to so great a degree as physics and mathematics. Chemistry is undergoing a like change, and may soon be fully as mathematical and abstract in its methods of proof as physics has already become. Even in biology the same change is taking place. Natural history has been displaced by deductive biology, and the influence of Darwinism has given to the

deductive parts a prominence which they never had before. We must, therefore, look elsewhere than to these sciences for culture studies if these tendencies proceed much farther. Another age may find them all as deductive and as abstract as mathematics, taught only for their practical utility, and each part presented merely in its relation to the whole body of doctrine of which it is a part. Any facts, however interesting they may be in themselves, will be overlooked if they do not occupy a necessary place in any scheme by which the whole science is presented.

The educational value of any subject, however, cannot be determined from its content alone. It depends largely upon inherited qualities of the students and the classes in society from which they come. As an outcome of the present and past environment and education of mankind, some mental faculties have been much more highly developed than others, and hence those studies which call these faculties into activity present the least difficulties to the average student. If a student has inherited those qualities which make a science easy for him, it should not receive that emphasis in his systematic education that would be otherwise necessary. The more fully developed any faculty is, the less relative attention should be given to it. The training of the student previous to entering college is also of great importance. At least a third of the time in the elementary and secondary schools is devoted to mathematical studies. As a result our students come to college after studying those parts of mathematics which have the highest educational value. They have as much mathematics as Plato required, and could stand the tests that he lay down.

From this point of view, the highly deductive sciences give less culture to college students than other studies. Mathematics, as an illustration, has been studied so persistently and so thoroughly by many generations, that we find a mathematical faculty in our average student which was not possible at an earlier period. By this I do not mean that there are no persons to whom mathematics, even in its elements, do not

present great difficulties, but college students do not usually come from that part of society. We have, as a rule, representative of families among whom for many generations mathematics in some form has been so thoroughly studied that the minds of the children are capable of receiving mathematical instruction, not only with less trouble, but also at an earlier age than was formerly the case.

The educational value of a subject also depends largely upon the society or civilization of which the student is a part. That study gives the greatest culture that trains the mind for the class of judgments which must be made most frequently by the average citizen. As the phenomena to be dealt with in life are complicated and complex, the less deductive sciences correspond more closely to these conditions, and give more culture. If a student in college has been drilled mainly in simple reasoning from unquestioned premises, he goes out in life unprepared to deal with problems where the premises need examination, and the conclusions must be modified by making due allowance for the conflicting causes which combine to produce the given result. It is, I think, usually overlooked, that geometrical reasoning, when applied to the affairs of men and society, is a kind of fallacy. In books on logic, like that of John Stuart Mill, this kind of fallacious reasoning is fully dealt with. The errors that flow from it are so numerous, that any one who gets into the habit of reasoning mathematically is sure to make serious errors when he reasons upon the affairs of every-day life. The mathematician reasons from a few simple premises, and reaches conclusions which are never dependent upon modifications of his premises. He thus becomes a model of poor reasoning, unfit for imitation by any one who deals with more complicated phenomena.

In most of the sciences the errors from reasoning dogmatically from simple premises are apparent; yet perhaps political economy furnishes the best example of them all. The mistakes of the orthodox economist arise from this fallacy. He only allows for a very few premises in his reasoning, and the conclusions to which he arrives are seldom modified by the intro-

duction of any new facts. When he reasons about foreign trade, the laws of money, of exchange, or distribution, he starts from some one or few axioms, and then reasons from them with all the precision of mathematical demonstration, and regards his results as conclusive as though he had been occupied with a mathematical problem.

The educational value of a science depends also upon the stage of its progress. A science is complete when it has reached the deductive stage. Then all the various parts are closely joined together and form one body of truth. It begins with an inductive stage when the opposite is true. All the generalizations depend upon observation and a study of the facts. These two stages—the deductive and inductive—cannot always be sharply contrasted the one with the other. At some period in the development of each science, it is in a transitional stage, passing from one to the other; and in this stage it has its greatest educational value. On the one hand there is an immense mass of inductive facts which have not been co-ordinated in a way to show the law upon which they depend. On the other hand, certain parts of the science have been so arranged that the law can be clearly seen. These later parts have become deductive, and from them can be seen the method which must be pursued in the other parts in order that they too may be changed into a deductive form by the discovery of some new law. This stage of transition, from the inductive to deductive, encourages the self-activity of those who study the science. There is an incentive to study and to make discoveries, which is not possible in a mere deductive science on the one hand, or in a mere inductive science on the other.

The sciences also that are in a state of transition, have the great men and the enthusiastic teachers. When, for example, had we the greatest mathematicians? Was it not at just that period in the development of mathematics when a part of its truths had already been demonstrated, and thus incentive was given to discover the basis upon which other propositions rested? The same facts, also, are clearly shown in the history

of physics, astronomy, and other sciences, that have already passed into the deductive stage. Just at that period when the transition from the inductive to the deductive was being made is that time when its great men appear. Biology, for example, at present possesses the largest number of our great scientific men, simply because it is in a state of transition, and this state prompts the zeal, self-activity, and mental growth by which great men are made. The study of a science in this stage of its progress makes the great men, and not the great men the science. The gaps in a science are the incentives to the industry and activity which create the power in the students of the science to fill them.

If a science is taught for culture, it must be presented as it was when in a state of transition from the inductive to the deductive stage. When a science is beyond this point, it should be presented not in its final form, where its utility is greatest, but in the form it had at an earlier date. Present a science as it was when its greatest thinkers lived and worked, and it will be most suitable for college students. Geometry among the Greeks, when there were certain gaps in its reasoning not yet filled, is the kind of geometry that should be a model in our schools, rather than the present complete form, which is always presented. The Greeks were right in attributing a great educational value to geometry, as it was then in that state of transition which uses both inductive and deductive reasoning. We are wrong in giving as high a value to it, because it is now a complete science, and as a result a lifeless science, unless modified in some way by the teacher, so as to throw it into a form more like what it was in the ancient world. Astronomy in the time of Kepler, and physics in the time of Newton, although these sciences then lacked that perfection which they now have, gave to teachers and students an enthusiasm not to be obtained from the condensed and complete forms in which the sciences now are.

The educational value of a science depends also upon the character of its premises. The habit of using premises which the student does not question creates a dogmatic spirit. It

dwarfs his mind by confining him to that form of logic which deals only with relations of premises to the conclusion. Such reasoning excites little interest or activity. It calls attention to the details of reasoning without awakening a desire to investigate its foundations. Formal reasoning is the same to all men and depends for its correctness merely upon the rules of logic. The study of premises, however, is a study of mankind and of the laws of thinking, and is a necessary condition to good reasoning upon practical subjects. The same premise has a different degree of force upon minds in different stages of development and in different social environments. To question the premises from which one reasons, opens up the broadest problems of psychology, and forces one to examine into the complicated phenomena of the society in which one lives. The feeling, therefore, that his premises are open to discussion, gives the student much greater incentive to accurate thinking than he would have if he were studying a science with axiomatic premises.

The opposite of this is of course true in professional studies pursued for utility alone. In them an unquestioned confidence in the premises used is a requisite. No one would become a successful engineer or chemist who had not been drilled in the elements of his subject until he acted upon its principles axiomatically. Drilling and cramming may make good professional men, but they destroy the independence and self-activity of the student, and make his thinking mechanical and his reasoning dogmatic. If a good professional man is wanted, let him study deductive sciences with unquestioned premises, but beware of praising the same course of study for the culture it gives.

I have thus far called attention to four factors which demand attention in a discussion of education values. There are doubtless other factors worthy of consideration, but these, I feel sure, are those which throw the most light on the present aspects of our educational problems. I will repeat them for the sake of emphasis: (1) the inherited qualities of the college student; (2) the life the student is to lead and the

judgments he must most commonly make; (3) the state of progress of the science—whether inductive, deductive, or transitional; (4) the character of the premises of the science and the confidence the student has in them. If these are the leading factors, they show that there can be no cast-iron rule as to the educational value of the different studies. Each age must decide the problem for itself, as the elements in it are modified by every change in the environment, in society, and in men themselves. Nor can the contest be decided in any such a crude way as is involved in the struggle between science and language.

The demand of the present age for more science in our culture courses is in the right direction, but it must not be overlooked that the very success of science will change the whole aspect of the present contest in the near future. To make all the physical sciences completely deductive is the goal of our civilization. May this end soon be reached! As we approach the goal the utility of these sciences will so rapidly increase that they will be taken up merely for professional ends like law or medicine. Thus, with the increase of their utility to man, they will be of less value in educating men. Whatever makes them more fitted for utility studies makes them less fitted for general culture. Coming ages will thus be forced to look elsewhere for a large part of the studies which are to be prominent in the college curriculum of the future.

It will be seen, I hope, that I have no desire to disparage the deductive sciences. Their importance to men cannot be overestimated. But in the educational problem it is not with the mature man and his needs that we have to do. As teachers, we are interested only in growing minds and how they may become best fitted for the world in which they are to think and act. We can hope, for example, that electrical engineering may become more deductive and thus more useful, and at the same time think that this desirable change makes electricity less fitted for a college study. But where can we look for studies with a high culture value if the physi-



cal sciences have already become or are soon to become utility studies? Of course, from the premises from which I have started, there can be no general or final answer to this question. The conditions of the problem must be changed from age to age by the progress of science and mankind. Yet for the near future the solution of this problem does not seem difficult. Those sciences are likely to be the progressive sciences that are based upon and grow out of the physical sciences. There is a definite order in which the different sciences stand to one another, and each science must wait its turn before its problems can be solved. Mathematics, astronomy and physics, for obvious reasons, were the first sciences to be studied in a systematic way, and hence were the first to reach the deductive stage. Chemistry and biology, being most closely related to them, next received attention and became progressive as soon as the knowledge of the first group was complete enough to allow efficient work to be done in the second. The third group is the moral sciences, and it is in them the great advance of the near future seems to lie. As soon as the sciences that precede them become deductive, they can get the proper groundwork upon which to build. Even at the present time their growth and progress is remarkable, and with that additional help which will soon come from the more complete form of the sciences upon which they depend, they will be the centers of intellectual activity and become the studies having the greatest educational value. Politics, economics, psychology, and ethics are the group of moral sciences in which the hope of the future lies, and to them increasing attention must be given until they form a prominent part of the college course. In the education of the future, they are likely to have that prominence that the mathematics obtained in the past. Had Plato lived in our day he would see in these sciences what he then saw in geometry, and would reconstruct his teaching so as to conform to the new conditions.

Judged by the standards used in this essay, these sciences form an ideal group. They develop those qualities and facul-

ties which are now most deficient in men. Bearing directly on the affairs of everyday life, they cultivate that class of judgments which are of the most value. The progressive state of the sciences will make the teachers enthusiastic, and the interest which the students naturally have in social problems will increase their energy and self-activity. The character of the premises will discourage dogmatism and prevent the errors in reasoning to which students of mathematics are liable. The mutual dependence of these sciences upon one another will force the student into so many lines of investigation that he will secure that breadth and culture needed to keep him from becoming a narrow specialist.

When college authorities fully recognize the value of moral sciences, and give them their proper share of the time of the college student, the advantages of a college education will be much more decisive than they now are. It cannot be charged that college life makes students unpractical when the vital interests of all men have a prominent place in their education. Teach the young to reason correctly, to appreciate history, and to love facts on their own account, and they will carry through life a way of acting and thinking that will make them useful in business and an honor to society.

Do not think, however, that because I would give to the moral sciences a prominent and perhaps a dominant place in the college course, that I would have the college turned into a special school for their study. An ideal college course must always avoid such a result. The value of any study lies largely in its elements. Complete courses, making the student a master of what he studies, must be given only in graduate work. The college course must select only those problems in each science that have a high educational value, and study them for this value, and not for their utility as parts of a connected whole. In this way all the sciences can have an adequate representation in the college curriculum without that crowding which at present is so much to be regretted. We might not make our students masters of any science, but we would do far

better, because they would be masters of themselves, without bias, intolerance, or bigotry, and ready to take up the duties of life with an earnest purpose to make the most of themselves and the society of which they are a part.

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II.

IS THERE A SCIENCE OF EDUCATION? (II)

III.

The teacher ought to be a man of ideals. The end of education is ethical. We desire to give the state a loyal subject, and society a worthy fellow-worker. To this end we labor with our pupil. Is it possible, then, to define in any scientific terms the moral ideal? Is it useful for the teacher to have studied ethics? To this question Dilthey has already responded, in his skeptical fashion, that, doubtless for good reason, "no moral system has yet won universal assent." Upon this side of pedagogy he lays small stress. The universal type of organization seems to be formulated by him in biological rather than in ethical terms. The child is to be made an harmonious living organism. The ends of life in the abstract cannot be universally defined. There are some who would regard Dilthey's skepticism in this matter with a mingling of dread and contempt. But to begin a discussion of the matter here would lead us too far afield in philosophy. I myself hold to the possibility of an universal ethical principle. But of matters strictly philosophical, this is no place to speak.

Yet all the while I feel the great difficulty of giving much practical aid to teachers, especially in this country, and at the present time, by demanding of even the more learned class of them an universal attention to theoretical ethics. The call to become conscious of one's moral ideals, both for the sake of one's own salvation, and for the sake of teaching others, is a call that comes to men in very different degrees and forms. Most commonly men feel the call in religious form, and for reasons closely connected with their faith. Our clergymen are our principal ethical advisers in this country; and, on the whole, it is well that this should be the case. Yet

the religious is not the scientific spirit, although there is indeed ~~no proper hostility~~ between the passion to be holy, and the disposition to scrutinize scientifically what holiness is. I should be glad indeed if more of our teachers were early possessed of a share of the latter interest. We should have less philistinism in our schools, less hoodwinking of the childish conscience, less cowardice, less prudery, and more purity. But when I begin to ask who shall teach the teachers ethics, or how a critical and yet a truly reverent study of the great ideals and passions of humanity shall be popularized among them, I confess that I often see how philistinism is indeed far better than moral indifference, and how we might easily exchange the unwisdom of a portion of our customary clerical teaching of morality in this country for a kind of superficial reflection upon ethics, whose outcome would be very evil not only for our teachers, but for their pupils. As a dear friend of mine loves to say: Better strenuousness of devotion even to a false moral ideal, than a well-defined ideal but no strenuousness. In short, it is in the world of devotion to ideals that loyal instinct is most often the securer guide as against science.

Yet, despite all this, I am impelled to insist that the pedagogy of the future will have, as one of its duties, the encouragement of a reasonable ethical reflection among our teachers. I care indeed little, whether or not this reflection is generally pursued under a constant theological supervision. Theology is but the eternal religious passion of humanity, limited (and sometimes, indeed, even enchained) by the historical forces that have formed our relative and often transient imaginings about the world beyond sense. I believe in the passion, and in its true and eternal objects, too deeply not to love even its more transient forms. I do not find its ministers all equally wise guides as to ethical matters; and no wonder—since they do not find one another so. But they have done so much for us in this country that we can safely trust them in the future also to awaken higher reflective thought concerning ethical matters whenever the time clearly calls upon them to

lead in this direction. And if ever an age showed signs that such a time was soon coming, surely the present age does so. I desire, then, to see more efforts, both within and without the churches, to train young teachers to a clear consciousness about duty and about its meaning. And I desire the study of ethics, without ceasing to be truly devout, to become also, as time goes on, more and more scientific in spirit and in content. Of the difficulties in the way of such a study in this country, in so far as they immediately concern the educator's business, the present widespread controversy concerning secular and religious instruction in the public schools gives a sufficient hint. In short, it is here the very value of ethical insight itself, both for the teacher and for his pupils, that renders a truly scientific treatment of moral questions, and a truly scientific training of teachers, especially difficult.

## IV.

The teacher, I say, should furthermore be a naturalist, and the department of natural history which directly concerns him is called psychology. The great successes of this infant science of late years have been indeed, of themselves, not without certain drawbacks for the practical teacher. Psychology is constantly growing as a whole more complex, and therefore more difficult to survey in its entirety; while, on the other hand, there have been recently developed within its field several very attractive, very special, and therefore very limited lines of research, which have drawn the public attention to themselves in such a fashion as to endanger, through hasty and one-sided generalizations, the proper sense of the magnitude and the difficulty of the whole science. In two directions, therefore, teachers who have looked to psychology for light as to the "science of education," have found their vision confused. Did they undertake to study psychology as one doctrine, they soon found themselves unable to grasp its manifold aspects. It confused them with the multiplicity of its researches. They were fain to go back to some older textbook, wherein, as in Spencer's *Psychology* all the "principles,"

as they used to be, were "unified." Hence the antiquated character of most of the compendious treatises on "pedagogical psychology." These may or may not be useful. Nearly all of them are very highly inadequate. But did the teacher, on the contrary, study his psychology only in monographs, then, of late years, certain attractive topics, such as hypnotism, for example, made themselves too prominent from among the mass of researches, and psychology seemed a wonderland of singular and one-sided generalizations. I have not yet seen a "system," or a "science of pedagogy," founded solely or mainly on the principle that the teacher ought to be primarily a hypnotizer; but I daily expect to find such a treatise announced. It would hardly be more one-sided or crude in its own way and day than Spencer's book on "Education" was in its time and environment. I doubt if it would have the same success; but it might succeed in bringing the "science" into a little fresh discredit. For the rest, to speak of more serious matters, I know of persons who have struggled with Preyer's admirable monograph on the *Mind of the Child*, in a vain endeavor to extract from its pages an infallible rule of procedure in dealing with very young children. The scientific monograph, even where it is of the best in itself, is in general dishearteningly limited as to its immediately practical outlook. Let me, then, in view of this difficulty, suggest what the direction is in which the study of psychology, as adapted to the use of teachers, ought to progress.

First, then, let the young teacher remember that it is not the "system" of a psychological science, not the exhaustive theory of the "powers of the human mind" that he needs, but rather the psychological spirit: that is, the love and the skill that are required for the purposes of mental diagnosis. When I said that the teacher should be a naturalist, I meant that he should be in the habit of observing the mental life of children for its own sake, and of judging the relative value of its moods and tendencies. For such observation of the live child his study of published psychological researches ought primarily to be meant to prepare him. Preyer's monograph

on the *Mind of the Child* is, indeed, from one point of view, little more than a dry mass of details, with a few generalizations of a sort that no teacher will be able to use without much personal experience and skill. All this is necessary. It was not Preyer's first object to be pedagogical, but to contribute facts to his science. But see how useful just this collection of dry facts may become to the teacher if he reads the book, not for the pedagogical rules that he may have vainly hoped to find in it, but for the acquirement of the habit of observation that the book exemplifies. These early frowns and squintings of the infant, these cries that slowly become more vocal, and that prepare the way for language, these primitive gestures that form the basis for the later life of expression in the child—how vain to study them merely for the abstract pedagogical rules that somebody might try to deduce from them! But meanwhile, observe,—behind all this chaos of symptoms is the life, the consciousness, that is hereafter to grow so spiritual and significant. And this life, this consciousness, just that it is which you as teacher are to follow, to comprehend through sympathy if not through formulas, to diagnose; yes, to guide. Well then, get in the habit of examining, step by step with Preyer as he observes what mental processes there are going on here. When the infant learns to fix his gaze, when he studies his moving fist in the field of vision, when he bites his own foot as if to find whether it is his own, when he babbles his chaos of noises as a preparation for speech, follow the process, and follow it just as a training in mental diagnosis. You will not thus learn many formulas; but you will learn the art of comprehending mental symptoms. Just in this fashion naturalists always have to work. What is here in this live thing? Why does it move thus? What is it doing? What feelings does it appear to have? What type of rudimentary intelligence is it showing? Ask such things, not because they will give you a systematic theory, but because they will help you to form the habit of watching minds. For as teacher you will always be watching minds, yes, watching even more than judging them.



And the habit of merely judging minds as good or evil, without observing what state it is, what mental coloring, what inner live process, that makes them good or evil; this habit, I say, is so ingrained in most of us that it is always hard to learn to substitute diagnosis for mere estimation, and a loving study of the process for mere external liking or disliking of the person. Yet just such study of the inner process is the larger part of a teacher's theoretical business. And that is why I counsel him to use his psychological reading rather to train his power of diagnosis, than to equip him with abstract pedagogical rules. The teacher who can make out what the child's actual state of mind is, has developed the true sort of psychological insight.

It is easy to illustrate how this attitude of the naturalist is worth training as part of a teacher's equipment. Lubbock, studying his bees and ants and wasps, to find just in what sense they had intelligence, learned no pedagogical principles. But his attitude was at least that of a relatively dispassionate diagnosis. In some fashion he learned to know the minds of his bees and ants, to look at their world as they must look at it. Well, a teacher in presence of a naughty child feels often as hopeless a sense of the remoteness and the mystery of this demoniac sullenness, obstinacy, cruelty, or disobedience, as ever an amateur naturalist may have felt as he looked at the marvelous doings of ants and of bees. We naturally take refuge from such mysteries by refusing to observe the mechanism of their symptoms, and by confining ourselves to mere external judgment. We dislike the naughty child and we tell him so. And up to a certain point this unsympathetic dislike of ours is indeed a useful discipline to the child. It stimulates his native social instincts to work against his morbid or hateful impulses. If he is strong enough to save himself, as he often is, our hatred and punishment set him at work to do so. But then this is but a small part of the humane task of the teacher. The child may not be strong enough to get out of the lonely mental dungeon of his naughtiness. In any case we must help him out if we can. He can't diagnose himself. He

knows not whence comes the demon that torments him, or what power locks him in this prison. We must find out. That he is naughty we know, but what naughtiness is it? Is it, so to speak, cerebral naughtiness, or stomachic naughtiness? Are his bowels out of order, or is it his very strength of body that is here making his brain lustily wayward? So far the diagnosis is relatively a medical one. It becomes more strictly psychological when one has assured one's self that the mysterious cause is, on the whole, in the highest region; that it is "the boy" and not his stomach that is out of order, the brain cortex and not the alimentary canal that is primarily affected. Well, shall we here fall back on the merely external estimate and say, sternly, "So long as you choose to be wicked I can do nothing for you"? Sometimes, indeed, we have to be content with this. But the teacher wants, if possible, to do more. And here it is that he must become a psychologist, not in the systematic, but in the scrutinizing sense; not as scientific generalizer, but as observing naturalist, as collector of mental facts. What is going on in this mind? How does it feel to be naughty in just this way? Is it a case of the true "insistent impulse," or is it a chaos of angrily contending suggestions that come to the child from without? Is it "irritable weakness" of temperament, or is it confusion of head by reason of the manifoldness of the new impressions that are just now assailing the young brain? Or is it mere apathy, mental anæsthesia? Such questions may look technical. We don't ask them very often. When my own children are naughty, I am, alas! seldom in the mood to be psychological. But then, none the less, such questions ought to be asked, and intelligently, too, by the dispassionately scrutinizing teacher. They ought to be answered cautiously, after due time for observation. And the scrutinizing itself ought to be, so far as possible, as cool and as searching as Lubbock's study of the ants and bees or as Preyer's watching of the infantile eyes and fists. For only such examination will give insight, and only such insight will suggest the best means of cure.

As for the cure itself, pedagogical formulas will seldom prove

sufficient for the case. If you could really get at the mechanism of naughtiness, you would probably see that as no two brains are alike, so no two children are ever naughty in precisely the same way. The diagnosis will, if acute and thorough, be pretty surely in part individual. But if you have understood the case, you will be nearer the cure; and your instincts and your experience will suggest that.

How rare, after all, is this love for mental diagnosis! How seldom do I meet with it! And yet, believe one who has tried the thing, that with all the obscurities and scientific dangers of the undertaking, there are few tasks more richly delightful than is the patient threading-out of the intricacies of a human mind, when once you can win its confidence and get at its secret. At the heart of its mystery there is always such a rich wealth of living ideas, interests, and passions! Its very naughtiness becomes for the careful observer a charming illustration of the many-sidedness of human nature, and for the humane observer a profound lesson as to how to help our fellow-men. You may love or you may hate the person in other relations, or you may even feel little interest one way or another in the ordinary and external aspects of his social life. But his inner soul is such a splendid world of mental symptoms and of living processes! Seldom do we get the chance thus to scrutinize our neighbor's heart. Only at certain times in childhood and in youth, at certain periods of mental weariness or weakness, the puzzled or frightened or suffering soul can thus willingly confide its heart's mystery to the humane observer. It is the teacher's privilege to find many such opportunities. I want him to study psychology in order that he may learn how to use them. And once having used them, he will find all his work strengthened and enlightened by them.

This first method in which theoretical psychology can be of service to the teacher having been disposed of, I can speak very briefly, and only by way of illustration, as I close, of two sorts of inductions in modern psychology which seem to me to have especial pedagogical importance.

1. The growth of the intelligence is subject to certain still very imperfectly formulated laws, which, in a vague and general fashion began to be recognized in the last century, and which have been already much employed for pedagogical purposes. The higher processes of the intelligence are begun, and continually supported throughout our lives, by fitting sensory experiences. Upon a more or less accurate analysis of these, and of the perceptive processes that are dependent on them, has been founded the theory of object-teaching. Herbart's principle, since widely stated and applied, that involuntary attention not only precedes voluntary attention, but should always be employed by the teacher as a basis for the latter whenever that is possible, is another example of a pedagogical use of a psychological induction. This principle is embodied in that whole body of pedagogical doctrine about finding and appealing to a child's actual interest, which, in combination with the doctrine that sense-experience should always be used, when that is possible, as a basis for abstract thinking, and that perceptions must prepare the way for higher apperception, has done so much to revolutionize the practice of the modern teacher. The relation of attention and memory, of interest and retention, has again suggested to teachers a relatively scientific basis for much of their work. These are examples of the direct influence of psychology upon the theory of method. Their importance no one will deny. The limitation of the "science of teaching" in these directions is, however, quickly suggested by the story of the numberless pedagogical "fads" that, on the basis of a hasty assimilation of this or that psychological induction concerning the processes of the intelligence, have lived or are living their day, doomed to an untimely death. Object-teaching, too, has had its absurdities; such recent "fads" again as the proclaiming of "manual training" as the one true way of salvation for our schools, will suggest what happens when the single induction pretends to take the place of the whole science, when the single device tries to crowd out nearly all the rest of the art, when one little idea that is most admirable in its place and

time, like this very idea of "manual training," assumes a barbarous foreign name to give itself a loftier dignity, and presents itself as the one latest result of "science." Let us study the inductions of psychology; but let us finally anathematize the "fads," and all who trust in them. Science does not counsel individual, unchangeable, and infallible "methods." She corrects our errors; but she also shows that there is no royal road to the true method, which must vary with the particular educational problem that we have to solve. The devices of the pedagogue should take counsel of science; but they should be modest in their pretensions even after they have done so. Not every one who says "Psychology! Psychology!" shall be saved, nor is every deviser of a new fashion of appealing to the involuntary attention of childhood, or of strengthening its apperceptive processes, a prophet. Whenever we come to see that the possible devices of educational method are endlessly numerous, and that scientific psychology criticises but does not create them, while they themselves are the product of the practical experience and art of the educator, this part of our program for the training of teachers will be more wisely carried out than nowadays it often is. Study, then, the psychology of the intelligence, apply it as best you can to your methods of teaching, but beware of the "infallible methods." Such is my advice to teachers in this realm of their work.

2. A still more recent series of psychological inductions is suggested to us by what Dilthey has said of the typical growth of the human character from the chaotic state of the "primitive impulses" to the organized "teleological" unity of mature conduct. I need not dwell upon the general significance of the whole evolutionary point of view in modern psychology. I will venture, by way of illustration, to mention one aspect of it. I refer to the inductions as to the relations between the phenomena of mental growth and those of mental disease. Readers of Preyer will remember the analogies that he draws between the defects of childish speech, and the diseases of language in the adult. The phenomena of the will contain still more interesting analogies. The naughtiness of the child

is indeed very often similar to what would constitute the symptoms of some form of criminal lunacy in the adult. The child shows you at times pathologically insistent impulses, as well as instances of pathological aboulia, or apathy of will, and many volitional derangements, too, of the explosive type, such as the violent outbursts of childish fury and malice in those who, when adults, will show little sign of burdens of this sort. The difference between the childish chaos of impulses and the derangements of mental disease, will usually lie in the fact that the childish defect, as such, is more frequently *merely* chaotic, so that you get what would be individual pathological symptoms in the adult, while you seldom get the whole context of any diseased type, unless, indeed, your child is actually diseased. But the analogy between childish defect and pathological symptoms is interesting; and science is making it constantly more so. I wish, therefore, that teachers who are looking for scientific light as to the care of childhood, would take counsel, more frequently than they yet do, of the more enlightened expositors of modern mental pathology. Once more, the analogy in question must be used with caution, but the study of the nervous patient, who is, after all, in some fashion or other a child, cannot fail to suggest something to the cautious teacher. If it suggests nothing else, it will suggest to him just that humanity in mental diagnosis which the alienists learn to practice, and which unenlightened teachers so seldom possess. Study, then, the psychology of human evolution, and study it, too, in intimate connection with the psychology of mental defect and disease. Notice the analogy, and use the hints that the wise alienist gives as aids in your examination and training of children. Remember that the chaos of unreason in childhood is itself, in some measure, an incapacity of a relatively diseased sort, and that the wise teacher is a sort of physician who is to help the child toward getting that kind of health which we call maturity.

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In the foregoing I have tried only to suggest, and, in the most inadequate fashion, to illustrate a very few of the relations

between theoretical study and the teacher's business. To sum it all up in one word: Teaching is an art. Therefore there is indeed no science of education. But what there is, is the world of science furnishing material for the educator to study. If he seeks in that world for exact and universally valid direction, he will fail to get it, and deservedly fail, because science is not there to win anybody's bread, nor yet to furnish short and easy roads to even the noblest callings. But, on the other hand, if the teacher wants aid from the scientific spirit, and counsel from scientific inductions, there stands ready to his hand such assistance as, above all, psychology has to offer to the educator who desires to become a loving observer of the minds of children, and such assistance, too, as ethics may suggest to the man who is strong enough to grapple with deeper problems. I have had no space to give a fair account of what either of these departments can offer to the teacher. Perhaps my one or two illustrations may serve to indicate my purpose.

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III.

TIME AND AGE IN RELATION TO THE COLLEGE CURRICULUM.

The system of collegiate education in the eastern states of America came mostly as the Kingdom of Heaven comes, without observation. While it was forming no one knew, and no one can, with any exactness or certainty, tell now, whence or how it originated. Its growth was spontaneous and silent rather than the product of deliberation and discussion. But the age of still evolution in this sphere of culture is past. In common with many other institutions and phases of our civilization, collegiate education is now emerging from an automatic into a reasoned and conscious life. All friends of education should rejoice at the change, giving thanks to those enterprising thinkers who have in recent years done so much to rouse the administrators of our highest educational institutions from their dogmatic slumbers. Movements in the interest of educational progress must be welcomed, but they must also be keenly scrutinized. Compared with automatism, which is safe because dead, consciousness is in certain ways dangerous. Yet advance to-day requires conscious action, and we must do our best to assuage whatever friction this may occasion.

Would the shortening of the collegiate course for the degree of Bachelor of Arts be a step in advance? I cannot think so. It seems to me, on the contrary, that all the advantages which that change could possibly bring may be secured otherwise, while the abbreviation of the course in college must certainly entail extreme loss in various ways. Many seem to be influenced in favor of lessened collegiate requirements for the first degree, by the example of the British universities. Touching this, two considerations are of weight. One is that it is highly questionable whether severer conditions for the degree would not be advantageous even there. Great Britain has till recently been as little distinguished as the United States for



study of educational theory and practice. The question what the Bachelor's degree ought to presuppose is as open there as here. The other fact which should deter us from hastily following British precedent on the point at issue is that an undergraduate course of but twenty-seven months<sup>1</sup> is in any event safer in Great Britain than it would be among us, owing to the superiority there of secondary teachers and schools, and the broader range of opportunities for high culture enjoyed by British youth who frequent the universities. The representative British lad of sixteen who aspires to learning has come under a great multitude of educational and cultivating influences which the young American of the same years either has not felt at all or has felt in a far feebler way. The British boy has read more and better books, magazines, and papers than the American. He has heard abler preaching. He has met more foreigners, more men of learning and culture. He is better acquainted with art. If he has not traveled more miles, which is probably the case, he has almost certainly done, if I may express it so, a greater amount of effective traveling. There is in most of the British towns and cities an atmosphere of culture and a sympathy with high studies, which are, to say the least, very rare in America. Scholarship has there a sweep, an intensity, a pervasiveness, and a thoroughness, which unfortunately we have not yet attained, and which long courses of study in college will, better than anything else, help to extend.

Quite as surely misled are we if we clip our college course to match that of the Gymnasium or the Lycée. This for the strong reasons, among others, that we as yet have in America neither the power which is available abroad to co-ordinate college curricula with the studies which precede, nor the means at command in European lands to tempt young men into university work after twenty-seven months of preparation, nor the resources of Europe for profitable university study to offer to such as can and will engage in this.

<sup>1</sup> A three years' course, omitting the long vacations. The regular four years' course commonly involves but about thirty-six months of actual attendance.

So far as appears, the pressure for a shortened course in college comes mostly from the authorities of schools for medical and legal training. Very few people primarily interested in liberal education as such, are in favor of it. Theological professors strongly desire the liberal course to be at least of its present length and severity. No doubt it would be manywise advantageous could the professional schools begin with our graduates at a somewhat lower age, provided the preparation for professional study were as good as now. It is much to be hoped that a decided reduction in the age of students in professional schools may in time come to pass; but it would be a grave misfortune to bring this about by a mechanical and arbitrary shortening of college time.

The common opinion that the usual age of college graduates in New England is increasing, I consider an error. The average age naturally advanced somewhat when, a few years ago, the requirements for admission to the freshman class were made severer. An average of the ages of the men in a college class is very deceptive, as, indeed, all averages are unless accompanied by information showing how they are composed. Not seldom a class has a high average age, but a very low usual age, the average being raised by the presence in the class of a few men twenty-eight or thirty years old, a phenomenon of frequent occurrence now; much more frequent than half a century ago.

Compare a class of 50 men, having an average age of 20 years at graduation, with a class of 48 men who average 20, and 2 more each 30 years old. The latter class will present an average age of 20.4 years. A class of 30, of whom 28 average 20 years, and 2 are men of 30, has an average age of nearly 20.7 years. These figures show that one learns very little of value about the question of age in relation to a college class by simply ascertaining their average age. My belief is that if the average age of New England college students at graduation is rising, it is due simply to the fact that through wider interest in education and improved facilities for traveling, we are drawing from the rural districts of the East, and from the

AGE OF STUDENTS WHO ENTERED THE FRESHMAN CLASS OF BROWN UNIVERSITY, 1827 TO 1890 INCLUSIVE.

Prepared by PROFESSOR N. F. DAVIS.

YEAR.	NUMBER ENTERING.	AVERAGE AGE.	AVERAGE BY 5-YEAR PERIODS.	OVER 20 YEARS OF AGE.	OVER 25 YEARS OF AGE.	PERCENTAGE OVER 20.	PERCENTAGE OVER 25.	YEAR.	NUMBER ENTERING.	AVERAGE AGE.	AVERAGE BY 5-YEAR PERIODS.	OVER 20 YEARS OF AGE.	OVER 25 YEARS OF AGE.	PERCENTAGE OVER 20.	PERCENTAGE OVER 25.		
1827	25	17.4	17.7	6	0	24	27.8	1861	62	19.5	18.9	25	2	40	29.4		
1828	34	17.3		9	0	26		1862	57	19.0		19	4	33			
1829	30	18.4		10	1	33		1863	53	18.4		11	2	21			
1830	38	17.7		0	0	24		1864	57	18.7		14	2	25			
								1865	58	19.0		16	5	28			
1831	43	19.2	18.9	17	3	40	39.0	1866	78	18.9	18.9	22	5	30	31		
1832	51	19.4		23	2	45		1867	51	18.9		15	2	30			
1833	61	19.3		32	3	52		1868	58	18.5		16	0	28			
1834	64	18.3		30	2	30		1869	62	18.9		20	3	32			
1835	68	18.1		19	1	28		1870	90	19.1		30	3	33			
1836	59	18.0	18.8	16	0	27	35.0	1871	59	19.0	18.8	18	2	31	30.4		
1837	60	19.0		18	3	30		1872	59	18.4		15	0	25			
1838	70	18.7		26	4	37		1873	69	18.5		19	1	28			
1839	48	19.2		20	1	42		1874	86	18.8		25	2	29			
1840	49	19.0		19	6	39		1875	64	19.4		25	2	39			
1841	49	19.6	19.0	23	2	47	38.4	1876	74	19.0	19.0	27	2	36	36		
1842	59	18.4		16	2	28		1877	55	19.1		18	1	33			
1843	45	19.1		17	3	38		1878	77	18.7		22	2	24			
1844	56	19.2		25	2	45		1879	79	18.9		22	2	28			
1845	38	18.6		13	1	34		1880	77	19.5		36	2	47			
1846	44	18.8	18.4	13	1	30	28.6	1881	76	19.3	19.4	24	3	32	36.2		
1847	48	18.6		16	1	33		1882	87	19.5		33	3	38			
1848	48	18.0		14	1	29		1883	59	19.1		25	1	42			
1849	48	18.0		10	2	21		1884	63	19.0		22	1	35			
1850	89	18.6		27	1	30		1885	76	19.9		26	7*	34			
1851	92	18.5	18.7	29	1	31	34.6	1886	77	19.4	19.2	27	2	35	26.6		
1852	103	18.7		30	4	29		1887	74	19.0		18	2	24			
1853	92	17.9		32	4	35		1888	64	18.9		14	1	22			
1854	80	19.3		34	7	42		1889	75	19.1		18	0	24			
1855	81	19.2		29	7	36		1890	95	19.7		36	6†	38			
1856	70	19.2	18.7	25	5	36	31.4										
1857	69	18.3		14	2	20											
1858	65	18.4		15	2	23											
1859	86	19.1		35	3	41											
1860	82	18.4		30	1	37											

\* Two over 32 years.  
† One 32 years.

West a larger number of young men, teachers and others, whose age far exceeds the average. Unless I greatly err, the usual age of the youth in the eastern colleges is falling, and is destined to fall more and more, though the requirements for the baccalaureate degree remain as now.

But the main trouble at this point does not pertain to the college course, and cannot be properly cured by any change, temporal or other, in that. It lies in the earlier stages of education. Thorough explanation of it would lead to a criticism of all our primary and grammar-school work. The fact is that owing to the insufficient remuneration of teachers in our lower schools, and to the too slight honor paid to the profes-

AGE OF STUDENTS WHO ENTERED THE FRESHMAN CLASS OF HARVARD COLLEGE 1856-1890, INCLUSIVE.

From Report of a Special Committee, October 8, 1890, to the Board of Overseers.

Year	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	30-31	31-33	44-46	Average Age	No. adm'd
1856	4	16	44	34	29	7	1	4	3	3	3	2								17 yrs. 7 mos.	144
1857		6	31	27	25	8	3	3	5	5										17 " 11 "	108
1858		7	23	43	30	11	3	8	2	3										17 " 11 "	124
1859		6	26	36	31	14	5	3	1	1										17 " 11 "	144
1860		9	26	38	33	14	0	1	4	2										18 " 1 "	136
1861		3	24	50	33	13	3	5	1	2										18 " 1 "	126
1862		2	19	41	30	15	10	3	2	2										18 " 1 "	126
1863		2	22	38	36	13	7	7	1	2										18 " 1 "	128
1864		5	19	51	28	10	6	2	1	2										18 " 1 "	128
1865		6	20	38	46	23	9	1	5	1										18 " 1 "	144
1866		2	22	56	46	23	8	3	1	1										18 " 1 "	144
1867		16	15	28	55	24	7	2	3	2										18 " 1 "	178
1868		2	15	40	55	22	13	2	5	2										18 " 1 "	141
1869		3	19	76	52	22	11	6	4	1										18 " 1 "	159
1870		6	24	59	53	28	16	4	1	1										18 " 1 "	201
1871		9	20	51	62	29	12	4	4	1										18 " 1 "	203
1872		2	19	52	70	43	17	4	1	2										18 " 1 "	201
1873		2	19	58	58	42	7	4	1	2										18 " 1 "	236
1874		1	12	78	93	49	10	7	3	4										18 " 1 "	202
1875		1	12	58	80	53	20	7	2	2										18 " 1 "	202
1876		2	10	52	80	53	23	9	0	3										18 " 1 "	245
1877		2	14	52	80	53	23	9	0	3										18 " 1 "	245
1878		1	10	49	86	53	19	15	4	1										18 " 1 "	248
1879					18-18½	18½-19															
1880		1	12	52	40	53	24	9	3	4										18 " 11½	247
1881		3	10	38	29	44	55	31	10	8										19 " 1 "	230
1882		3	17	55	36	53	60	28	12	4										19 " 1 "	275
1883		1	17	65	44	61	23	7	7	2										18 " 9½	285
1884		1	12	63	65	25	29	8	4	1										18 " 10 "	286
1885		2	10	63	47	42	56	40	6	4										19 " 1 "	281
1886		4	14	64	65	51	67	29	12	3										18 " 11½	321
1887		8	71	61	45	89	26	7	9	2										19 " 1 "	328
1888		1	13	57	65	50	66	31	14	5										19 " 1 "	312
1889		1	9	63	58	82	24	5	3	4										19 " 1 "	316
1890		13	98	621	1836	2280	564	225	109	75	37	25	13	12	5	3	5	3	2	18 " 11½	323

NOTE.—Each student is counted only once in this table and in the year in which he originally entered. All ages are calculated as of October 1 of the freshman year of the class in which the student entered. The last four years (classes now in college) are necessarily incomplete, but are correct to date.

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sion by Americans, the teaching in most of our lower schools is very poor compared with the corresponding service in Germany and France. This has been clearly and frequently pointed out of late years. We are lamentably behind in inculcating the elements of science. Much that the pupil should begin at twelve or fourteen, we postpone until his sharpest observational power is gone forever. Often his condition is even worse than this. He has contracted habits of inattention which no amount of effort at a later time, when he is in college, can ever overcome. Our methods in language are nearly as bad. Youths of seventeen should, and easily could, were they only taught with due system and ability, know as much Latin and Greek as now, besides having a first-rate reading and speaking knowledge of Italian, French, and German. It is a wicked waste of time and effort that students who already know Latin are made to learn French without utilizing the natural bridge from the Latin to the French language which is furnished by the Italian.

Great progress is still to be made in teaching the accidence of the Greek and Latin tongues. Very much more grammatical detail is insisted upon than need be touched at all, a great deal of it being certain to be picked up as needed in the course of that copious reading which should be insisted upon at the earliest possible moment; while many rules of all sorts are painfully and laboriously taught in most of our schools, that are of no use whatever at any period, save as a training to the memory through the work of learning them.

Now when the economy which we are certain to attain in these various particulars has been secured, we shall, I believe, save to the average college graduate at least one year of the time which he now spends upon his education, and probably two. This will remove the evil of which many who are interested in professional schools complain, and it will effect the remedy in a perfectly natural and helpful manner. Those students who then advance to graduate work of any kind will have an enviable preparation for the professional schools, which therefore cannot but be better off than by a process of

multiplying their pupils through a reduction in the time now devoted to collegiate work. Young men will thus gain in mental power as well as in opportunities. I do not share the view that college students need to be as old as they now average in order to receive the full benefit of their severer studies. Proficiency in these, within large limits, has little to do with age, and is not, as a rule, greatest in the oldest pupils. Proper teaching in the lower grades will send to college better thinkers as well as better linguists and writers.

To all this it will doubtless be replied at once, that the plan of reducing the collegiate course has anticipated these improvements which are to come in preparatory teaching; is indeed, in large degree based upon that anticipation for its justification. It will be said, in other words, that when the betterment has been brought about, although the collegiate course should then be but twenty-seven months in length, the pupil's entire education will be quite as good as now and even better. That is possible, but I do not for my part admit that thirty-six months would be too long a time to spend in college, even were the teaching in the lower grades the best possible. The proficiency required for the lowest degree in Arts is much more important than appears at first sight. It is very influential in determining the standard of a liberal education and even of general intelligence for the nation. It should involve too much rather than too little. The curse of our time, so far as liberal education is concerned, is early specializing. We have innumerable well-trained graduates from all the technical and professional schools—physicians, lawyers, clergymen; while among those who have not yet entered the advanced schools, or perhaps do not expect to do so, are to be found many more scholars of rare merit in this, that, or the other particular field. You need not search long for a brilliant psychologist, a fine Hebraist, a specialist in Greek, German, Sanskrit, or general philology. Trained specialists in every department of science are at hand. But if one seeks a scholar, a well-rounded thinker, a man of generous and broad mental sympathies, the search is a long one. I believe that

any one who has been charged with the work of hunting up fit occupants of professorial chairs feels that what our part of the educational world needs is not so much special attainment, which it is extraordinarily easy to furnish, but broad, deep, rounded, masterful intellectual culture. If the scholarship of the nation is to be maintained we must have more of this. Even the particular sciences themselves suffer from the undue relative prevalence of special study. Who can look back over the long conflict between science and religion as commonly understood, without being impressed that the entire difficulty has arisen from the inability of either side to appreciate the truth held by the other? This myopia has its source in immature specializing. Religious teachers have for the most part known nothing of science, while the champions of science who have had the most to do in giving trend to scientific thought have been men who have hardly read a page in theology or philosophy. If this quarrel is unique in its proportions, it is typical in its character.

Now it is during the pupil's collegiate years that this all-important widening of the mind's horizon, this precious enlargement of the intellectual sympathies, takes place. How often is one pained, following youth from college into their professional studies, to find the range of their sympathies narrowing as their mastery of new subjects increases! The influences under which they have come sharpen the mind, but are not helpful to greatness of thought. They are not intended to be.

In this respect again, we are at a disadvantage compared with Europe. There, professional and technical courses are made much broader than here. The intending lawyer devotes years to studies in the history of Roman Law. As he ranges the Pandects and the *Corpus Juris* he is acquainting himself in the best possible manner with the history of Roman and mediæval civilization. The instruction in ecclesiastical and doctrinal history given in most of the theological schools of this country is in no wise so broad or cultivating as the corresponding study beyond the ocean. Foreign medical students

are treated to elaborate general discussions in the various realms of science where their studies lie, in a way that is exceedingly rare here, if it be found at all.

Nor can we safely forget that the need of wide and constructive intelligence must become more and more intense as our life increases in complexity. The standard liberal education, far from lessening in its scope and range, should increase. To possess universal sympathies, to provide one's self with eyes looking every way, each one telescopic, demands a larger and larger outlay of time and pains as the years pass. Professional schools are not fitted to impart this.

If, however, we were to agree that a pupil should end his collegiate life with only the amount of training which he would secure by a first-class preparatory course, capped by another of twenty-seven months in college, I should say that the proper place to curtail is not the college, but the preparatory school. There will not in half a century be many high schools or academies in our country which can give to their advanced classes so good advantages as those which are afforded to freshmen by the New England colleges at the present moment. There are many reasons for this. One is that, save in the few amply equipped schools, the teaching will never be as good. Another and weightier reason is that a high school or an academy is not and never will be a college. The American college is, as a factory of intellect, *sui generis*. The mental activity in even the poorest of our old collegiate institutions is something as incalculably valuable as it is peculiar and difficult to describe.

College teaching always tends to be wholesomely liberal. If from the point of view of technical pedagogics it is no better than that which precedes, it is usually far richer in effect, because pitched to a higher key, and carried on with a larger thought of the ends and aims to be compassed by it. More than this, class-room work, while furnishing a great part of the pupil's discipline during his school years, is far from giving it all. Much comes from the traditions and the atmosphere of the seat of learning. The attrition of pupil with



pupil, the association with each other of young men from different states and countries, from all sorts of homes, of diverse environments throughout their earlier years, of various grades of culture, of conflicting religions and religious sects,—all this is highly beneficial. Invaluable, too, is the influence exerted outside the class-room by the instructors whom the student sees about him in college, a subtle power bewitching him like a charm from the moment of his matriculation. Great libraries, museums, observatories, and laboratories, distinguished men who visit the college from time to time, and occasional contact with advanced students pursuing original investigation, all operate in the same inspiring way. Of this kind of help to a higher life, young men cannot have too much; and while both lower and higher seminaries of learning communicate it to a certain extent, the chief fountain of it, for this land, is the college. I should therefore unhesitatingly prefer that the young man who has studied a certain number of terms and is now about to go out into life, or to enter some professional school, should have had thirty-six months of his preparation in college rather than twenty-seven months in college and an additional year in some different institution.

Many would, I have no doubt, concur in this view, but would say that, desirable as its realization might be, it is still best, on the whole, to reduce college study in years or months, because of the larger number of young men who can then be induced to take a collegiate course. Grant, it may be said, that the Bachelor's degree after the reduction will be less worthful than now, that it will imply less discipline, less culture, less mental power in general, yet the good done by colleges to the rising generation, to the country, and to the world, would be greater after the change than now, because the advantages, though inferior, would then be shared by a much greater number. Were it certain that any considerable increase in the number of the young people resorting to the colleges of our country would follow an abridgment of the college course, I should greatly incline to favor the change. But I do not believe that such a result is even probable. It is

at best far from certain. There is even ground for fear that the outcome might be the reverse. The policy of reduction could easily be construed as an admission on the part of its friends that collegiate education was of little worth, thus multiplying the numbers of those passing directly from preparatory to professional schools. The problem is one which no statistics can solve; on which, in fact, we have few clear data of any kind. I have given it much thought, and my conclusion is as just stated. I am persuaded that from my own college, at any rate, the length of the course excludes none or very few. The young men who mention this as a bar to entrance are almost always influenced by other considerations. The older never plead it. It is suggested by poor scholars whose presence in college is of doubtful advantage anyway. The students who drop out of our classes are not the oldest, and are never, except such as leave on account of ill health, the best. They are the men of feeble will power and intellectuality; most of them go either during the freshman year or at its close. Hardly one ever gives up at the end of junior year, and I do not think that one per cent. of our students who conclude that year would feel it to be other than an irreparable loss to end their course there.

The facts at the University of Michigan tally exactly with those at Brown University. The academic faculty at Ann Arbor have of late been gathering data which bear on this part of our problem in a very interesting way. They find by actual statistics that a much smaller proportion of their candidates for degrees than they had supposed relinquish their courses before graduation to enter the professional departments. Nearly all the men who there pass from the academic department to the schools of medicine and law are men who have taken the full course, and that, too, men who have elected and pursued classical studies, involving the maximum of time in preparatory schools. This noble institution permits certain studies to count at once toward a liberal and a professional degree, an ordinance to which there is no objection so long as only liberal studies are permitted to play the double rôle.

The numerical diminution of American college students in proportion to our population, though doubtless a painful, is not an alarming symptom. There is hope that its causes will prove to be of a temporary nature, and that in time the tide will turn. The relative falling off in college attendance springs, as I judge, mainly from four facts: (1) the materialistic temper, with its desperate appetite and quest for wealth, which has fastened upon the American people since the civil war; (2) the increased cost of attending college; (3) the former narrowness of college curricula, and (4) the pedantry in college teaching which has till recently been so common. But each of these bids fair to be in future less and less a source of loss. The second evil may be much assuaged, though to cure it is perhaps impossible. The last two, the colleges can remedy at their option, and they are rapidly doing so.

We do not with the Pythagoreans ascribe any magical or moral quality to the number four when we say that four years is as little time as will suffice to give a liberal, non-specialized training. For such a purpose, thirty-six months of actual work have a value surpassing that of twenty-seven months by very much more than a third. A good curriculum is no chance lump or slice from a homogeneous mass of educative material, all whose units are equally precious. It must be a thing, with its own entelechy, having shape, individuality, character.

As heartily as any one can do I congratulate the friends of education upon the decadence of the fixed college curriculum. It forbade thoroughness, and quenched instead of utilizing that enthusiasm with which most pupils can be led to work. But at least equally great would be our error were we to fly to the other extreme, extruding from the course pursued by our students all elements of articulateness and unity. If it is inadmissible to say that sound and broad mental power can be acquired only by the mastery of five or six branches pursued in a rigid order, it is certainly no less so to lay it down that any study is as valuable for discipline as any other, and that the order in which we teach them is wholly immaterial. We

might set classes at the empirical study of permutations and combinations. ~~It would be mental~~ work, not without valuable results in continuity and accuracy of thought. Moreover, the field is infinite. Yet a teacher who should insist upon feeding his pupils with that chaff would deserve capital punishment. There is a distinction of better and worse between branches of study in reference to their fitness to be pursued in college. Further, among those matters which are suitable to be taught, there are some which should of right receive the pupil's attention earlier than others. First ought to come the disciplines calculated to build up the power for steady, methodical and long-sustained mental exertion. Next, filling the middle half or two thirds of the course, you may well crowd in, for election by different pupils, according to their preferences, all the natural sciences, mathematics, phases of history, sociology, philosophy, literature, and religion, for which teachers are at hand. And last, crowning, unifying, and vivifying all, should come a good deal of specially hard drill in the science of mind. Some such arrangement of studies as this, articulate without rigidity, compelling effort and repelling gross idiosyncrasy while nursing individuality, will be found educative far beyond either an iron curriculum on the one hand or mere *laissez faire* intellectual browsing on the other. Now and then, to be sure, is encountered a young man who, owing to some mental peculiarity, would best not conform at all closely to any program of this sort, but he will find his nonconformity a misfortune, a cause of weakness. Now my conclusion is this: Twenty-seven months is too little time to admit of putting due system into a liberal curriculum. Without more, you inevitably slight either the disciplinary portion at the outset, or the liberal and nutritious part in the middle, or the unifying mastery at the end. Twenty-seven months would suffice better had our college faculties, like those of the German Gymnasia, the power to shape into one whole the preparatory and the higher studies. As we are barred from this, we need longer time.

Should it be decided, after all, that the true fortunes of

higher education in New England and the East would be best subserved ~~liby~~ shortening the course for the degree of Bachelor of Arts, this certainly would not be the case further west, and we are bound to plan for the best interests of education the country over. The colleges and universities in the central and western states are doing a work of incalculable advantage to this nation and to the world. From the nature of the society by which they are surrounded, it is impossible for them to maintain quite as high a standard as prevails in New England. If we reduce the time, they will perforce reduce; whereas, beyond question, the desirable thing for them is rather that their courses should be extended.

While the requirement for the Bachelor of Arts degree, setting as it does the standard of good letters for the land, should not be lowered, it is desirable that college doors should stand open to welcome any and all competent students for whom circumstances or inclinations prescribe shorter courses.

I strongly favor university extension, *infra* as well as *extra fores*. I would have as many "short cut" courses as could well be made up, giving the pupil a degree on the completion of each; and I would, beyond this, use all means to bring into the college fit persons, who could or would attend to but a single study for a single term. We might thus multiply our college population without lowering our standard.

E. BENJAMIN ANDREWS.

BROWN UNIVERSITY,  
PROVIDENCE, P. I.

IV.

HEREDITY AND EDUCATION.

Among the great facts which have come to the front during the last half-century, heredity is perhaps the most prominent. It has been recognized in all ages. It never was more clearly stated than in the Ten Commandments: "For I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children, upon the third and upon the fourth generation of them that hate me; and shewing mercy unto a thousand generations of them that love me and keep my commandments." This fact, as science interprets it, shows that it is the tendency of disease and evil to run to the third and fourth generations, seldom to the fifth, and that then there is reversal to the original type, which is always beautiful and beneficent. On the other hand, in the nature of things, that which is good continues so until corrupted. Evolution has unquestionably brought the law into its present prominent place; for evolution works by two factors, namely, heredity, or that which tends to permanence; and environment, or that which tends to variation. The characteristic of the first is that it reproduces the past; of the second, that it adapts to new conditions that which has come from the past. The prominence of these forces is, whether justly or not, revolutionizing thinking, compelling men to rewrite their psychologies, their treatises on ethics, their theological creeds. While the revival of interest in this great law influences other spheres of inquiry, it would be strange if it did not also modify theories of education. To some extent it has probably done so, and yet in this department, where its influence ought to be first and most imperatively felt, it has been slowest in asserting itself.

Heredity is that factor in the progressive development of the race, or in the history of humanity, which preserves and trans-

mits from one generation to another that which had previous existence. ~~ww~~In this study, the reality and constancy of the law of heredity is assumed. To contradict it is to deny the facts of nature, and to discredit the daily witness of our senses. Only concerning its minor manifestations is there doubt. The heredity of race characteristics is not questioned; animal kingdoms never cross; Africans always give birth to Africans, and a Yankee was never yet born of full-blooded Chinese parents. Moral, physical, and intellectual characteristics are transmitted either from parents to children, or, by atavism, skipping one or more generations. Of course these characteristics are modified, for no child is the product of one parent or of one stream of heredity alone.

Is heredity an irresistible force? Must that which is potential inevitably manifest itself? Here we face another fact which must be assumed, one which is too evident to be doubted. Heredity is constantly modified by environment. In a vacuum, rock would remain rock forever; but heat, moisture, frost, pelting rain and driving wind gradually destroy, not the rock itself, but the form in which it existed. A dweller in the lowlands of South Africa is indolent; life calls for no struggle; he is little better than the swine, and his descendants are like himself. That man is transplanted to the high Andes; he breathes rarified air, his lungs move quickly and inhale vast amounts of it. He dies, but his children are better adapted to these conditions than he, and their physical constitution is slightly different; the chest is expanded; the lungs are more fully developed; and so on through the generations. Thus the descendants of South Africans were developed into the Incas, the dominant race of the ancient Peruvians at the time of the Spanish Conquest. Heredity preserved the race-characteristic, but new conditions made a new constitution. Now we assume that the influence of environment on the whole man is the same as on the physical nature. It always tends to adjust to the circumstances of the present that which has come from the past. "When the organization is not structurally modified, as in idiocy or insanity, or organi-

cally weak, and where conduct depends on knowledge of moral obligation, environment is stronger than heredity.”<sup>1</sup>

Every child is the product of all preceding generations. He is not himself alone, but a body packed with potencies derived from no one knows how many or what personalities which have lived before him. The problem of education is by means of environment to modify and, as far as possible, destroy the evil, and bring the good into expression and power. Nor is this all; for tendencies to good, when improperly balanced, become evil. Education, therefore, has to do with the elimination of tendencies toward deterioration and the proper development and balancing of tendencies toward good. The word education is a history. It implies heredity, for it indicates something to be drawn out; and as that something could not originate with the child, it must have been transmitted. The word implies powers which have come from others and which are to be trained. So of the word culture. Where does culture begin? With birth. The age of impression is quite as important as the age of reason. But culture implies something to cultivate. That something is not implanted by teachers, but is always inborn. This is clearly recognized by the three authors who in our time have written most helpfully on this subject. Emerson's teaching is as follows: "A man is the prisoner of his power. Powers of individuals are poorly balanced. A topical memory makes him an almanac; a talent for debate, a disputant; skill to get money makes him a miser, that is, a beggar. Culture reduces these inflammations by invoking the aid of other powers against the dominant talent, and by appealing to the rank of powers." He says also, "Culture cannot begin too early. . . . I find, too, that the chance for appreciation is much increased by being the son of an appreciator and that these boys who grow up are caught not only years too late, but two or three births too late, to make the best scholars of." He says again, "The end of culture is to train away all impediments and mixture and leave nothing but pure power."

<sup>1</sup> Dugdale, *The Jukes*, p. 65.



On the same subject Matthew Arnold quotes Montesquieu as follows: "The first motive which ought to impel us to study is the desire to augment the excellence of our nature and to render an intelligent being yet more intelligent." Again he says that culture is "an inward and spiritual activity having for its characters increased sweetness, increased light, increased life, increased sympathy." Principal Shairp's idea of the end to be reached is not different. He quotes approvingly the words of Leighton: "The only sufficient object for a man must be something which adds to and perfects his nature." The difference between Emerson and Arnold on the one side, and Shairp and his school on the other, is not in the idea of what education is to do, but in the means to be used. All agree that education is the process by which inherent powers are to reach their highest and finest growths. But how vastly the practice belies the theory. In most schools there is almost total neglect of what ought to be the fundamental principle in education. Instead of being a process for drawing out and developing to its full that which is best, instead of seeking to eliminate the evil and prevent any power from having a droning preponderance in the scale, our education, from beginning to end, (1) ignores the necessary differences in children, treating all as if they had the same heredity and surroundings; and (2) instead of making its business the bringing out of something inborn, it makes it exactly the reverse—a process of implanting, without thought of adaptation to the soil.

All schemes of culture should begin with the recognition that each child is different from every other; that the lines of difference run far back, and therefore are not superficial, and that, in order to secure the highest efficiency, systems of education should be adapted to the individuals to be reached. Each child possesses characteristics which run back through generations, for which it is not responsible, and which can be changed only by the most carefully planned and wisely adjusted discipline. In each pupil there appear tendencies which have been modified here and given new impulse

there, tendencies which are sometimes quickly discerned and sometimes lie too deep to be easily found. Two illustrations will develop my meaning. A few years ago when addressing the children in the Newark City Home at Verona, N. J., my attention was attracted by two boys occupying the seat directly in front of me. One was thin and pale, his fingers were long and slim, his eyes blue, his hair light, his cheeks sunken. There was little of the animal in him, little of anything, apparently, but sensitiveness. His seat-mate was his opposite in every respect. His hair was black and stood on end as if electric, his eyes burned like coals, his mouth and chin resembled those of a bull-dog, his face was florid; he was evidently full of animalism and passion. Those two boys were what they were by nature. They had probably come from the same sphere in society. No circumstance but blood made the difference between them. They were products of different lines of heredity. Could they, for the best results, be reached by exactly the same process of education? Consider now an illustration from widely separated grades of society. In a certain school was a young lady, a daughter of New England parents, both of them of fine culture and exquisite taste, well qualified to direct her study and to stimulate her aspirations. Everything that sympathy, congenial taste, opportunity, could do for them had been done, and they in turn were handing the same blessings to their child. In the same community and school was the daughter of a laborer; her home gave her absolutely no help; her father and mother had both wandered far from righteous lives. This girl was surrounded by ignorance and wickedness, and had especially strong tendencies toward degeneration in her blood. But her associations in the community developed aspirations never helped by those who were nearest of kin. Her tendencies were toward indolence, neglect, and something worse; her aspirations were few and were stimulated outside her family. Here are two typical cases: one girl with blood and home in her favor; the other with neither, but still with possibilities which may be developed. The two come to our public or private schools,

and are treated exactly alike; they are given the same books, the same things are presumed to interest, the same ability is supposed, the same tasks are required, and they are judged by the same standards. If there is any such thing as a science of education, do we catch sight of it here? In ten years those two persons may occupy the same relative positions; they may be equally cultured and respectable; but it will never be by using the same methods for both.

If, now, it be granted that heredity and environment differentiate the pupils in our schools so that no two, even from the same family, are exactly alike; and that they come to the teacher's hands each with his own peculiar powers and faculties to be developed, the problem of education becomes complicated and difficult.

By the study of what men are, we learn of what they are capable. The word education signifies, "To lead out." To lead out what? That which is in the book? No. That which is in the teacher's mind? No. That which is in the pupil. Dr. Stanley Hall says: "There is one thing in nature, and one alone, fit to inspire all true men and women with more awe and reverence than Kant's starry heavens, and that is the soul and body of the healthy young child. Heredity has freighted it with all the results of parental well and ill-doing, and filled it with reverberations from a past more vast than science can explore; and on its right development depends the entire future of civilization two or three decades hence. Simple as childhood seems, there is nothing harder to know; and responsive as it is to every influence about it, nothing is harder to guide. To develop childhood to virtue, power, and due freedom is the supreme end of education, to which everything else must be subordinated as means. Just as to command inanimate nature we must constantly study, love, and obey her, so to control child-nature we must first and perhaps still more piously study, love, obey it. The best of us have far more to learn from children than we can ever hope to teach them; and what we succeed in teaching, at least beyond the merest rudiments, will always be proportionate to

the knowledge we have the wit to get from and about them.”<sup>3</sup> “To develop childhood to virtue, power, and due freedom is the supreme end of education, to which everything else must be subordinated as means,” is a true definition of education. A secondary object is the acquisition of knowledge, but even this is subsidiary. Knowledge is not always desirable for its own sake. It is valuable as a means. Study which leaves the manhood narrow and contracted, and fills the head only as gold fills a miser’s purse, is not worth the effort required.

When this ideal system is contrasted with the systems in common, if not universal, use, what do we find? I hope I shall not be understood as blaming teachers for what belongs at the door of the system in which they are compelled to work. Is it not true that little, if any attention is given to the systematic study of child-life? Is it not true that in most of our schools the supreme duty is to go through certain textbooks in the time allotted? So much Cæsar must be read, so many pages of history and of arithmetic must be completed this term. Why? Is the end of education to cram a child with Latin and history and arithmetic? Is it not better that one example should be thoroughly and completely understood than that forty should be worked mechanically, and perhaps accidentally? What common sense is there in a rigid rule that a certain number of pages shall be traversed, if discipline and the balancing of faculties is the end of education? What knowledge of child-life, what adaptation to peculiarities is displayed in such a system? I look back to many of the schools I attended in my own childhood with unlimited disgust. I was not taught. I was put into a procession and marched through so many years of school-life, and then let out. I never liked mathematics, but to this day I believe the aversion could have been overcome by a few hours’ patient, careful training, with no step taken until the reason for it was understood. Furthermore, if the study was worthy of pursuit, then, simply because of my natural antipathy, it should have been taught with more thoroughness and patience than those studies in

<sup>3</sup> In the *North American Review*, February, 1885, p. 146.

which I rejoiced. Here, for instance, is a child who has never known anything about home discipline, and has had nothing to awaken aspiration; his education is not completed until he has learned obedience and his eyes have been opened to higher things. The child who is all imagination should, by proper methods, be brought to understand that he is human; and I know no better way to teach a boy that he is not to live by imagination alone than to set him to the study of mathematics. On the other hand, the pupil who is commonplace and prosaic should have his life illuminated and expanded by familiarity with imaginative literature, especially poetry.

Place for spontaneity should be left in all systems of education. Genius flowers in most unexpected places. Not always do children of fine and quick aptitudes come from homes of culture. Even log-cabins have produced their Lincoln and Garfield. But the teacher with his eyes on the child-life, rather than on so many pages of arithmetic or geography, will detect the unique child as soon as he appears, and adapt his methods accordingly.

But let us put the blame of this condition of things where it belongs. I once stated my views on this subject to a distinguished educator. He replied: "I agree with you perfectly, but what can I do? It is my duty to examine teachers, but my hands are so tied that I can do nothing." I said, "Is it not often true that a teacher who may be an expert in reading children and in adapting to them the instruction they most need, could not pass your examinations?" He replied: "Undoubtedly, and I am disgusted with the whole system." Not long ago, in the company of several teachers, I asked how many had ever had attention called to the duty of discriminating among their pupils as to natural powers and faculties. All but one replied that it was a neglected topic, and that one said he had heard a few lectures on the subject in a normal school in Pennsylvania. In other words, while the most important part of education is the development and balancing of what is within a child, in most instances no training is required and little offered to fit teachers for this part of their work. What

would we think of a medical college that devoted all its attention to *materia medica*, and taught none of the principles of diagnosis? True education studies the child first and most; it regards him as a product. How can faculties and tendencies be developed and balanced when no attention is given to what they are? How can they be studied thoroughly when the fact is ignored that each child is little more than a stream of tendencies from the past coming into manifestation in the individual to be instructed?

I would not be supposed to think that we have no teachers who rise to their high privilege. Probably there are in all schools those who realize our ideal of the teacher, but it is because of natural gifts rather than because of the system under which they have been trained. Amiel says: "We can only teach others profitably what they already virtually know: we can only give them what they had already." Without recognition of the truthfulness of these words, plans for the culture and training of teachers will fail.

I will quote one more paragraph from the article of Dr. Hall: "One of the most hopeful things in education is the dawn of better and more objective ways of studying the mind and its growth. The old-fashioned philosophies, on which so many present methods of teaching are based, which are still well entrenched in most of our normal schools, seem imposing with their vast generalization, but are too introspective for youth, are formal, and, where most absolute, least harmonious among themselves. They have done great good, and it is not needful here to point out their grave defects. But better and more modern methods of research into the phenomena and laws of the soul, more consonant with the demands of modern and especially American life and thought, as specialized and co-operative as science, slowly doing over again the work of the great thinkers of the past century and without losing their positive result, removing their limitations, enriching and applying their insights—these are now slowly but surely working out a true natural history of man's nascent faculties. Here is the heart of the pedagogy of to-day and of to-morrow,

where the science and philosophy of education join friendly hands with the practical teacher, and here he who would speak with authority and be heard in the new departure already ripening must study with patience and love the psychology of the growing, playing, learning child and youth. Thus alone we can, in the language of the Laches, make the education of children our own education."<sup>3</sup>

The serious practical difficulty in the way of such teaching cannot be disregarded. Political tricksters care nothing for methods of education which put no money into their pockets and win no votes for their party. Penny-wise and pound-foolish tax-payers refuse the appropriations which are necessary to make possible the best methods in education. But no reform is easy. It is misconstrued, maligned, opposed with all arts until it wins, and then its opposers always believed in it. Progress will halt when difficulty is a reason for refusing to attempt better things. The peculiar difficulty which meets us arises from the fact that it is impossible to have schools which recognize the individuality of the pupils. It will be said, and truly, that our systems of education are directed not toward distinguishing but toward common characteristics; that that in which all are alike is more and greater than that in which they differ. The difficulty suggested here is practical. It is nearly impossible so to order public schools that the eccentricities of individuals shall be met. In private schools the difficulty is not so great, but does not altogether disappear. The only practicable scheme which suggests itself is the proper training of those to whom are committed the responsibilities of teaching. Schools cannot much regard individualities, but teachers can; and they can so order their instruction that each child shall receive that part of the curriculum which it most needs, and according to the best method. In order that this ideal may be realized, the study of human nature must always be placed above knowledge of books. In the preparation of the teacher, in the examinations through which he passes, this requirement should always be

<sup>3</sup> In the *North American Review*, February, 1885, p. 148.

placed highest. All that concerns the training of parents for their office applies equally to teachers, and I pass to that part of my subject.

Herbert Spencer has written words that may well be quoted here: "If by some strange chance not a vestige of us descended to the remote future save a pile of our school-books, or some college examination papers, we may imagine how puzzled an antiquary of the period would be on finding in them no indication that the learners were ever likely to be parents [or teachers]. 'This must have been the curriculum for their celibates,' we may fancy them concluding. 'I perceive here an elaborate preparation for many things; especially for reading the books of extinct nations and of co-existing nations [from which, indeed, it seems clear that these people had very little worth reading in their own tongue], but I find no reference whatever to the bringing up of children. They could not have been so absurd as to omit all training for this gravest of responsibilities. Evidently, then, this was the school course for one of their monastic orders.'"<sup>4</sup> The irony is deserved. There is no system of education that gives the slightest attention to training children for the discharge of what will some time be their most important and sacred obligation. If parents have no idea of what is in their own children, if they are not able to adapt their teaching to what is most needed, it is not surprising that teachers are not trained to do so. Few ever attempt what is not expected of them. What Mr. Spencer says about the young mother applies equally to the teacher of young children: "But a few years ago she was at school, where her memory was crammed with words and names and dates, and her reflective faculties scarcely in the slightest degree exercised; where not one idea was given her respecting the methods of dealing with the opening mind of childhood; and where her discipline did not in the least fit her for thinking out methods of her own. . . . And now see her with an unfolding human character committed to her charge; see her profoundly ignorant of the phenomena with which she

<sup>4</sup> *Education*, p. 55.



has to deal. . . . She knows nothing about the nature of the emotions, their order of evolution, their functions, or where use ends and abuse begins.”<sup>5</sup> One sentence more from Mr. Spencer: “Some acquaintance with the first principles of physiology and the elementary truths of psychology is indispensable for the right bringing up of children.”<sup>6</sup>

Before education can be what it should and may be, there should be introduced into the curriculum that which may perhaps be called the study of human nature; children should in a noble way be trained to see what is in man as they are trained to find rare plants in the field and moss agates in the mountains. More careful nurture in the home will swiftly follow, and that in turn will not tolerate systems of culture in which all pupils are treated as if they were unplastic, and cast in one mold. In the building of a palace, granite is used for foundation, marble for walls and statues, precious stones and fair colors for ornamentation and decoration. All inorganic things are not presumed to be exactly alike; much less is there monotony among human souls. Shelley and Kant were no more alike than a lark and a dray-horse, yet in England both would have been put into the same intellectual hopper. Mrs. Browning and Adam Smith were at opposite intellectual poles, yet in our public schools they would be compelled to submit to the same discipline. Better no training than that which tends to efface individuality.

This paper emphasizes the principle that each child is at first a combination of streams of tendency from past generations, with mysterious elements of personality to which appeal can be made. If left to himself, he will go wheresoever those streams may tend. But the tendencies may be modified, the evil may be allowed no congenial air in which to grow, and be practically eliminated, while the good may be immeasurably strengthened by a new and better environment. Education should bring to bear on child-life such influences as will cause imperfection and bias to disappear and lead to the fullest possible development tendencies to the true, the beautiful, and

<sup>5</sup> *Ibid.*, p. 58.

*Ibid.*, pp. 63-64.

the good. In order that its ideal may be reached, education must be intelligent and work according to a plan: it must know the pupil better than books; it must be fully persuaded that the culture of an immortal spirit is as great a mission as the exploration of the stellar universe, and must always adapt methods to personalities. The practical difficulty can be largely overcome by training parents and teachers in knowledge of child-life. In order, so far as possible, to gain this, not only pupils, but their ancestry also, must be known. A teacher will be able to do better work for scholars if he knows something of their fathers and grandfathers. Blood always tells. Properly understood, pedigree of human beings is a more worthy study than chemistry or astronomy. Education should evolve that which is best in its object. Jean Paul says, "It is only mediocrity which supplants that of others by its own." The Master said He came not to destroy, but to fulfill. The best teacher never seeks to efface an individuality, but by effacing himself seeks to draw out to full and beautiful proportions the image of God in every child born into the world.

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## DISCUSSIONS.

### THE FORTY-SIXTH MEETING OF THE MASSACHUSETTS STATE TEACHERS' ASSOCIATION.

One of the most successful meetings of the Massachusetts Teacher's Association was its forty-sixth, recently held in Worcester. The attendance was large, and the high character of the exercises secured for them thoughtful attention to the very close of the convention. Upon both days the morning program called together the entire association, but during the second afternoon a division into high, grammar, and primary school sections was effected. It is understood that the association is chiefly indebted to its lamented president, the late Dr. Lambert of Fall River, for the excellence of this recent meeting. Inasmuch as eleven principal subjects appear upon the program for the two days, the principal speakers being several more in number, anything like a complete report of the proceedings is entirely out of the question. It may be possible, however, to offer some comment of a general nature, and then to speak at slightly greater length in regard to one or two addresses which are worthy of special consideration. And first we may note that the exercises were not of a narrow or provincial character. The truth of this observation will be apparent to any one who observes the subjects of the various addresses, and also notices that many of the speakers either have no connection whatever with Massachusetts school affairs, or that their connection is somewhat remote or of no long standing.

The address of Dr. Stanley Hall upon "Recent Changes in the Primary and Grammar School Work in Europe," and that of Dr. Klemm upon "Lessons Learned from European Schools," may be considered together. They afford a good illustration of the non-provincial character of the meeting just referred to, and serve to emphasize the necessity, which is increasingly felt, of immediate and accurate knowledge of present phases of educational activity in other lands, as well as the need of a thorough knowledge of their educational history. It is greatly to be regretted that so few American teachers find it possible

to secure adequate opportunities for the inspection of European schools. Quite as much ought we to regret that so few of us possess that command of French and German which readily unlocks the treasures of the educational literatures of these peoples.

"The Teacher's Field of Study" was the subject of the address delivered by Dr. Dunton of the Boston Normal School. The paper was in full keeping with the reputation of its author, and its recommendations and advice carried with them great weight, because of the general conviction that they were the outcome of Dr. Dunton's ripe personal experience. I am obliged to pass with a simple mention the paper read by Superintendent Howland of Chicago, on "The Purpose of the Public School."

One of the strongest features of the Worcester meeting was the address delivered by State Superintendent Draper of New York upon "A Teaching Profession." Its strength depended in about equal measure on the rugged good sense of the views enunciated and the marked personality of the speaker. Such efforts upon educational topics as come from Mr. Draper's pen or voice are characterized by a certain "taking" quality, one which is generally conspicuous by its absence from educational utterances. Unless I mistake this quality is the outcome of Mr. Draper's preparation for, and experience at, the bar, emphasized undoubtedly by his contact with successive legislative bodies at Albany. The subject of his address upon this occasion had nothing of novelty to command attention. Under one caption or another it has been repeatedly discussed at meetings of the Massachusetts Association, but, so far as I know, never with the clearness, precision, and force which characterized Mr. Draper's treatment of it. The address has been printed, and a careful perusal of it is recommended to all readers of the EDUCATIONAL REVIEW.

Perhaps the most suggestive feature of the entire program was President Eliot's discussion of "The actual work accomplished in an average Massachusetts Grammar School." Not that I find it possible to agree at all with the distinguished gentleman's method of estimating either the extent or value of the work so accomplished. Indeed, I think his method as absurd as would have been the attempt in former years to determine the value to a student, of his Greek study at Phillips Academy or the Boston Latin School, and subse-

quently at Cambridge, by noting the time which Prof. Felton would have required to glide over all the Greek text laboriously translated by the student. But nevertheless President Eliot's address was a delight. Beginning in a conciliatory vein—which I suspect he would not have employed a few years ago—adhering closely to the subject under consideration, the simplicity of his treatment, the readiness and exactness of his language, his spirit of candor and fair play, all combined to hold the closest attention of his auditors and to compel applause even where they did not carry conviction. Wherein, then, it may be asked, lies the usefulness of the address? I have space to attempt only the briefest reply. "Routine is always easier than intelligence," is a maxim true in all departments of activity, but pre-eminently true in the domain of school work. Nowhere is it so easy to fall into "wooden" ways of procedure. In no other occupation is there so strong a tendency to take up the work of predecessors in a wholly unthinking spirit, and to carry it on—but not forward—in the same way. Nothing but constant and thoughtful study of his work can preserve the teacher from complete slavery to traditions. At educational gatherings one is exposed to influences of two sorts, but in very unequal measure. The first sort may be spoken of as the "soothing syrup" variety. It is chiefly concerned in glorifying what has been and is. If we already have a comfortable feeling of satisfaction with present performances, this influence confirms it. If, perchance, we have become a little uneasy or disquieted in regard to present conditions, this influence comes to us as a soothing lullaby. Such influence secures present repose, but is fatal to progress.

The other variety comes not to bring peace, but a sword. Its great merit is that it compels thought. Its utterances may not be entirely and literally true. We may be able to partially controvert them. But they possess a measure of truth. We are compelled to acknowledge the partial truth, and likely enough are exasperated at being so compelled. Of this last variety President Eliot's address was an admirable example. Its great merit lies in obliging us to examine carefully into our whole body of faith and practice, and such examination is well nigh certain to result in innovation. Whether it so results or not, we are greatly benefited by having made the examination.

But, in conclusion, I do not wish to be understood to overvalue educational utterances which are wholly destructive in

their tendency. It may be acknowledged that constructive criticism is, after all, the more desirable sort. There are occasions, however, when the old building must be razed to the ground, before the new structure of greater beauty, symmetry, and strength can rise in its place. It behooves the entire teaching profession to give hearty welcome to all utterances which are characterized by the tone and temper of President Eliot's Worcester address. Let us approach them not "to contradict and confute, nor to believe and take for granted, nor to find talk and discourse," but rather, "to read, mark, learn, and inwardly digest."

G. I. ALDRICH.

QUINCY, MASS.

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#### THE ILLINOIS STATE TEACHERS' ASSOCIATION.

The Illinois State Teachers' Association, in session at Springfield from December 29 to December 31, was in many respects a remarkable body. Six hundred persons were present as members of the association; and the enthusiasm was quite as marked as the numbers. The exercises, too, were of more than ordinary ability and value. Some of the papers read and the addresses delivered were marked by unusual power and wisdom. Among these may be mentioned the address of the president, Superintendent Walker of Rockford. Mr. Walker spoke of the recent legislation concerning the schools, and especially of the compulsory education law which went into effect July 1, 1889. He went on to show that this law was based upon a sound principle; that the condition of things in the state required its enactment; that its effect had already been largely to increase the attendance upon both public and private schools. He declared that the law ought not to be repealed, and that it ought not to be so amended as to impair its efficiency. He gave, also, a very thoughtful statement of the school-book question, sustaining his position by undoubted facts derived from the experience of different states.

Three solutions of the school-book problem were mentioned: (1) the manufacturing of the books by the state, and the requiring of the use of these books in all the school districts; (2) securing the books for the entire state from publishing houses by contract, thus involving state uniformity; (3) empowering the local school authorities to furnish books to

each pupil gratuitously, the same to be paid for from the public funds—the books not to be owned by the pupils, but only to be loaned to them. Mr. Walker gave very good reasons for preferring the last of the three methods.

Another notable address was that of the Rt. Rev. John L. Spalding, Roman Catholic Bishop of Peoria. His subject was, "Religious instruction in state schools." He declared that there are three views on this subject. According to one of them, religion has no place in education. The effect of religious teaching is always injurious to the intellectual and moral status of the pupil. In his comments on this sentiment the eloquent speaker quoted with great effect from a recent French writer, Issaurat, who takes the most thoroughly materialistic view of life, its surroundings, and its destiny. Another opinion is that religious instruction is the essential thing in the education of children. Around the idea of God cluster all inspiring thoughts, all uplifting impulses. To neglect religious instruction is to neglect the principal thing in the development and perfecting of the human soul. This view is held by Christians, as a rule. It is more strongly insisted upon by certain Christian bodies than by others. But in substance, it is common to them all. By a third class of persons the importance of religious instruction is conceded, but, on account of certain elements in the social and political condition of our people, it is not thought wise to impart this instruction in the state schools.

Public sentiment on this subject has changed since the first establishment in America of the free public school. At that time the schools maintained by public tax were considered the proper institutions for the teaching of religion. The religious faith of the New England communities was clearly and faithfully taught in these schools. But in those communities at that time there was a degree of unity in religious belief which has since passed away. Since that time, Christian denominations have multiplied and differences have come to exist between these different bodies in respect to articles of belief. This makes it impossible to impart fully the tenets of any one denomination in a school supported by all the people. The result has been, to a large extent, the exclusion of religious teaching.

Bishop Spalding took occasion to commit himself fully in favor of the principle of compulsory education, and nothing that he said during his entire address elicited such hearty and

long-continued applause as this. He also paid a glowing tribute to the power and worth of the English language, and to the necessity for its use in the schools. The substantial soundness of American public sentiment was dwelt upon, and, although certain dangers and evil tendencies were pointed out, still the general tone of the address was hopeful and inspiring.

The Bishop was followed by George P. Brown, editor of the *Public School Journal*. Mr. Brown's paper was ably written, and logically arranged. It was a lucid exposition of the third view to which Bishop Spalding had referred. Mr. Brown expressed himself strongly as to the value of religious instruction; but he maintained that such instruction, so far as it relates to dogmas, should be imparted in the homes, in the churches, and in the Sunday schools.

It was interesting to notice the evidences of the prevalence of certain sentiments among the multitude of teachers. The feeling in favor of the compulsory education law now in force in the state was exhibited in a great variety of ways. No speaker could refer to it without eliciting emphatic applause. In the resolutions adopted the subject is referred to, and the Association is fully and formally committed to the support of the law. The law is approved because it is in the interest of humanity and of personal liberty, and because its effect will be to promote the intelligence and the manly and womanly worth of the rising generation. The strongest and most unequivocal utterances on these points were demanded by the assembly.

The same may be said, though perhaps in a lesser degree, of the proposition to furnish text-books free to the pupils in the public schools. It is clear that the teachers have a dread of the great aggregation of pecuniary interests that would be involved in the manufacture of the text-books by the state, and also, to some extent, in the supplying of these books by a general state contract. It was declared that free text-books savor no more of paternalism than free tuition, free school buildings, free fuel, or free libraries.

The convention also took proper action in regard to the Columbian Exposition to be held in Chicago in 1892-93. The fact that this great celebration is to be held within the borders of the state of Illinois was duly considered and provided for. A committee of fourteen was appointed to represent the educational interests of the state. It is the duty of this committee



to secure from the National Commission and the Board of Directors such facilities in the way of grounds as may be required for the state exhibit. They are also to secure from the state legislature such appropriations as shall be necessary to erect buildings and collect materials for the exposition. The committee is composed of well known, successful educators, who have a reputation for scholarship as well as practical good sense.

NEWTON C. DOUGHERTY.

PEORIA, ILL.

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#### PUBLIC DISPUTATIONS.

The holding of a public disputation at Woodstock College, Maryland, a short time ago, has called forth the expression of a desire to see the character and pedagogic interest of the exercise set forth in this REVIEW. Disputation is an old field of activity with the Society of Jesus. Leopold von Ranke, narrating the changing fortunes of the great religious and theological war of the Reformation, says that "the Jesuits lectured with the utmost diligence, even during the holidays, reviving the practice of disputations, without which they declared all instruction to be dead. These disputations, which they held in public, were conducted with dignity and decorum, were rich in matter, and altogether the most brilliant that had ever been witnessed."<sup>1</sup>

The theses drawn up by the young defender at Woodstock, on the occasion referred to, were not posted up at a church door, but were printed in a pamphlet, and distributed months before to all whom they might concern. They are 278 in number, filling sixty-seven pages octavo. The title page announces that they are to be defended by Father George De La Motte; and the challenge is given to the world in these terms, "*Facta cuilibet arguendi facultate*"—all comers are free to assault. The champion indites a respectful dedication to his Eminence Cardinal Gibbons; who, in fact, presided during the four hours' intellectual tournament. To make sure of a body of well-prepared objections, a number of distinguished men are usually offered, long beforehand, a reserved place in the lists. Twelve such appeared on this occasion from the different learned bodies of the country. According to custom, every one kept his own secret as to the point which he wished to assail.

<sup>1</sup>*History of the Popes*, Book v, 3.

The language used was Latin; the form syllogistic—a form admirably adapted to the conduct of incisive argumentation, and the economizing of time. To defend these in this scholastic or syllogistic style, no man will stand up before the world who has not first possessed himself of his conclusions by a rigid process of demonstration. The objector taking the peremptory stand against him, which in logic is called “elenctic,” throws the doctor back on the defense called “apologetic.” And this defense must cover as well the ground of demonstration on which the defender chooses to rest his tenets, as their consequences, and their coherence with other truths, and every other issue or avenue of approach.

Wherefore, undertaking to refute, the objector states the precise contradictory of the thesis which he selects. This being rebutted, he proceeds to establish it by the line he thinks fit to follow. As the argument advances, all concessions made by the defender, in his successive distinctions and subdistinctions, remain good as common admitted ground, and therefore as a basis for the argument *ad hominem*, if any inconsistency is detected. The objector assumes at each successive step the part denied, which he has to prove if he will make good his original exception to the thesis. At some points he finds the road diverging into two or more lines of argumentation. To save himself, lest he run against a wall and have nothing further to urge, he will have foreseen at each step these side issues, by which, when driven to the end of one course, he may recover himself and start out on another. Quibbling, playing with words, returning to a ground once cleared, wasting time through imperfect syllogisms, asking too often for reasons, introducing parentheses, are all to his discredit, in presence of a distinguished audience, consisting on the recent occasion, of some eighty learned visitors and critical students. In the daily practice of the schools such talking against time is promptly cut short by the authority presiding.

Hence, in the objector's grasp, the difficulty which he means to propound must practically reach the fullness of a scientific demonstration. And the clearest grasp of the most solid difficulty does not enable him to advance far in the face of an able defender, but he finds that his acutest forecast has only approximately determined where he is lodged at any given point in the argumentation, and what his logical responsibility at the

moment is. If he has not foreseen the precise face which the defense assumes, if he has failed to define an element to his own mind, or to see the bearings of the divers parts of an argument, he will find himself in the familiar situation of one who could have been eloquent on the subject if he were alone, who could have written elegantly and amplified eruditely on the dead page; but not so now in the face of a living antagonist, who lets nothing pass, holds to everything once granted, and admits nothing that is once denied, unless it is demonstrated.

Meanwhile, each of them, if they are accomplished men, finds time enough while catching the other's reply to shape his immediate course. For every syllogism as presented is repeated carefully by the defense to make sure it is the identical one; then, as returned saddled with its distinctions, it is taken up exactly by the objector. Of his part it may be said, that his subject will be a rare and rich one if it holds out longer than half an hour. Oftentimes, a quarter of an hour, or twenty minutes, will exhaust the best prepared difficulty, and reduce the objector to the necessity of changing his middle term; that is, waiving his exception, and starting again from some other side. But by this time he usually expects to get the ready relief of hearing the time called. And he falls back and draws breath, happy to see the next run in.

As to the Latin language, I may say in brief that no instrument for the expression of thought, philosophical, clear, and fine to the last degree of acuteness, can compare with a tongue which was elaborated, in this very practice, from the twelfth century onward, and that in the sixty-six universities of Europe. After the Renaissance, scholastic Latin developed into the fullness and richness of that Ciceronian style which the colleges cultivated with so much ardor; but it retained the extreme subtleness and keenness of edge which renders it possible, as any one may see for himself in a Peripatetic lexicon, to express a world of complex distinctions, each in a fixed and mathematically precise word; as when the term, "formaliter," with its sixteen different meanings, is in any given proposition fixed and stereotyped in its meaning here, by co-ordinating it in a distinction with some one of its sixteen co-relatives, and granting or denying the proposition under this precise and exclusive aspect.

If it be asked, how can such acumen be developed in students, it must be borne in mind that it is the result of daily

practice, during seven mature years, in philosophy and theology. The following rule of the Jesuit *Ratio Studiorum*, which applies, indeed, directly to certain more formal or monthly disputations, will sufficiently exhibit the method of every day: "Let the professor consider that the day of disputation is not less laborious and useful than that of his own lecture; and that all the fruit and life of the disputation depends upon him: In presiding over his own disputation, let him be as if he were identified with each of the contestants; let him show approval if anything good is advanced, and maintain the strictest attention on the part of all. If any argument of special difficulty is proposed, he may throw out a hint here or there to support the defender, or to direct the objector: let him not be silent a long time, nor yet be always talking, that the students may bring out what they know. What is so brought out he can amend or improve; let him bid the objector proceed, as long as his argument carries weight with it; let him urge the difficulty farther, nor connive at it if the objector slips off to another line of argument. He is not to allow an argument which has been well solved to be carried on farther, nor an answer which is not solid to be long kept up; but after a sufficient dispute, let him briefly define the whole matter and explain it."<sup>2</sup>

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THE FOURTH ANNUAL MEETING OF THE AMERICAN  
ECONOMIC ASSOCIATION.

The fourth annual meeting of the American Economic Association took place in Washington during the Christmas holidays. It was by all means the most successful convention that the Association has ever held—successful not only in the attendance and in the quality of the papers submitted, but also in the mutual helpfulness and stimulus to the members present. The results of the meeting may be discussed under three heads: the papers presented, the new work undertaken, and the general influence on economic thought.

A word as to the papers. The first place must naturally be given to the president's address. General Walker has been so

<sup>2</sup> Rule 18 of the "Common Rules for the Professors of the Higher Faculties," given in *Monumenta Germaniæ Pædagogica*, v., 292.

long *facile princeps* among American economists that he has been re-elected president from year to year—an honor again conferred upon him at this meeting. The honor is not without its disadvantages, for it must be a trying task to deliver, time after time, a presidential address which ought to be fresh, striking, and stimulating. President Walker, nevertheless, acquitted himself with distinction on this occasion, giving a masterly review of the four chief topics now engaging popular attention—nationalism, the single tax, the monetary problems, and the immigration question. It may have occurred to some economists that the president's address might more profitably have been devoted to a review of scientific thought among the American economists themselves, summing up the salient points of any distinct advance upon the work of their predecessors. But it may be that General Walker shrank from this, because of the obvious necessity of calling attention to his own work, which has formed so signal a part of this body of new thought. It is to be hoped, however, that the incumbents of the presidential chair on future occasions, whoever they may be, will devote a portion of their addresses to this subject.

Of the purely theoretical papers, one of the most striking was presented by Prof. Giddings of Bryn Mawr on the "Concepts of Utility, Value, and Cost." So much that is superficial and inane has been written on these topics, that it was a veritable pleasure to listen to an analysis, the result of such clear thought and expressed in such straightforward style. None but the clearest thinkers should grapple with such a problem. Prof. Giddings has shown that he is fully acquainted with all that has been said on the topic, and his paper served to throw much light on the complicated questions involved.

The subject of transportation was represented by Prof. Tausig of Harvard, who read an interesting paper on the theory of railroad rates. Of more immediate interest were the papers on statistics, especially the report of Mr. Carroll D. Wright on the general progress of statistical investigation in this country, and the remarkable paper of Prof. Henry C. Adams on statistics as a means of correcting corporate abuses. Noteworthy also were the addresses of Prof. Dewey on the limits of publicity, and the exceedingly valuable papers by Messrs. Fernow, Pinchot, and Bowers on the forestry question. Finally, the readers of this REVIEW would have been especially interested

in the report by Prof. Patten on the educational value of political economy, and in the discussions both of this topic and of the subject of industrial education, in which such men as Professors R. M. Smith, Folwell, and Felix Adler took part.

Hitherto the annual publications of the Association have consisted of six monographs on scientific subjects. In future all publications are to be supervised by a specially elected publication committee, and the scope of the work is to be enlarged. It has been decided to begin the publication of translations of the chief economic works in foreign languages, especially those which have contributed to a decided advance in economic theory. For the coming year a selection will be made from among the three prominent German writers, Knies, Wagner, and Cohn. It is hoped that one volume will be issued annually, thus bringing before the American public the best results of foreign thought.

Steps have also been taken looking to the regular issue of a series of popular articles and leaflets on economic questions of live interest to the people at large. This is to supplement the purely scientific work, and is expected to exert a signal influence in disseminating information from a non-partisan standpoint. In other words, the American Economic Association desires to keep in touch not only with the special student, but with the intelligent population of the country.

The general impression left by the recent meeting is to the effect that we are fast beginning to have a distinctively American school of political economy—American not so much in its method as in its independence, its aims, and its catholicity. Only a few years ago what little there was of economic science in this country was exclusively in the hands of the most rigidly "orthodox." It was the English classical school, writ not large, but small. Then came the exodus of the American student to Germany, and his return home with great ideas of reform and improvement. At first the young American professors were almost all followers of the new German methods. And it is not to be denied that the influence of the historical school was strong and abiding. But with the emergence of the American student from the swaddling-clothes of the German university, it was gradually recognized that something more was to be accomplished. The Germans have done a good work in their day, and a knowledge of what they have accomplished is indispensable to all modern students of economics.

But they stopped short in their development; or rather they pushed it to an extreme. The Austrian reaction arose, and made an energetic protest. The Italian reaction developed, and had a considerable success of its own. In fact, it may be said that the best work in economic science to-day is being done, not by the Germans,—who have failed to maintain their reputation for wide knowledge of foreign literature and for catholicity of thought,—but by the Italians.

So also in America. The great body of American economists are no longer content with the orthodox doctrines of the classical school. But on the other hand they have broken loose from the complete domination of the German methods.

They are beginning to study American problems and in a distinctively American way. They have no exclusive bias for induction or for deduction, for history or for theory. They welcome all good work, by whatever method obtained, from whatever source derived. But they are gradually building up a body of doctrine which is *sui generis*, and which affords in some respects an original explanation of peculiarly American problems. If the recent convention had done no more than merely emphasize this fact, it would have been a success. It has imbued all of us with confidence and filled us with high aspirations. It has also knit us more closely together, and has opened up to us the vista of boundless possibilities and of arduous work.

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## EDITORIAL.

From Berlin comes the announcement that the following are actually serving as members of the Commission of Inquiry concerning school reform: Dr. Albrecht of Strassburg, government councilor; Dr. Bertram of Berlin, member of the city school council; Dr. Deiters of Coblenz, member of the provincial school council; Count Douglas of Aschersleben, deputy; Dr. Eitner of Görlitz, director of Gymnasium; Dr. Fiedler of Breslau, director of Oberrealschule; Major Fleck, representative of the Minister of War; Dr. Frick of Halle, director of the Waisenhaus; Dr. Frommel of Berlin, chaplain of the garrison; Dr. Frowein of Elberfeld, manufacturer; Dr. Göring of Berlin, author; Dr. Graf of Elberfeld, physician; Dr. Güssfeld of Berlin; Dr. Heereman of Münster, deputy; Dr. Hinzpeter of Bielefeld, privy councilor; Dr. Holzmüller of Hagen, director of Höhere Bürgerschule; Dr. Hornemann of Hanover, gymnasial teacher; Dr. Jaeger of Cologne, director of Gymnasium; Herr Kaselowsky of Berlin, commercial councilor; Dr. Klix of Berlin, member of the provincial school council; Dr. Kopp of Breslau, bishop; Dr. Kropatschek of Berlin, editor; Dr. Kruse of Dantzic, member of the provincial school council; Dr. Matthias of Düsseldorf, director of Gymnasium; Dr. Matzat of Weilburg, director of agricultural school; Dr. Moseler of Trêves, director of the theological seminary; Dr. Paeler of Wiesbaden, director of Gymnasium; Dr. Rehrmann of Gross-Lichterfelde, instructor in the military academy; Dr. Paulsen of Berlin, professor in the university; Dr. Schauenburg of Crefeld, director of Real-Gymnasium; Dr. Schlee of Altona, director of Real-Gymnasium; Dr. Schottmüller of Berlin, privy councilor; Dr. Schrader of Halle, curator of the university; Dr. Schulze of Berlin, director of Gymnasium; Dr. Tobler of Berlin, professor in the university; Dr. Uhlig of Heidelberg, director of Gymnasium; Herr Uhlhorn, abbot of Loccum; Dr. Virchow of Berlin, professor in the university; Dr. Volkmann of Schulpforta, director of Gymnasium; Dr. Zeller of Berlin, professor in the university. In addition, Privy Councilors Hofpner, Stauder, and Bohtz are named as special representatives of the Minister of Education.



It is difficult, at this distance, to gain a very accurate idea of the character of the commission. Virchow, Zeller, Paulsen, Tobler, Volkmann, Schulze, and Uhlig are strong names: few stronger ones could be found in all Prussia. But mediocrity seems to have an undue representation.

The opponents of the present educational régime complain, with apparent reason, that they have not been fairly treated in the make-up of the commission. The Real-Gymnasium has only one fourth of the representation accorded to the Gymnasium. But a single mathematician, Holzmüller, is appointed, and only one natural scientist, Virchow. It is not impossible that the commission has been constituted so as to insure the return of a predetermined report. It is sincerely to be hoped that this is not the case; for in many respects the commission is the most important educational body of our time, and its conclusions ought to be wholly unbiased. Prussia's example in matters of this kind is of capital importance, not only for Germany, but for the civilized world. Von Humboldt and Schulze made the higher education of Prussia the most efficient in existence. It is a matter of some importance to know whether the product of their genius is to be discarded, reformed, or developed. That the emphatic, not to say vehement, educational pronunciamento of the Emperor has had its effect, is made clear by the conclusions already arrived at by the commission.

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The annual reports of the presidents of Johns Hopkins and Cornell universities and of Columbia College, have recently been issued. They constitute a very interesting and instructive report of progress at those great centers of learning. President Gilman notes with pardonable pleasure the improved financial condition of his university, and very frankly adds a succinct statement of the finances of the institution. Their condition was serious indeed, and it was an ominous moment in the development of the higher education in America, when thought was devoted to solving the problem as to "what departments of the university work could be abandoned with the least amount of injury." During the year the degree of Bachelor of Arts was conferred upon thirty-seven candidates, and thirty-three candidates were promoted to the degree of Doctor of Philosophy. One hundred and eighty-four persons have been advanced to the degree of Doctor of Philosophy since the

university was opened. The time has come when larger and better buildings are needed, and President Gilman urges that early provision be made to house properly both the library and the advanced work in literature, history, and philosophy.

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President Adams, too, speaks of a prosperous year, and reports that the number of students at Cornell reached 1330. The needs that he emphasizes are an annex to the gymnasium, a hall for the collection of plaster casts, a building for the use of the School of Law, and a building for the department of agriculture. Dean White makes some interesting statements regarding the practice of admission by certificate. One hundred and fifty-six students were admitted to the freshman class in that way in the autumn of 1889. Of the practical working of the system as it affects the student, the Dean says: "The applicant passes easily and freely from the school to the university. He is not required to review a number of topics which have found their due place and have served their purpose in the earlier years of the school curriculum, but enters upon his university course free from the jaded feeling which would often result from such an excessive and needless strain of preparation. He is relieved from a preliminary journey to the university, which is frequently long and costly—the sequel of which may be doubtful, if not unfavorable—and receives at any time during the year, instead of at certain fixed and often inconvenient dates, a decision as to his actual status of preparation. Leisure may thus be afforded him to strengthen his weak points in advance, to concentrate his attention upon especial branches, and to anticipate occasionally a part of the work required after entrance."

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The report of President Low is of more than usual interest, not only because it is his first report, but also because educational changes of the first magnitude have been made at Columbia during the year. Here, more fully than anywhere else in this country, has the distinction between the college and the university been grasped and embodied in the organization of the same institution. President Low finds a difference not only pedagogic, but financial, between a college and a university. He says: "A college, using the word in a pedagogic sense, which sets before itself, as its aim, instruction in a definite curriculum, may possibly have command of means enough. But a univer

sity, again speaking pedagogically, never can have enough. By a university I mean an institution where instruction can be had in the highest reaches of every known department of knowledge, and where researches are always being carried on to widen the domain of what is known and taught. Because knowledge grows, the university must grow with it, and such growth is as costly as it is essential."

We miss in this report a feature which for some years past has made the reports of the president of Columbia College especially valuable to students of education. We refer to the appendices containing the statement in detail of the work of the several departments and schools. The publication of these details is the easiest and cheapest way of putting before scholars a record of the educational work actually done at any given institution. Without them a president's report is of very much less value and importance. It is to be hoped that their omission in this case is unintentional, and that they will be restored in future years.

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The trustees of the John F. Slater fund announce that, in view of his election as a Bishop of the Methodist Episcopal Church, South, Dr. Atticus G. Haygood will retire from the office of general agent of that fund in May next, after a successful service of nearly nine years. In order that there may be no break in the continuity of the Slater work, the trustees have already invited Dr. J. L. M. Curry, the general agent of the Peabody Education Fund, to assume the duties which Dr. Haygood will relinquish. Dr. Curry has been elected a member of the Slater board, and has been appointed chairman of the educational committee, the other members of which are Senator Colquitt of Georgia, Rev. Dr. Broadus of Kentucky, the president, the treasurer, and the secretary of the board. This committee will give special attention during the current winter to the subject of industrial education and manual training. The trustees of the Slater Fund are to be congratulated on securing the official co-operation of Dr. Curry, than whom no one is better informed regarding the details of the educational work now being carried on in the South.

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A forcible appeal has been issued by the American Society of Naturalists, addressed to the several college faculties of this

country. It asks that an examination in elementary science be included in the requirements for admission to college. Some weeks since, the association of officers of colleges in New England, ten college presidents being present, unanimously adopted a resolution indorsing the society's appeal.

We call attention to it at this time for the purpose of giving it most emphatic endorsement. One of the most serious faults in our present educational program is the postponement of the study of nature until late in the course. In many parts of the country the study of natural science is excluded from all schools below high school grade, from the classical or college preparatory course in the high schools, as well as from the first year or two of the classical course in the college. The result is that a very large proportion of our school population conclude their formal education without any knowledge of these subjects whatever.

No proposition in education is more certain than that the systematic study of nature should begin in the earliest period of school life. The instinctive curiosity of childhood puts many questions in regard to natural phenomena, that the school makes no attempt to explain or to answer. We are glad that the Society of Naturalists are lending the weight of their authority and influence to the righting of this pedagogic wrong. They ask for the teaching of science in all grades, beginning with the simple object lessons of the kindergarten and primary school. In no way can this be more quickly brought about than by including an examination in elementary science among the requirements for admission to college. The higher influences and stimulates the lower. What the colleges demand will always be furnished by the secondary schools. If this appeal is heeded, as it should be, a long step forward will have been taken in our educational development.

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The last annual report of the city superintendent of schools in New York, states that during the year 1889 not less than 5000 children, reported from the schools as truants, in accordance with the compulsory education law, were detained at home by their parents. There is good reason to believe that poverty was the cause of the detention in a considerable proportion of these cases. In the last Brooklyn report the statement is made that poverty was the cause of the detention from

school, of 422 children. In other of our large cities, were similar statistics collected, a similar condition of affairs would, doubtless, be revealed. It is useless, for the present purpose at least, to seek the cause of this poverty. It may be, in most cases it probably is, the result of the thriftlessness and depravity of the parents. The facts that concern us now are that these children are hungry and are not fed, that they are naked and are not clothed, that they are ignorant and are not taught. Orphan asylums and other charitable institutions, excellent as is the work they are doing, do not reach such cases as these. The law says that the child must attend school; but the machinery of the law breaks down when confronted by abject poverty. Indeed, in New York state, it breaks down, so inadequate is it, when confronted even by the opposition of parents. What, then, is the remedy? A compulsory law that would really compel, that would punish parents who neglect their children, and that would require local authorities to enforce its provisions, would accomplish much, but it would not accomplish all. There would still remain many cases of destitution that could be alleviated only by other, and far different, means. Surely it is possible to do more than is done at present to educate the children of the very needy, and to prevent the offspring of the vicious from following in the footsteps of their fathers. The problem is one worthy to tax the ingenuity of the statesman and to enlist the noblest impulses of the philanthropist.

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How can the superintendent of the school system of a large city best reach the rank and file of his teachers? This question has been attracting attention of late in New York city, and quite recently a system of grade meetings was inaugurated and is now in full operation. The teachers of that city have been divided up into convenient groups, according to locality and grade, and the assistant superintendents meet them regularly to give instruction in the details of the new course of study. In smaller cities, where the teaching force is not large and the duties of the superintendent not too onerous, the practice generally prevails of frequently convening both principals and teachers for instruction in all matters concerning the welfare of the schools.

But in cities like New York it is manifestly impossible

to assemble all the principals and teachers in one body for purposes of instruction. Hence the superintendent, if he wishes to reach his teachers, has but two courses open to him: he may meet the teachers by grades or sections, or he may meet the principals only, and transmit through them the necessary instructions of whatever nature. In matters of lesser importance, that relate chiefly to school organization and government, the best and most practical method of reaching the class-room teachers is undoubtedly the latter. This may be called by way of distinction the army plan, and for certain purposes it has obvious advantages. It is by all means the easiest and quickest way to issue orders and to put them into execution, whatever may be said of its failure in other important respects. It has also the merit of convenience, and it tends likewise to establish and maintain proper respect for superiors and subordination to authority. For certain minor ends, such as, for example, communicating the rules of the Board of Education with reference to admissions, modes of marking, and so on, it is undoubtedly the most economical and efficient plan. When, however, it is desired to give specific instruction in methods of teaching, this system is open to very serious objections.

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Assume that new methods in drawing or science-teaching are to be introduced into the schools. The superintendent calls together his principals and tries to saturate them with his own ideas. But herein lies the practical difficulty: for not all principals are easily saturated. Some, perhaps, may be impervious to anything that is new; others may be out of harmony with the proposed changes; and not a few may be good receivers but poor transmitters. If principals were sponges, and the superintendent or his assistants could fill them at will and by judicious squeezing exhaust their contents in any school, this plan of mediate instruction would be most commendable.

The great problem in every department of human industry is how to secure the greatest degree of efficiency or productiveness at the least cost, or, otherwise stated, with the least expenditure of labor and time. All mediate processes that consume energy and decrease efficiency are wasteful and should be eliminated when possible. So, to avoid waste of effort in

education, the superintendent should convey to his teachers his own messages, if he has any for them. Personal enthusiasm, sympathy, the stimulus of immediate contact, are of the utmost importance. The most brilliant orator would fail to hold and interest his hearers through the medium of a phonograph. There is no place in modern education for the proxy superintendent.

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We are glad to learn that at the recent meeting of the Illinois State Teachers' Association, the little-understood subject of elementary science teaching received a large amount of careful attention and discussion. Nearly half a dozen papers, some of them very striking, that dealt with this topic in some form or other, were presented. A report was adopted which declared the purposes of elementary science instruction to be: (1) training to accurate observation, to careful comparison and generalization, and to correct and fluent expression; (2) to develop a sympathetic interest in nature for its moral effect as well as for its influence upon the intellectual activities; (3) to develop the causal idea, and to teach the uniformity of natural processes; (4) to furnish material for reading and language training.

For the subject-matter, zoölogy was preferred for the lower grades. After three years of study in zoölogy, the science work, it was thought, should be related as closely as possible to the instruction in geography. Such a program is at once intelligent and comprehensible, and it is sincerely to be hoped that the Illinois teachers will not rest content with passing resolutions about it.

One fact, of great importance to elementary science teaching, must not be overlooked in carrying out plans of this kind. Facts of everyday experience, those which it is most profitable for the young child to observe and to study, may be under one aspect physical, under another chemical, under a third biological. The classification of the fact as belonging to one branch of science rather than another is of small importance for the child. The fact itself, its conditions, causes, and consequences, are the main thing for him. Elementary science teaching must remain elementary. It need not be limited to some one of several branches of science. It should rather involve something of many.

VII.

REVIEWS.

**Lectures on Language and Linguistic Method in the School.** By S. S. LAURIE, LL.D., Professor of the Institutes and History of Education in the University of Edinburgh. New York: Macmillan & Co., 1890, pp. viii., 147.

The lectures gathered together in this little book were delivered at the University of Cambridge, and subsequently in London before the College of Preceptors. They have also been published singly in *The Educational Times*, beginning in June, 1889. Their delivery and publication have excited a widely spread interest, an interest due in part to their subject matter, but due even more to the brightness and vitality of Professor Laurie's presentation of a subject usually made dry to aridness. They are the work of an alert and resolute thinker, bent on saying openly but moderately the best he has to offer. The scanty limits of his space compel a compact and tersely suggestive rather than a sufficiently elaborated treatment. His aim is to give in outline, with such helps in illustration and application as can be given, a summary of what is the best way to teach language and literature to pupils before their university life begins. And in this he is highly successful, we might almost say completely successful, so long as he keeps to his theme. It must be said, however, that when Professor Laurie goes beyond his bounds into the relations of his subject to the mysteries of ethics and religion, we miss at times his usual penetration and strong common sense. Such, for example, are some of the remarks in his sixth lecture (pp. 87, 88). Take this one: "The finer organizations, by their innate force, pass from the preceptive morality of the boy-life into the ideal life of adolescence without effort and without teaching. The man has to be educated into it. The passage from the one mental condition into the other is what old theological writers described as conviction and conversion and regeneration. This it is to be born again. This is, fundamentally, Christianity." Whether this nebulous generalization would have enough Christianity in it to satisfy even Mr. Matthew Arnold's canons, is doubtful. It is more than doubtful whether it is proper to



Professor Laurie's theme, even if literature is to be made the the great helper toward this spiritual transformation.

But let us return to his proper theme,—method in teaching language and literature to pupils in the period previous to university life. For this formative period Professor Laurie argues with much force that language is the supreme instrument of culture. No exposition of his arguments can be made here, for they are put as tersely as may be in his book. His major premise, however, is that to secure this culture we must have, as a general study, "a concrete, subject which contains the abstract in its purest form and at the same time gives substance of instruction. This subject also must be universal in its character if it is to be effective for its end in the fullest sense." His minor premise is, "That subject is Language" (Lecture 1). Following up his conclusion that language, broadly speaking, must be the thing taught, he proceeds to inquire, how? And herein lies the especial charm and value of his book. The standpoint assumed is that of sympathetic insight into the psychological status of the pupil at every stage of his development. Given this, then it remains to discover and apply in teaching always and only what suits the pupil's condition. Here Professor Laurie is at his best. He is hygienic or nothing.

What, then, are the chief phases of linguistic teaching, according to the author? Clearly three: language used as substance of instruction, as a formal discipline (grammar), and as literature. Each of these is to be introduced in the order indicated. This is not unfamiliar as a division of parts. It is not mainly or notably new, but it is wholesome. Professor Laurie's entire sympathy with the using of language-material copiously and heartily for early teaching and his abhorrence of "grammar as grammar" before a boy reaches about twelve years of age, will be applauded strongly in our own country. His treatment of the second phase, the grammatical, is also happy. He would keep grammar, but keep it in bounds. The grammar stage he places at from twelve to sixteen years of age. It is indispensable in its place, and should be kept to mastery of the main principles with no linguistic riddles. "Beyond that general analysis which brings into relief the logical construction of a complex sentence, you do not help the boy" (p. 59). This is plain good sense about syntax, if there ever was any.

The third phase, language as literature, is to come last, though it begins embryonically while the other two are pro-

gressing. Here is the fruition and enjoyment of the preceding; and, short of this, final satisfaction is not attained on the side of the humanities. The book closes with a discussion of teaching foreign languages, taking Latin as a type, and incidentally sets forth what Professor Laurie regards as the reasons for retaining the classics in our scheme of education.

The chief value of the book, as a whole, is not in its systematic completeness. It seems at times roughly blocked out and without due interconnection and finish. This should not be laid wholly, or even mainly, to the author's charge, for his theme is too complicated for a little book, and too undeveloped by educational science at its present stage, for complete treatment even in a big book. But it is a valuable book, probably more valuable than any other book on the same theme. It is full of suggestion, wide-awake and awakening, and keeps sensibly away from empty theorizing as well as dry-as-dust fumbling of facts. It is a strong plea for rational teaching of the humanities, made by a friend,—but a friend who has no patience with either smattering or pedantry.

ANDREW F. WEST.

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**The Teaching and History of Mathematics in the United States.** By FLORIAN CAJORI, Professor of Physics at Colorado College. Washington: Bureau of Education, 1890, pp. 400.

This work has been in preparation for almost two years. During that time the author has been in correspondence with teachers all over the United States and has examined a great mass of records bearing directly and indirectly upon his subject. His book cannot fail to exert a beneficial influence upon mathematical teaching in this country, which, generally speaking, is of a very inferior character. Our comparative backwardness in mathematics is oppressively evident throughout the book.

Mathematical teaching in this country has always been under the immediate influence of European teaching. A history of it describes how we, or great classes among us, at different times, have followed the examples of different European nations; how teachers have come from Europe to certain schools or colleges, reproducing in them, as far as possible, the methods and books of their previous experience; and how, more recently, many of our ablest men have gone abroad and have returned to introduce the results of foreign teaching among us, much more

effectively than they could be introduced by foreigners. Roughly speaking, and excepting always the deep impress left upon American books and American teachers by that distinguished mathematician Benjamin Peirce, the mathematical teaching of the past in this country has little to do with the mathematical teaching of to-day.

The author divides his history into two great periods: that of English influence, and that of French. The former begins in colonial times and was brought to an end finally through the influence of the United States Military Academy at West Point, and of Harvard College. At the present time a cosmopolitan spirit has crept into the mathematical work of many of our educational institutions. Some of our schools are still in bondage to the text-books and methods of a less advanced age. Their number is, however, a variable and diminishing quantity. Our new text-books, too, are not yet altogether satisfactory, but steady improvement may be observed. Among our universities some very good advanced work is being done. It can no longer be said that but a single important original contribution to pure mathematics has been made in America. Pierce's classic memoir, however, has yet to yield to another the place of honor among American mathematical monographs.

The most remarkable feature of this book is the sixty-four pages devoted to statistics illustrating the present condition of mathematical teaching in the United States. These statistics are gathered from 168 colleges, 45 normal schools, and 181 high schools and academies. A set of questions was submitted to each of these institutions and the answers are tabulated. The questions addressed to the high schools were: What reforms are needed in teaching arithmetic? To what extent are models used in teaching geometry? To what extent and with what success are original exercises given? Is the metric system taught? Which is taught first, algebra or geometry? How far do you proceed in the one before taking up the other? Are percentage and its applications taught before the rudiments of algebra, or after? Are pupils permitted to use answer-books? The answers of forty-five per cent. show little or no use of geometrical models. A large majority claimed to give at least one fourth of their time in geometry to original exercises. All teach the metric system, but many pay very little attention to it. All but a dozen teach algebra before geometry; two teach them together. Less than a dozen teach percentage after

algebra. They probably teach it before also. A large majority permit the use of answer-books. Among the normal schools, three teach geometry before algebra and two teach them together.

A great variety of questions was put to the colleges. Harvard, Yale, Princeton, and Cornell are reticent. According to the answers, Johns Hopkins, Columbia, and the Naval Academy alone, have important collections of the score or more of mathematical journals desirable in connection with university work. To the question, Is the mathematical teaching by text-book or lecture? 46 answer, by text-book; 65, mainly by text-book; 55, by both; and 2, by lecture. As regards the relative disciplinary value of analytic and synthetic mathematics, 54 per cent. of the persons answering prefer analytic; 23 per cent. see no difference between them; 15 per cent. prefer synthetic; 8 per cent. think with Professor Simon Newcomb that the synthetic gives the more valuable training in the earlier stages of a mathematical education, but later the reverse becomes true. About 30 per cent. express themselves as believing that the infinitesimal method of presenting the calculus independently of other methods, is rigorous and logical. Almost all the others condemn it. In regard to the relative aptitude of the two sexes for mathematical studies, a majority of the answers favor men, while a fair-sized minority think there is no difference.

A number of the answers show the most lamentable ignorance on the part of those responsible for them. In fact, we may look upon several of the questions as being in the nature of a written examination in which our examiners are examined. Certainly, no one may learn whether geometry should be taught before algebra or not, by reading the replies of the vast majority of our American school-teachers; nor whether answers should be furnished to students of arithmetic; nor whether models are desirable in geometry; least of all, what reforms are needed in teaching. The answers of many of our college teachers are hardly a reliable guide to the anxious seeker after light. It seems absurd to expect anything but evasive answers to several of the questions. Practically no institutions are willing to confess any decrease in the number of students of higher mathematics. Over seventy are absurd enough to claim that topics are assigned for special investigation. Several of the answers are highly entertaining. We hardly feel called upon, however, to quote them, for they are

of no possible use. Some of the questions do not admit of intelligible answers, and but few of them can lead to any useful result. Next to these questions the chief interest lies in the reminiscences by the pupils of some of our most distinguished mathematicians: Davies, Peirce, Barnard, and Sylvester. We are sorry to see in one or two cases, inflated personal accounts of contemporary Americans.

Altogether the book is somewhat confusing, being, perhaps from the nature of its subject, disconnected. It plainly shows signs of its construction from numberless catalogues, circulars of information, magazine articles, and personal letters. It lacks something that we might justly expect to find in it; namely, tables showing concisely and simultaneously the entrance requirements, regular and extra courses, and number of teachers and students in mathematical subjects at our representative colleges and schools. The work closes with a number of essays upon subjects in geometry and algebra which have been sadly neglected by most of our text-book writers, even those of very recent date. These essays present their subjects clearly and are sure to have an influence upon our future text-books.

THOMAS S. FISKE.

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**Einführung in die Pädagogik.** Von DR. J. BAUMANN. Leipzig: Veit & Comp., 1890, pp. vi., 120.

Professor Baumann's book is not very different from a great many other introductions to the scientific study of education. It is at once compact and comprehensive, while its aim is severely practical and by no means ambitious. It has been written, as we learn from the preface, in answer to the question, What should the teacher know about the science of education when he begins his career, in order that his activity may be both intelligent and fruitful? The answer consists of two parts: a sketch of the history of educational theories, and a survey of educational psychology. In the former, the outlines of the doctrines of Aristotle, Quintilian, the Jesuits, and Beneke are noticeable for accuracy and conciseness. A great deal is said in a very small space. Herbert Spencer is dismissed in a foot-note with the curt remark that apart from their relation to the doctrine of evolution, his educational teachings are merely a repetition of those of Pestalozzi. This at least overlooks Mr. Spencer's power of lucid statement, and

the great influence of his book on education among English-speaking peoples. Even if it is strictly true that he merely follows Pestalozzi, he is entitled to a word of recognition for so immensely extending Pestalozzi's influence.

Professor Baumann incidentally mentions (p. 73) a point which some of our English and American writers would do well to bear in mind, when he says that educational psychology can afford to pass over entirely very many questions with which pure psychology must busy itself. How many of our authors have thought of this when writing on the applications of psychology to education?

The brief section dealing with the will suggests many interesting reflections and will repay study.

N. M. B.

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**Adolf Diesterweg's Pädagogik in systematischer Anordnung und zur Einführung in das Studium der wissenschaftlichen Pädagogik, bearbeitet von HEINRICH SCHERER. Giessen : Emil Roth, 1890, pp. 186.**

Adolf Diesterweg was to the teachers of Prussia and Germany what Horace Mann was to the teachers of America. Mann has not left us any complete work on education. His utterances, though weighty and consequential, were more or less fragmentary. Like Horace Mann, Diesterweg was "a fighting member on the floor." As normal school principal, as member of the lower house of the Prussian Diet, and as journalist, he has published much that aroused great enthusiasm at the time and has had great effect since, and many of his pithy expressions have become classic. One of the most noteworthy of the numerous books and pamphlets published in honor of the hundredth anniversary of Diesterweg's birth is this one of Scherer's. The best celebration of the day would, of course, be an inducement to the diligent study of Diesterweg's writings. If Diesterweg were living, he would say with the poet: "Wir wollen weniger erhoben und fleissiger gelesen sein!" He never found the leisure to prepare a systematic exposition of his views. His writings consist of pamphlets, fugitive articles, speeches, circular letters, etc.

The author of this book deserves the thanks of the teaching profession for having given us in Diesterweg's own words a connected system of pedagogics, gathered from the almost innumerable publications and public utterances of that great educator. The book is done with admirable faithfulness to

the originals. The following are the chapter headings, which we place here for the purpose of showing both the valuable contents of Scherer's book, and Diesterweg's great versatility: object of pedagogy, object of education, human nature and its laws of development, purpose, aims and means of education, methods of teaching, general and special pedagogy, professional training of teachers, external conditions of the school, special methodology, theories of education, school organization, management, etc. The introduction contains a short historical exposé of the common school pedagogy from the time of Luther to Diesterweg, and a sketch of Diesterweg's own life and labors. A supplement contains notes and sources of information, as well as a well-arranged guide to the Diesterweg literature.

What makes this book so interesting is the evident attempt of the author to demonstrate that the Herbartian school cannot claim to be the only one which places pedagogics on a scientific basis, but that Diesterweg stood on ground as firm as that occupied by the disciples of Herbart. In this attempt, I think the author is eminently successful.

L. R. KLEMM.

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**Erasmus.** By R. C. JEBB, Litt. D., Regius Professor of Greek in the University of Cambridge. Cambridge: At the University Press, 1890, pp. 55.

In the Rede lecture for 1890 Professor Jebb had a great opportunity. Having selected Erasmus for his subject, it was natural to suppose that the lecturer, one of the ripest classical scholars of his time, would analyze the humanistic movement, at least so far as it affected England, and examine carefully the relation of Erasmus to it. This would naturally have led to some estimate of the permanent value of the services of Erasmus to English culture and English classical scholarship. The personality of the lecturer himself justified such a supposition. The reader who opens the present little volume with any such idea, is doomed to serious disappointment. We have here a bare biography of Erasmus, interesting enough in style, but essentially commonplace in matter. If written by an ordinary student, it would be commendable; from Professor Jebb one has a right to expect something more striking and original. One or two passages will indicate how much more might have been said. "Two things broadly distinguish him [Erasmus], as a

scholar, from the men before and after him. First, he was not only a refined humanist, writing for the fastidious few, and prizing no judgment but theirs; he took the most profitable authors of antiquity,—profitable in a moral as well as a literary sense,—chose out the best things in them,—and sought to make these things widely known, applying their wisdom or wit to the circumstances of his own day. Secondly, he had an educational aim,—and this of the largest kind. The evils of his age,—in church, in state, in the daily lives of men,—seemed to him to have their roots in ignorance,—ignorance of what Christianity meant,—ignorance of what the Bible meant,—ignorance of what the Bible taught,—ignorance of what the noblest and most gifted minds of the past, whether Christian or Pagan, had contributed to the instruction of the human race. Let true knowledge only spread, and under its enlightening and humanizing influence a purer religion and a better morality will gradually prevail" (pp. 36, 37). "The work which Erasmus did was one which, at that time, was of the first necessity for the Northern nations. In his genial, popular way he made them feel the value and charm of the classics as literature; he himself was, in fact, a learned man of letters rather than a critical specialist (p. 41)."

Professor Jebb warmly defends Erasmus against the charge of cowardice and worldliness, so often brought against him because he did not renounce his allegiance to the Church of Rome and ally himself with Luther.

N. M. B.

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**The Time-relations of Mental Phenomena.** By JOSEPH JASTROW, Professor of Psychology at the University of Wisconsin. New York: N. D. C. Hodges, 1890, pp. 60.

Prof. Jastrow's monograph is a valuable addition to the series of reprints from *Science*, and one likely to interest teachers. There is a widespread hope that the measurement of mental processes may be of help in developing the science of education, but the recent researches dealing with this subject are mostly technical and difficult of access. We therefore gladly welcome Professor Jastrow's summary of a large number of papers scattered through many reviews in different languages. The study of mental time, apart from its theoretical importance, seems to have certain aspects of practical interest to the teacher. Length of life is measured by rate of



thought. If the heavenly bodies and our clocks should begin to move faster than they do now, while the rate of thought and movement remain the same, there would be more hours and years in our lives, but we should not live any the longer. If, on the other hand, the rate of thinking and moving should increase, we should in a given number of years live longer than we do now. It is therefore a matter of great practical importance to discover educational methods which increase the quickness of mental processes without injury to their intensity and breadth. There are cases in which this has been accomplished. Thus, an educated person can name a word in about half the time that he can name a color, having learned to name the word more quickly in the course of his education. And this is not all. It takes about one half of a second to see and name a single word; whereas if words are placed in a list, so that several may be seen at once, they can be read in about one quarter of a second; and if in addition to this the words make sentences, they can be read in about one eighth of a second. Thus education quickens the time of a single mental process, and in addition to this broadens the grasp of the mind, so that acts which in an imperfectly educated mind are successive, become simultaneous in the trained mind. This is only an example. The time it takes to remember, for one idea to suggest another, and, indeed, the time of every mental process seems to be quickened by correct training. So, without adding to the years of life, we are able to add to its length. But whoever wishes to know what has been gained by measuring the time of mental processes, must be referred to Professor Jastrow's monograph, where he will find it set forth clearly and completely.

J. MCK. CATTELL.

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**Our Dictionaries and other English Language Topics.** By R. O. WILLIAMS.  
New York: Henry Holt & Co., 1890, pp. 174.

This little book is a collection of short papers or notes on matters connected with the English language, and certain usages and peculiarities in English speech—papers of the half scholarly kind, which seem learned to the ignorant and trivial to the scholar, and yet are not without a certain agreeableness for both. We have here discussed the use of the word "metropolis," concerning which we are told that anciently it

meant a cathedral city (though we are not told that still more anciently it meant a city which had sent out colonies, and hence was called a "mother-city"), but that for the last three hundred years or so there has been a tendency to use it for any chief or eminent city. The writer raises, without answering, the question whether it should be used in America to mean "capital" or "chief commercial city." To which we should answer: "If you mean 'capital,' say 'capital'; if the other thing, say that thing; and leave 'metropolis' to the newspapers."

He shows at some length that various words and phrases often noted as Americanisms have been used by good English writers, and that others, which purists cannot away with, are simply survivals of ancient use; and discusses the questions whether "audience" can be properly used for "spectators," whether we should say "different to" or "different from," "stage" or "stage-coach"; and whether it is good English to speak of a "sidewalk," a "freight-car," and a "railroad."

The most interesting of these papers is that entitled "Good English for Americans," in which he takes the sensible view that while it is greatly to be desired that the English speech should remain one tongue all the world over, and that in the main the usage of careful writers and speakers on both sides of the Atlantic will be the same, yet the continuous growth of the language under circumstances so different will bring about certain diversities; nor is this a fact to be regretted. We heartily approve the importance here attached to idiomatic speech. Idioms are the life and finer spirit of a language; and nowhere is the master's hand so surely recognized as in his use of idiomatic phrases.

The longest paper, and that which gives the name to the volume, is a little historical sketch of the development of English lexicography, with brief notices of the more important dictionaries. It is not uninteresting reading, though we could have wished the writer had spared his unwise and petulant carping at that monumental work, the dictionary of the English Philological Society, a work to which hundreds of scholars, in both England and America, have contributed their learning, time, and labor. When he expresses the opinion that the work is full of errors, he might at least have supported his statement by pointing out one. This he has not done; but, as the next best thing, he has quoted from Mr. Fitzedward Hall the exposure

of an error in a quite different book. It is always easy criticism to say "the picture would have been better if the painter had taken more pains"; but to specify and correct errors is somewhat harder. Part of this paper might very well be instanced as exemplifying a term whose loss he regrets: *onology* (p. 7). But to save our manners we hasten to inform him that *onology* does not mean "talking like an ass," any more than *ichthyology* means "talking like a fish," or *cosmology*, "talking like all creation."

WM. HAND BROWNE.

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**A Stem Dictionary of the English Language for Use in Elementary Schools.** By JOHN KENNEDY. New York: A. S. Barnes & Co., 1890 pp. x., 282.

This is a companion book to *What Words Say* by the same author. It contains in convenient form for easy reference a list of some six thousand composite words, mostly of Latin and Greek derivation, and an exhaustive vocabulary of English stems derived from non-Teutonic sources. Throughout the book are numerous quotations from standard authors, exemplifying the correct use of the stems discussed. There are, besides, a great number of interesting foot-notes, covering a wide range of information relative to the history and growth of words.

No study, perhaps, is more intensely interesting to the adult scholar, possessed of the requisite language training, than that of tracing out the natural history of words.

Yet this discipline, no less valuable than pleasurable, is denied to the great majority of persons by reason of a common neglect in our schools to give early and systematic instruction in word analysis. The cause of such neglect is the prevailing impression that a knowledge of Latin and Greek is an absolutely necessary prerequisite to any such instruction. The author, in an admirably written preface, has very forcibly exposed the fallacy of this assumption. Below the high school, he would treat every stem as an English stem, making no reference whatever to any other origin. Thus he would remove the great bugbear that stands in the way of undertaking word-analysis by those who are not classical scholars. Many who would shrink from teaching the meaning of such stems as *fract*, break, and *tang*, touch, as Latin forms, would

have no hesitation whatever if they could be referred to as English stems. When the time comes, later on, to identify *fract* and *tang* as Latin stems also, the task is easy and the association of form and meaning complete. There are two broadly distinguished methods of teaching the meanings of composite words: (1) by exact description and formal definition with no allusion to value of stem or affixes, (2) by calling attention to the significant elements, and inferring therefrom the content or meaning of the word. The former method takes no notice of the form of the word as throwing any light upon its meaning; that is to say, composite words are treated as primitives and the plain advantage to be gained by learning once for all the common elements in many words is not made use of.

The distinction in practice is quite analogous to that of teaching reading by the word method exclusively. The time comes when the child is bound to notice the literal elements and ascribe to them a value, and all his later acquisitions of new words will be made easier by his ability to perceive readily their common elements. So in word-study, a knowledge of the significant elements is an enormous aid in securing an enlargement of vocabulary while reducing to a minimum the strain upon the memory. Nevertheless we have every reason to believe that the great majority of teachers throughout the country do little or nothing with word analysis, but teach all words arbitrarily and as individual forms. We need not wonder, therefore, at the poverty of language, not to say of thought, that characterizes our elementary schools. But the difficulty in the way of this analytical study of words has been the lack of any good text-book on the subject. This need Mr. Kennedy has made an effort to supply in his *What Words Say and Stem Dictionary*.

A most careful examination of the plan and scope of both of these language books has convinced us of their great merit and unquestioned utility. Still they are not without their serious defects. In the preface to the *Stem Dictionary* (p. iii.) the author makes the following statement: "A word built up from a familiar stem needs no definition." This in many, if not most, cases is not the fact. Take, for example, so familiar a word as *diameter* (measure through). The precise content of the word cannot be ascertained from the analysis. The measure must be through the center and must terminate in the circumfer-

ence, facts of vital importance to a clear and correct concept. Or, take for instance the first word treated in *What Words Say*; namely, abyss (*a*, without, *byss*, bottom). Logical definition includes both genus and difference. The analysis above given furnishes only the latter. What is to prevent a child's identifying a bottomless pail with an abyss, for instance? It will never do to abandon altogether the practice of formal and exact definitions, and that, too, for reasons other than those admitted by the author,—namely, “for logical treatment of a subject,” and “to carry on a line of reasoning.”

To secure precision of thought and accuracy of statement, to cultivate the habit of reducing a concept to its logical limitations, is not the least important duty of the careful teacher. The habit of inferring the meaning of a word from the general resemblances of form, is liable, if not held in restraint, to make close observers but loose thinkers.

It is to be regretted that the author has permitted his work to be marred by hasty editing or careless proof-reading, errors, perhaps, that will be corrected in a second edition. For instance, we turn at random to p. 149. Under stem *particip* we find the English derivative *participal*; also in the line below we find *particips*, which is hardly permissible in good Latin. So, in the same column, at the bottom of the page, under stem *past* (feed) we are given its Latin source as *passere*, an infinitive that will hardly be recognized by a Latin scholar. It is unnecessary perhaps to observe that in such a work as this absolute accuracy is essential.

The etymologies of the *Stem Dictionary* are generally correct, the author having followed the best English authorities. Inaccuracies wherever they occur will doubtless, like errors in proof-reading, be remedied in a later edition.

A. B. P.

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**Manual Training in Education.** By C. M. WOODWARD, Ph. D. New York : Scribner & Welford, 1890, pp. viii., 306.

Dr. Woodward is nothing if not polemical. He opens this volume with an attack on “the traditional curriculum beyond the primary grades.” He closes it with an onslaught on the report of the Committee on the Educational Value of Manual Training, presented to the Council of Education at Nashville, in July, 1889. Between the two attacks, he expounds the “scope and content of manual training” as he understands it;

with minuteness of detail he describes exercises in joinery, in wood carving, in wood-turning, in pattern work and molding, in work at the anvil and forge, and in bench and machine-tool work on metals; he quotes testimony given by parents and guardians of pupils in the St. Louis Manual Training School, and by graduates of that institution, as to the beneficial effects of the education it affords; and he endeavors to set forth the psychological argument in favor of manual training. But in every part he lays about him with right good will, and hits with perfect impartiality both the confessed opponents of manual training and those who cannot quite accept his peculiar views of that branch of education.

It will be readily admitted that the technical parts of Dr. Woodward's work—those in which he describes the exercises in woods and metals—are well done; and that some of his replies to the report are not only effective but crushing. It will be conceded that he draws a clear line of demarcation between trade schools and manual training schools. But what of all this? It has all been done as well before, or even better. It did not remain for Dr. Woodward to expound either the method of making mortise and tenon joints, or the difference between a trade school and a manual training school. Indeed, though giving him due credit for all that is good in the book, the prudent advocate of manual training cannot fail to deplore its publication. It will probably do more harm than good. It will do harm, first, because, pedagogically speaking, it strives to narrow the field of manual training. It will do harm, in the second place, because the author manages to make such a jumble of his psychological argument as to expose a weak point to the artillery of his enemy. And, lastly, it will do harm because the style is often both awkward and ungrammatical; so awkward and so ungrammatical as to convict the author of at least gross carelessness.

The nearest approach to a definition of manual training is found on page 61: "Manual training covers the two features of drawing and tool work. The former I have already outlined. The tool work includes both the theory and practice of a great variety of tools on an equal variety of materials." As "tool work" does not commence, in the author's curriculum, until a boy enters, at fourteen, a manual training school, and as the drawing "already outlined" (pp. 54-56) refers exclusively to the drawing that is preparatory to tool work, it is certainly a

fair conclusion that he excludes from "manual training," everything, no matter of what character, that may be done in a school of lower grade than his own. The block-building, the stick-laying, the paper-folding, and the clay-work of the kindergarten; the paper-folding, the paper-cutting, the clay-work, and the penmanship, of the primary grades; the drawing, the paper-cutting, the making of geometrical solids in pasteboard and in wood, the sewing, and the cooking, of the grammar grades; all these he would exclude from the definition of manual training. And yet it would not be difficult to show that the same intellectual and the same physical powers are employed in these exercises as in those of the St. Louis Manual Training School. It would be an easy matter to demonstrate that the object of all these exercises is the same—the training of the powers of expression, and of the judgment, and of the executive faculty, by delineation and construction. But such a demonstration is not necessary. The great majority of the advocates of manual training believe that it should begin with the kindergarten and end only in the university; and when Dr. Woodward attempts to demolish their position by his favorite argument,—*reductio ad absurdum*—he falls into an error that would be amusing were it not unpardonable. He says (p. 52): "The etymologists would fain claim as *manual training* all the educational work in which the hand is used. This is as uncalled for and as unreasonable as it would be to claim everything as *pedagogic* which is driven by the foot,—*e. g.*, a foot-ball or a sewing-machine." Is it wonderful that a man who is capable of such an error in etymology should "prefer to ignore" the etymology of a word (p. 52), should be willing to "abandon the dictionary" (p. 53), and should sneer at Plato and Milton (p. 135)? The author's ignorance of the derivation of words is equaled only by his inconsistency; for he himself practically admits (p. 249) the identity, in aim and in result, of the kindergarten and the manual training school, in the following language: "Mr. Harris once said that a child trained for one year in a kindergarten would acquire a skillful use of his hands and a habit of accurate measurement which would be his possession for life. How can I adequately express the value of the rich and varied possessions gained by a boy in his teens, having a daily exercise of from one to two hours for three or four school years in a good series of school-shops!" What does this mean but that the two courses of training, while

differing in degree, are the same in kind? There would be no objection to Dr. Woodward's claiming that there is no manual training below schools of the grade of that over which he presides, were it not that he is put forward, or puts himself forward, as the champion, before the world, of manual training in America. The champion who abandons a great stronghold to the enemy will not inspire confidence in his own forces.

The author opens his psychological argument (p. 204) in this wise: "The first and greatest faculty to be trained is sense-perception." Were we told that sense-perception is the *greatest* faculty of the mind, the language, though perhaps untrue, would at least be intelligible. But what is the meaning of "the greatest faculty to be trained?" Then he proceeds: "Here the influence of manual training is in every way remarkable. In ordinary vision not one per cent. of what falls upon the retina is perceived by the mind." How is it proved that in ordinary vision only one per cent. of what falls upon the retina is perceived by the mind? The fair inference from the language quoted is, that the author, or some one else, with the extraordinary perceptive powers evolved by a course of manual training, is enabled to perceive 100 per cent. of what falls on the retina; and, by comparing his developed with his undeveloped condition, is enabled to determine the exact fraction of what falls upon the retina "in ordinary vision" that is perceived by the mind. This is the fair interpretation of the language used; of course it is not the real meaning. What, then, is the meaning? The next two sentences throw but little light on the question:

"In true perception, as Dr. Harris has clearly shown, all the figures of logic and consequently all the faculties of the mind are consciously or unconsciously called into service. Knowledge and experience and memory and generalization are necessary to the operations of logic, and manual training is particularly strong in furnishing the knowledge and experience, in establishing the major premises essential to logical reasoning."

Waiving the question as to whether there can be any "reasoning" that is not "logical," or whether "logical reasoning" is not one of the many instances of tautology to be found in this book, we may inquire whether "generalizations" are not themselves the "major premises" in most cases of deductive reasoning, and whether it is not the most important work of inductive logic to arrive at generalizations. Manual training undoubt-



edly furnishes some data upon which to found generalizations. But that it is the chief source of such data, even Dr. Woodward would hardly claim. Again, he says: "Moreover, several senses join in the search for truth; sight and sound and touch and muscular force testify together." How long is it since sound was included among the special senses? And again: "A man without personal experience of the external world perceives nothing outside himself." What magnificent tautology! The propositions might with equal propriety be reversed: "A man who perceives nothing outside himself is without personal experience of the external world." They are identical in meaning. And yet again: "A person devoid of experience with the manifestations of force, has no conception of cause and effect." Of course he has not. But then, was there ever a thinking human being who had no "experience with the manifestations of force?" The conclusion forced upon the attentive reader of this chapter is that the author is either very ignorant of psychology or very careless in his statement of what he knows.

The limits of space forbid my entering at any length upon the third count in the indictment against Dr. Woodward—that his language is often awkward and ungrammatical. A few examples, out of hundreds that might be adduced, must suffice. Take this sentence found on p. 209: "The charge is generally false, and the manual training school has proved what I say over and over again." There is no doubt that the author does say things "over and over again," but it is to be presumed that he wanted to assert repetition of the manual training school, not of himself. On p. 209 he speaks of "concrete forms and tangible forces." A tangible *force*, as the term is used in natural philosophy, would be an interesting thing to handle. The following is ambiguous: "The interest he [a boy] takes in the saleability (*sic*) of his work is short-lived; it soon changes to a protest and disgust if carried far." What is it that changes to a protest and disgust—the interest, the "saleability," or the work? On p. 220 he uses the word committee in the plural, and on the very next page he uses it in the singular. Repeatedly he speaks of manual training being "taught," and of "teaching" manual training. On p. 238 the looseness of his writing is the only thing that will absolve him from the charge of applying very unbecoming language to the Committee of the National Council: "The magnitude of the Committee's error in

all this is past measuring. These unfortunate men exhibit the fruit, not of manual training school education, but of a want of it." Of tautologies such as "a quality and manner of teaching" (p. 262), of anticlimaxes such as "nothing is more fatal and disappointing" (p. 262), and of solecisms such as "let me warn the teacher not be misled" (p. 265), examples could be selected from nearly every page. Dr. Woodward never tires of insisting that the accuracy required in the use of tools and materials influences every other department of effort. It is to be regretted that he does not himself furnish an example.

A book that presents only a partial view of manual training, that is confused and confusing in its psychology, and that is loosely written, can have little to win commendation. The things in it that are done well, are not necessary; the things that are necessary, are not done well.

W. H. M.

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**Bowser's Elements of Geometry.**

*To the Editors of the EDUCATIONAL REVIEW:*

In the interest of fairness and justice to a distinguished mathematician, whose writings are used as text-books in more than eighty colleges and universities, I desire to protest against the judgment passed on Dr. Bowser's new "Geometry" in the January issue of the EDUCATIONAL REVIEW. Many remonstrances against the opinion of Mr. Ridenour have reached me from mathematical teachers in various parts of the country. That your reviewer's estimate of Dr. Bowser's mathematical ability is not a correct or just one, is shown by the increasing success and popularity of his works.

T. S. DOOLITTLE.

RUTGERS COLLEGE,  
NEW BRUNSWICK, N. J.

VII.

EDUCATION IN FOREIGN PERIODICALS.

The German Emperor's Address to the Commission on School Reform.

TRANSLATED FROM THE OFFICIAL REPORT IN THE "REICHS-ANZEIGER."

GENTLEMEN: I rise before any one else in order to address to you a few words, because I desire that you shall know, from the outset, what my views concerning this matter are. Many things, no doubt, will come up for discussion upon which no decision can be reached, and many a point will, I suppose, remain in the dark. I have thought it advisable, therefore, that you should not be left in doubt as to what my sentiments on these topics are.

In the first place I should like to state that this school question which we are to consider, is not a political question, but a purely technical and pedagogic one, concerning how to educate our youth in conformity with the demands which the circumstances of our life and the position of our Fatherland make upon us. And right here I want to say just one thing. I should have been very much pleased if these investigations or discussions had been called by the German word *Schulfrage*, instead of by the French name *Schulenquete*. *Frage* is the old German word for preliminary investigation (*Voruntersuchung*). Let us therefore call this simply *Schulfrage*.

In reading over the fourteen points proposed for discussion, I find that they may easily lead to a mere schematizing of the questions in controversy. That would be in the highest degree deplorable. The main thing is to get hold of the spirit of the subject, and not of the form only. So I myself have drawn up a few questions, which will be handed to you, and which will, I hope, receive your consideration.

First, "school-hygiene, outside of school-gymnastics,"—a matter that deserves your most careful consideration; then "the lessening of the curriculum (what may be omitted?);" then "plans of study for the different branches." Again, "methods of teaching under the reorganization,"—these being the most important points; next, "has the chief ballast (*Hauptballast*) been thrown out of the examinations?" next,

“will the overtaxing of pupils be avoided in the future?” next, “how can a controlling supervision be exercised, after the organization has been accomplished?” finally, “the subject of regular and extraordinary revisions by different higher authorities.” I lay these questions on the table of the house where every one who so desires can inspect them and get more particular information concerning them.

This whole matter, gentlemen, has developed by degrees and entirely out of itself. You stand here face to face with a question, the solution of which you, no doubt, by the finish you will give it and by the form you will impress upon it, will present to the nation as a fruit in its full ripeness.

This order in council (*Kabinettsordre*), which the Minister had the kindness to refer to, would, perhaps, have been unnecessary, if the schools had stood at the standpoint which they ought to occupy. If I shall become somewhat sharp in my subsequent remarks, I will state here, in advance, that these remarks refer to no one in particular, but to the system, to the whole situation of affairs. If the schools had accomplished what *must* be demanded of them—and I can speak to you as one who is not unfamiliar with them, for I have attended the Gymnasium and know how things go there—they, of their own accord, would have undertaken the fight against social democracy from the very beginning. The teaching faculties of our schools ought to have taken a firm hold of the situation, and ought to have instructed the growing youth in such a way that the young people who are of my own age, about thirty, would now furnish me the material wherewith I might accomplish the overthrow of this movement. But such has not been the case. The last time, when our schools still determined our national life and our development, was in the years 1864, 1866–70. In those days the schools of Prussia and the teaching faculties were still the exponents of the idea of national unity, which was preached everywhere. All graduates who left their school and entered upon the duties of life or upon their military service of one year, were agreed on this one point: the German empire is re-established and Alsace-Lorraine is again won back. With the year 1871 this enthusiasm ceased. The Empire is united, we have what we longed for, they said; and that was the end of it. At that moment it ought to have been the duty of the school, starting from this new basis, to inspire the young and to demonstrate to them

that the new government was created with the purpose of maintaining it. Nothing of this, however, has been said, and centrifugal tendencies and forces make themselves felt already, although the time since the establishment of the empire is very short, indeed. I am certainly in a position to judge, for I stand somewhat above these movements, and have to meet all these questions.

The reason for all this lies in the education of our youth. But where is the fault? In many places, to be sure. The main trouble lies in the fact that since 1870 the philologists have sat in their Gymnasia as *beati possidentes*, laying main stress upon the subject matter, upon the learning and the knowing, but not upon the formation of character and the needs of life. You will excuse me, Herr Geheim Rat Hinzpeter, I know you are an enthusiastic philologist, but still this matter has already gone too far, in my opinion, and must now be stopped. Less emphasis is being placed upon practice (*können*) than upon theory (*kennen*), a fact that can easily be verified by looking at the requirements for the examinations. Their underlying principle is that the pupil must, first of all, know as many things as possible. Whether this knowledge fits for life, or not is immaterial. If anybody enters into a discussion with these gentlemen on this point and attempts to show them that a young man ought to be prepared, to some extent at least, for life and its manifold problems, they will tell him that such is not the function of the school, its principal aim being the discipline or gymnastic of the mind, and that if this gymnastic were properly conducted, the young man would be capable of doing all that is necessary in life. I am of the opinion that we can no longer be guided by this doctrine.

To return to schools in general and to the Gymnasium in particular—I will say that I am not ignorant of the fact that in many circles I am looked upon as a fanatical opponent of the Gymnasium, and that I have therefore often been played as a trump-card in favor of other schools. Gentlemen, this is a misapprehension. Whoever has been a pupil of a Gymnasium himself, and has looked behind the scenes, knows where the wrong lies. First of all, a national basis is wanting. The foundation of our Gymnasium must be German. It is our duty to educate young men to become young Germans, and not young Greeks and Romans. We must relinquish the basis which has been the rule for centuries, the old monastic educa-

tion of the Middle Ages, when Latin and a little Greek (*ein bisschen Griechisch*) were most important. These are no longer our standard; we must make German the basis, and German composition must be made the center, around which everything else revolves. If a young man, in his graduating examination (*Abiturientenexamen*), writes a faultless German composition, the degree of his intellectual development can be judged, and an estimate as to his worth can easily be made. Of course, many replies and objections are made to this. They say, Latin composition is also a very important factor; it helps one to understand a foreign language, etc. To be sure, gentlemen, I know this from experience. But how are such Latin compositions gotten up? I have more than once seen a young man receive the mark 4+ (*i. e.*, on the whole, satisfactory) in his German composition, while in his Latin composition he stood 2 (*i. e.*, good). The young man deserved punishment instead of praise; for it is easy to see that other than legitimate means were employed in writing his Latin composition. Indeed, of all the compositions we did, there was not one in twelve that was not prepared by the employment of such means; but these compositions were marked "good." This much as to the Latin composition. But when we had to write a composition on "Minna von Barnhelm" we barely reached the mark "satisfactory." Therefore, I say, away with the Latin composition. It is an obstacle. We lose time by it that properly belongs to German.

There is another point, which I should like to see more developed with us, that is the idea of the "National," (*das Nationale*) in questions of history, geography, and popular and heroic tradition. Let us begin at home. Just as we must first be able to find our way through the different chambers and rooms of our own house before we can visit and inspect a museum, so we ought first to know our national history. The picture of the Great Elector, drawn to me in my school-days, was very vague and indistinct. The Seven Years' War lay outside of our course, and history terminated for us with the end of the last century, with the French Revolution. The struggles for liberty (*Freiheitskriege*), which are of the highest moment for the young citizen, were passed by, and it was only through a series of supplementary and very interesting lectures by Herr Geheim Rat Hinzpeter, that I had, thank the Lord, a chance to hear of those events.

But just here lies the *punctum saliens*. Why are so many of our young people led astray by crude theories? Why is it that so many so-called reformers of the universe (*Weltverbesserer*) make their appearance among us with their confused and incoherent notions? What is the reason why so much fault is continually found with our government, and we are perpetually referred to foreign nations for examples? Because our young people are ignorant as to the historical evolution of the conditions of our time, and as to the fact that they are the outgrowth of the age of the French Revolution. I am firmly convinced, therefore, if the outlines of this development from the French Revolution to contemporary history were presented to our youth in a simple and objective manner, that they would obtain an entirely different understanding of modern issues and questions from that which they have had heretofore. Thus prepared, they would be able to improve and extend their knowledge when they subsequently hear lectures at the universities.

Now, as regards the time spent in school work by our young people. It is evident that the number of hours must be reduced. Herr Geheim Rat Hinzpeter no doubt remembers that it was at the time when I was a pupil of the Gymnasium at Kassel, that the first cry of danger was raised, and a halt was called for by parents and families. Aroused by these demands, the government made inquiries. We pupils were compelled to hand to the Director a report stating the number of hours we required to complete and master our tasks for the coming day. I will only state the number of hours necessary in the graduating class (*Prima*), to accomplish what was expected of us—Herr Geheim Rat Hinzpeter was able to control mine. I required  $5\frac{1}{2}$ ,  $6\frac{1}{2}$  to 7 hours per day for home work. Add to that number, 6 hours at school, 2 hours for meals, and you can figure for yourselves what remained of the day. If I had not had the opportunity of riding to and from school, and of taking some other outdoor exercise, I should never have known how the world looks. You will certainly grant that such tasks as these cannot be imposed upon young people for any time with impunity. Not only in the upper grades, but also in the lower ones, a change for the better, a reduction, must be brought about. Gentlemen, the bow has been stretched to its fullest tension and it cannot stand this strain. We must come down, we have already

gone beyond the proper limit. The schools—but I will confine myself to the ~~Gymnasia, — have~~ made superhuman efforts, and they have produced a surplus of educated people, which is larger than the nation can stand, and too great for the good of these people themselves. The expression *Abiturientenproletariat*, which originated with Prince Bismarck, finds here its verification. Nearly all the so-called *Hungercandidaten* (people who can barely eke out an existence), especially the journalists, are shipwrecked gymnasiasts; and this is a danger to us. These morbid conditions, which exist in too high a degree, must be removed—the meadow cannot absorb any more water. I shall, therefore, not permit the founding of any new Gymnasium that has not clearly proved its right to existence. We have enough of them now.

The question, then, before us is, how can we best reach the desired results with regard to classical and scientific training (*Real-bildung*), and as to the requirements for the one year's service in the army? The easiest way, in my opinion, to get at these results, is by changing, with one decisive and radical step, our former views, and by saying: Classical Gymnasia for classical education and another kind of schools for scientific training (*Real-bildung*), but no Real-Gymnasia. The Real-Gymnasia are only half-way measures, which give but a partial education and produce, therefore, only incomplete preparation for life.

On the other hand, the directors of Gymnasia have a just cause in complaining of the heavy ballast of pupils, whom they have to carry along, but who never come up for final examinations, nor intend to go beyond the examination that entitles them to the one year's service in the army. But then, this complaint can easily be removed, by inserting the military examination at the stage when the pupil is ready to leave, and furthermore, by making the one year's service of the pupil of the Realschule, dependent upon his graduating certificate. The result of this will be that all the applicants for the one year's service will exchange the Gymnasium for the Realschule, because there, in passing through that school, they will get what they look for.

To these remarks I want to add another point, to which I have already alluded: namely, that a reduction in the subject-matter to be taught, is only possible by simplifying the examinations. Eliminate all grammatical questions or productions



from the graduating examination (*Abiturientenexamen*), and give them a place one or two years before the final one. Then you can examine the pupils as rigidly as you please. You will have a chance to combine with this the examination for the one year's service, and, for the benefit of those who intend to become officers of the army, the examination for ensigns (*Fähnrichsexamen*), from which they will then be exempt thereafter. After having thus modified the examination and relieved the Gymnasia, that element will again reappear, which has vanished in our schools, especially in the Gymnasia, namely, true education, the formation of character. Under the present condition of things this cannot be reached, even with the best intentions, when there are in one class thirty boys, who have to master such a task, and when, as in many cases, there are young instructors, whose own character very frequently admits of great development. The remark of Geheim Rat Hinzpeter is here in point: "He who wishes to educate, must be educated himself." But this education cannot be said to characterize the teaching profession without exception. In order to facilitate this education, then, the classes must be reduced, and this reduction can be brought about in the manner described. Moreover, we must abandon the opinion that all that the teacher has to do is to give a number of lessons daily, and that he has fulfilled his duties when this work is done. If the school requires the youth to be absent so many hours from his home, as it in reality does, it must also shoulder the responsibility for his education. You *educate* the youth and we still have a different class of graduates. And, lastly, we must turn aside from the principle that it is the theory we are after and not the practice; the young man must be educated for practical life.

I have taken down a few figures, which from a statistical point of view are very interesting. In Prussia, there are 308 Gymnasia and Progymnasia, with 80,979 pupils; 172 Realgymnasia and Real-Progymnasia, with 34,465 pupils; 60 Ober-Realschulen and Higher City Schools (*Höhere Bürgerschulen*), without Latin, with 19,893 pupils. The examination entitling to one year's service was passed by 68 per cent. of pupils that attended the Gymnasia, by 75 per cent. of those at the Realgymnasia, and by 38 per cent. of those at institutions where no Latin is taught. The final examinations of the Gymnasia was passed by 31 per cent., those of the Realgymnasia

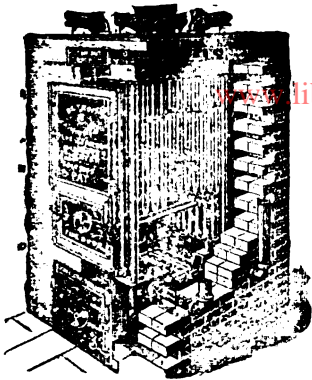
by 12 per cent., and those of the Ober-Realschulen by 2 per cent. The number of hours given, by each pupil of any of these institutions, to school and home work amounts to about 25,000, of which only 657 are set aside for gymnastics. This certainly shows an excess of brain work, which must by all means be lowered. The school hours, including those for singing and gymnastics, for a boy of 12, 13, or 14 years, amount in the third and fourth classes to an average of 32 a week, but rise in some institutions to 35, and in the fourth and fifth classes of the Real-Gymnasium to 37. Well, gentlemen, we are all pretty well matured and we work all we can, but this sort of thing we ourselves could not stand for any length of time. The statistics with regard to short-sightedness are really frightful, and with regard to many other kinds of disease, there exist no adequate reports. Let us begin to reflect, therefore, what sort of progeny we are raising for the defense of our country. I want soldiers and a powerful nation, men that can serve the country as intelligent leaders and officials. All these near-sighted people are of no particular use, for how is it possible that a man who cannot use his eyes, will accomplish much? In the graduating classes, near-sightedness has risen, in single instances, to 74 per cent. In my own class, although we used a good room, the teachers' conference chamber, as a classroom,—which, in accordance with the wish of my mother, had been well ventilated and had only side light—out of 21 pupils, there were 18 that wore spectacles, two of whom could not see the black-board. Such conditions condemn themselves, and a remedy must be found. For this reason, I think it absolutely necessary that the subject of hygiene be taught in teachers' preparatory schools, and that the teachers receive a special course in it. Besides this, each teacher who is in good health, must understand the subject of gymnastics, and must take systematic exercise daily.

Gentlemen, these are in general the points which I have to lay before you, and which have occupied my mind. I can assure you that the great number of requests, petitions, and appeals, that have been addressed to me by parents—in spite of the fact that our honored Herr Hinzpeter last year declared that we fathers ought to have nothing to say about the education of our children,—impose upon me, the common father of the country, the duty of calling a halt. Gentlemen, men ought not to look at the world through spectacles. They

ought to enjoy with their own eyes, all that lies before them, their country and its institutions. I rely, therefore, upon your co-operation, that such a condition of affairs may be brought about.

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EDUCATIONAL REVIEW,

*MARCH, 1891.*

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I.

THE GROWTH OF NEW ENGLAND COLLEGES.

In the majority report of the Faculty of Arts and Sciences of Harvard University on the question of shortening the course of instruction at that institution, the statement is made, as an argument in favor of reducing the time necessary to obtain the degree of Bachelor of Arts, that the number of students in American colleges is falling behind the increase in the population of the country. This statement is apparently based on statistics for the decade from 1875-85, and the generalization has been made from those statistics. It is the purpose of the present article to prove that the figures for that particular decade do not represent the true state of the case, and that the generalization from those figures is not justifiable.

I wish to present the results of my investigations, so far as I have as yet been able to pursue them, in order to justify the diametrically opposite statement, namely, that the proportional increase in the number of college students has far exceeded the increase of population during a period sufficiently long to eliminate any accidental causes of increase or decrease in either factor. For this purpose I have taken the forty years from 1850 to 1890, a period at the beginning and end of which the country was in a state of prosperity. The beginning of this period was long enough before the Civil War not to be affected by any of its disturbing results, and the present time is so far removed from the financial disturbances of 1870-80, that their influence has little or no effect.

As one of the first results of my investigations, I found that



the facts were exactly as stated in the majority report of the Harvard Faculty, if the figures for the decade 1875-85 alone were considered. On that basis there was very serious cause for alarm for the interests of higher education. The increase in college students for that period was very small; but there was a reason for this, and that reason is not far to seek. The years from 1870-78 were marked by a series of serious financial crises. Parents with but moderate means, in view of the gloomy financial outlook for the future, naturally did not feel justified in spending any large sums of money on the education of their sons. The effect was not felt in the colleges until a few years later, when those who would, under other circumstances, have been ready to enter college, failed to put in their appearance. Thus the number of students failed to increase in any considerable degree.

I am able to present here only the statistics for New England colleges; but it is with New England and New England colleges alone that this question of a change in the methods of education at Harvard has the closest connection. Moreover, the New England colleges, situated as they are in a region which has been longer settled than much of the rest of the country, would be more likely to show a decrease in life and growth than the institutions of a more newly settled territory, with the attending increase in energy and activity in all directions. I hope, however, to be able to supplement this paper by another, containing statistics to show that what has taken place in the New England colleges represents fairly what has taken place in the colleges of the whole United States.

The figures that I have collected have, in all but one or two instances, been taken directly from the official publications of the colleges themselves. They are therefore not open to the objections that have been raised against the statistics published by various boards of education. The figures for the population of New England are given in even thousands, and are taken from the United States census.

The first table shows the number of students in the various

New England colleges for the years 1850-51, 1860-61, 1870-71, 1880-81, and 1890-91. The figures represent the number of students in each college in the freshman, sophomore, junior, and senior classes, together with students pursuing special courses, and also those graduates who were candidates for the degrees of A.M. or Ph.D. The graduate students are included because they seem in every way to be fulfilling the same function as undergraduates, their training being liberal and not in any sense of the word professional. All students in professional schools, connected with the institutions enumerated, have been excluded from the list.

TABLE I.  
NUMBER OF STUDENTS IN NEW ENGLAND COLLEGES.

	1850.	1860.	1870.	1880.	1890.
Amherst College.....	182	220	261	339	352
Bates College.....	....	....	78	134	146
Boston University.....	....	....	....	152	407 <sup>1</sup>
Bowdoin College.....	120	198	121	157	185
Brown University.....	174	232	220	247	352
Colby University.....	72 <sup>1</sup>	122	55	149	176
Dartmouth College.....	221	275	305	247	256
Harvard University.....	296	457	616	862	1464
Middlebury College.....	56	103	58	39	54
Trinity College.....	78	41	91	101	133
Tufts College.....	....	53	60	60	78
University of Vermont.....	101	101	42	76	139 <sup>2</sup>
Wesleyan University.....	116	135	153	163	250
Williams College.....	179	233 <sup>1</sup>	141	227	311
Yale University.....	432	521	522	641	936
Totals.....	2027	2691	2723	3594	5239
No. of population for 1 student...	1346	1165	1280	1116	895
Population of New England in thousands.....	2728	3135	3487	4011	4692

It will be seen from this table that while in 1850 there was only one student for every 1346 of the population, that ratio gradually diminished, until, at the present time, there is one student for every 895 of the population. This increase in the

<sup>1</sup> From statistics kindly furnished by the secretary of the college.

<sup>2</sup> Statistics for 1889-90.

number of students has been continuous, with the single marked exception of 1870, and the great disturbance caused by the Civil War at once explains that exception. Another method of representing this increase may serve to make it somewhat more apparent. We may represent the percentage increase of the two factors for each decade in a tabular form, as follows :

	NEW ENGLAND POPULATION.	STUDENT POPULATION.
Percentage increase from 1850-1860.....	14.9	32.7
“ “ “ 1860-1870.....	11.2	1.2
“ “ “ 1870-1880.....	15.0	32.0
“ “ “ 1880-1890.....	17.0	45.5
Percentage increase from 1850-1890.....	72.0	158.0

It is apparent from the above figures that the proportion of college students is not only increasing, but increasing at a rapidly accelerating rate. The rate of increase of students in the New England colleges for the last decade is not only nearly three times that of the New England population, but is twice that of the population of the whole United States. There is, however, a factor in the above statistics which has a slight influence in unduly increasing this ratio, and making the facts appear somewhat more rose-colored than they really are.

In 1850 there were no women in the New England colleges, and in 1860 the same was the case. In 1870 I find one woman enrolled at Bates College, while in 1880, 83 women were attending five of the colleges. In 1890 that number had increased to 358, and six institutions had opened their doors to co-education. These students are, of course, drawn from a source from which it was impossible that they could come in 1850 or 1860, and when we are speaking of comparative increase of numbers they should be eliminated from the calculation. The number, however, is so small in comparison with the whole that the difference in the results is very slight. The figures for the colleges, omitting the women in the co-educational institutions, are given in Table II.

**TABLE II.**  
 NUMBER OF STUDENTS IN NEW ENGLAND COLLEGES, OMITTING WOMEN.

	1850.	1860.	1870.	1880.	1890.
Amherst College.....	182	220	261	339	352
Bates College.....	...	....	77	121	106
Boston University.....	....	....	....	114	179 <sup>1</sup>
Bowdoin College.....	120	198	121	157	185
Brown University.....	174	232	220	247	352
Colby University.....	72 <sup>1</sup>	122	55	136	140
Dartmouth College.....	221	275	305	247	256
Harvard University.....	296	457	616	862	1464
Middlebury College.....	56	103	58	39	43
Trinity College.....	78	41	91	101	133
Tufts College.....	....	53	60	60	78
University of Vermont.....	101	101	42	66	119 <sup>2</sup>
Wesleyan University.....	116	135	153	153	227
Williams College.....	179	233 <sup>1</sup>	141	227	311
Yale University.....	432	521	522	641	936
Totals.....	2027	2691	2722	3510	4881
No. of population for 1 student...	1346	1165	1281	1143	961
Population of New England in thousands.....	2728	3135	3487	4011	4692

The difference caused by the elimination of the female students is seen to be very small. Expressing the results as before, we have the true percentage increase in the number of New England college students.

	POPULATION OF NEW ENGLAND.	MALE COLLEGE STUDENTS.
Percentage increase, 1850-60.....	14.9	32.7
" " 1860-70.....	11.2	1.2
" " 1870-80.....	15.0	29.0
" " 1880-90.....	17.0	39.0
Percentage increase, 1850-90.....	72.0	141.0

On the other hand there is a very large factor which should be added to these figures. The better class of scientific schools of to-day offer a training to young men which re-

<sup>1</sup> From statistics kindly furnished by the secretary of the college.

<sup>2</sup> Statistics for 1889-90.

quires not less, and very often more, mental application than is expended by the student in a classical college course. This education is, in almost all instances, not merely practical and technical, but involves the elements of a liberal training.

A student in such an institution as the Massachusetts Institute of Technology, for instance, may be pursuing exactly the same studies that a student at Harvard College may have elected. Moreover, the student at Harvard may not have pursued during his four years' course any studies which were not taken up by the student in the more strictly scientific institution. Both students graduate at the end of four years. Does not the A.B. of Harvard in this case represent the same quality and quantity of work done, as the B.S. received at the Institute of Technology? There seems to be no reason, then, why we should say that the one class of institutions is not the equal of the other, or that either does not stand for the highest form of education. Furthermore, the students in the scientific institutions are of the same age as college students, and spend the same length of time in their course of study. With one or two minor exceptions, four years is required in all these institutions to complete the course of study for a degree, and I have never heard of any proposition to shorten it.

The scientific schools have increased at an extraordinary rate during the forty years included in the above statistics, and without doubt a still greater increase in the colleges would have taken place if it had not been for these great additions to the numbers in the scientific schools. It is, then, to the influence of the scientific schools that we should rather look for the cause of the alleged decrease of college students, than to the enticement of quicker profits to be obtained in commercial life. If the college population were indeed decreasing, that problem might well be worth considering from the college standpoint.

For the reasons given above, it will be seen that the statistics for the scientific schools should also be included in any statistics representing the true increase of the number of those seeking a higher education in New England. These statistics

have been collected from the same authorities as those of the colleges, and are arranged in Table III.

**TABLE III.**

**NUMBER OF STUDENTS IN NEW ENGLAND SCIENTIFIC SCHOOLS, OMITTING WOMEN.**

	1850.	1860.	1870.	1880.	1890.
Chandler and Thayer Scientific Schools, Dartmouth College.....	....	42	77	50	72
Lawrence Scientific School, Harvard University.....	62	72	35	37	88
Massachusetts Institute of Technology.....	....	....	224	233	914 <sup>1</sup>
Sheffield Scientific School, Yale University...	21	38	125	190	350
Engineering Department, Tufts College.....	....	....	3	4	38
Worcester Polytechnic Institute.....	....	....	82	93	171
<b>Totals .....</b>	<b>83</b>	<b>152</b>	<b>546</b>	<b>607</b>	<b>1633</b>
<b>Totals for Colleges as given in Table II.....</b>	<b>2027</b>	<b>2691</b>	<b>2722</b>	<b>3510</b>	<b>4881</b>
<b>Totals for Colleges and Scientific Schools ...</b>	<b>2110</b>	<b>2843</b>	<b>3268</b>	<b>4117</b>	<b>6514</b>
<b>No. of population to 1 student in Colleges and Scientific Schools.....</b>	<b>1293</b>	<b>1103</b>	<b>1066</b>	<b>974</b>	<b>722</b>
<b>Population of New England in thousands....</b>	<b>2728</b>	<b>3135</b>	<b>3487</b>	<b>4011</b>	<b>4692</b>

It is at once apparent that the gain during the forty years in the scientific schools alone has been enormous, amounting indeed to about 2000 per cent. The sum of the figures for the colleges and the figures for the scientific schools represents the true numerical increase in our higher educational institutions. We may, as before, represent the percentage increase for each decade as follows:

	POPULATION OF NEW ENGLAND.	MALE STUDENTS IN COLLEGES AND SCIENTIFIC SCHOOLS.
Percentage increase from 1850-60.....	14.9	34.7
“ “ “ 1860-70.....	11.2	15.0
“ “ “ 1870-80.....	15.0	25.9
“ “ “ 1880-90.....	17.0	58.2
<b>Percentage increase from 1850-90.....</b>	<b>72.0</b>	<b>209.0</b>

<sup>1</sup> From the President's report.

This shows that the decrease in college students immediately after the war is completely offset by including scientific students, while the increase for the last decade assumes the extraordinary rate of fifty-eight per cent, or over three times the rate of increase of the population of New England and more than twice that of the whole country. At the same time the total increase for the forty years amounts to 209 per cent. which is also nearly three times the rate of increase of the population of New England. This represents, as I have endeavored to prove above, the true state of the case in the higher educational institutions of New England.

A consideration of these tables in regard to the growth of particular colleges is also interesting, and for this purpose Table II is best adapted. We find that Harvard leads the list with an increase of almost exactly five-fold in forty years. Yale has more than doubled its numbers in that period, while the lot of the other colleges has, with few exceptions, been very similar. They, too, have about doubled their numbers in forty years. If we exclude Harvard and Yale from the computation, we find that the smaller colleges have increased ninety-one per cent. during that time. Does a consideration of these figures uphold the oft-repeated statement that the smaller New England colleges are on the decline? Do not the figures for Amherst, Brown, Colby, Trinity, Wesleyan, or Williams, all of which are situated in, and draw most of their students from, slow-growing communities, show that they are increasing faster than their natural constituency? Can we expect colleges in Vermont to grow very rapidly, while the population of that state is remaining stationary, or even decreasing? Or, in the case of Dartmouth and the Maine colleges,—to which during the last forty years has also been added a new college to attract students, who would naturally have gone to the older institutions—can we expect a rapid increase while the communities in which they are situated, and which they represent, are nearly stationary?

Then, again, whence comes the wonderful increase at Harvard? By inspecting a table, given later on in this article, it will

be seen that this increase is derived almost entirely from New England. This great increase at Harvard is made up, for the greater part, of students who would naturally have gone to the other New England colleges, but have been attracted to Harvard by its size and the greater facilities offered by a larger institution. Moreover, even if this increase at Harvard had resulted in a slight decrease in the other colleges, it could not have been looked upon as a symptom of decline in the colleges at large, but merely as a concentration into one particular college. As a matter of fact, however, the smaller colleges have not only not decreased, but they show a positive increase, even under the influence of an institution so much larger than themselves.

I do not wish to convey the impression that size is the great and only advantage in a college. But inasmuch as it is admitted that the facilities and educational standing of all our colleges have enormously increased during this period of time, the fact that more students are attending the institutions collectively, shows that more education is being dealt out, so to speak, to the people.

There is, also, one other class of statistics which is interesting and necessary in order to show that the increase in the New England colleges should be compared with the population of New England alone. It might be urged that the increase of students, as shown by the statistics here given, is due to an influx of students from other parts of the country to New England colleges, attracted to them by their high standing, age, and reputation. In answer to this, I present Table IV.

We see that there is indeed a small increase in the percentage of students from outside of New England during the forty years, but that it is not nearly enough to account for the total gain in the colleges; and that while in 1850 70 per cent. of the students were from New England, in 1890 this had only been reduced to 63.5 per cent. Deducting, then, the students residing outside of New England, we find that the students in New England colleges, who come from New England



homes, have increased 116 per cent. in the last forty years, and 180 per cent. if we include the scientific schools as before. Meanwhile, the New England population has increased but 72 per cent. This estimate does not include women. Even this does not represent the exact state of the case, but gives a

TABLE IV.

## RESIDENCE OF STUDENTS IN NEW ENGLAND COLLEGES AND SCIENTIFIC SCHOOLS.

	1850.							1890.								
	N. E.	M.	S.	C.	W.	P.	F.	Total.	N. E.	M.	S.	C.	W.	P.	F.	Total.
Amherst.....	125	40	8	5	3	.....	1	182	220	73	6	37	10	.....	3	352
Bates.....	.....	.....	.....	.....	.....	.....	.....	.....	104	1	1	.....	.....	.....	.....	106
Boston.....	.....	.....	.....	.....	.....	.....	.....	.....	148	9	3	9	.....	1	.....	179
Bowdoin.....	114	2	.....	1	.....	.....	3	120	170	1	.....	5	4	.....	.....	185
Brown.....	133	20	14	3	2	.....	2	174	294	23	8	10	4	3	5	352
Colby.....	71	1	.....	.....	.....	.....	.....	72	134	3	.....	1	1	.....	1	140
Dartmouth.....	200	11	4	3	2	.....	1	221	227	9	2	11	6	1	.....	256
Harvard.....	251	20	16	6	1	.....	2	296	913	277	30	136	68	20	20	1464
Middlebury.....	42	10	.....	.....	.....	.....	4	56	29	11	.....	1	2	.....	.....	43
Trinity.....	34	32	8	3	.....	.....	1	78	75	39	2	12	2	3	.....	133
Tufts.....	.....	.....	.....	.....	.....	.....	.....	.....	73	2	.....	1	1	.....	1	78
University of Vermont.....	79	17	1	.....	.....	.....	4	101	103	12	.....	2	.....	.....	2	119
Wesleyan.....	59	46	1	5	2	.....	3	116	126	88	2	3	1	3	4	227
Williams.....	82	88	2	4	.....	.....	3	179	122	134	2	36	13	1	3	311
Yale.....	233	120	55	15	2	.....	7	432	336	368	37	110	59	11	15	936
Total for the Colleges.....	1423	407	109	45	12	.....	31	2027	3088	1050	93	374	171	46	59	4651
Percentages.....	70.2	20.1	5.4	2.2	0.6	.....	1.5	.....	61.3	21.5	1.9	7.7	3.5	0.9	1.2	.....
Chandler.....	.....	.....	.....	.....	.....	.....	.....	.....	69	.....	.....	1	2	.....	.....	72
Lawrence.....	41	9	6	2	.....	.....	4	62	56	17	7	5	2	.....	.....	88
Mass. Institute.....	.....	.....	.....	.....	.....	.....	.....	.....	609	86	33	97	37	16	36	914
Sheffield.....	10	8	.....	1	.....	.....	2	21	118	114	9	63	30	10	6	350
Tufts (Scientific).....	.....	.....	.....	.....	.....	.....	.....	.....	38	.....	.....	.....	.....	.....	.....	38
Worcester Polytech.....	.....	.....	.....	.....	.....	.....	.....	.....	156	2	.....	7	1	2	3	171
Total for the Scientific Schools.....	51	17	6	3	.....	.....	6	83	1046	219	49	173	72	28	46	1633
Total Scien. Schools and Colleges.....	1474	424	115	48	12	.....	37	2110	4134	1269	142	547	243	74	105	6514
Percentages of Totals.....	69.9	20.1	5.2	2.4	0.6	.....	1.7	.....	63.5	19.5	2.2	8.4	3.7	1.1	1.6	.....

N. E.—Me., N. H., Vt., Mass., R. I., Ct. M.—N. Y., Pa., N. J., Del., Md., D. C. S.—Va., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., Tenn., Ky., La., Ark., Tex. C.—O., Mich., Ill., Ind., Wis. W.—All others except P.—Cal., Ore., Wash. F.—Foreign.

result lower than the truth, for the number of students from New England in colleges outside of New England is a factor which is not included. This number in 1850 was so insignificant that it may be totally disregarded; but in 1890 it has

1 Statistics for 1889-90.

assumed considerable proportions. Unfortunately I cannot give exact figures on this point, but some idea of the size of this factor is obtained by examining the catalogues of nine of the larger institutions in other states. In these alone I find 128 students enrolled from New England. In the Report of the Commissioner of Education for 1887-88, it is stated that 395 students from New England are attending colleges outside of those states. The addition of this number to the students from New England in the New England colleges would more than offset the decrease in percentage caused by the influx of students from the outside states.

A study of the changes in the different institutions as shown in Table IV will no doubt interest many, but to discuss them lies outside of the scope of the present article.

We thus see what is the true state of affairs in the New England colleges; and I am firmly convinced that this represents the state of the case for the whole country. When we consider the wonderful growth of such institutions as Columbia, the University of Michigan, and many other of the western state universities, and the fact that such large foundations as Cornell, Johns Hopkins, Vanderbilt, have sprung into existence within the last forty years, a small decrease, if it does exist, in the smaller colleges, will not alter the total result.

This alleged decrease has, as I have stated, been adduced as a strong argument for shortening the course at Harvard College. President Eliot has made frequent use of it in his arguments to that end, and Professor James, in his article in the January number of the *Harvard Monthly*, brings it up most prominently, and strongly deprecates the great decline of interest in higher education. If the other arguments for the proposed change have no firmer foundation than this one, surely the project has but a slender basis to rest upon.

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## II.

### THE PRIMARY SCHOOL IN THE MIDDLE AGES.

#### I.

The Abbé Alain has made a specialty of the history of education prior to the Revolution of 1789, in France. The volume before me<sup>1</sup> is one among several from his pen. It is not only a compendious summing up of the labors of others in the same field; it is also based upon original research, and has brought to light facts and figures that may not be ignored. The learned Abbé is indefatigable. The amount of reading that has gone into any of the least chapters of this modest book is sufficient voucher for the conscientiousness of the work done. The book will prove a revelation to many readers. Time was, and that not very long ago, when men were convinced that in France primary education began after the Revolution. They could see nothing previous to that epoch but an ignorant people deprived of all educational facilities for their children. That there was primary education, and gratuitous primary education, prior to 1789, is still to many an unknown fact. None the less is it true, nor will it be denied by any person presuming to know aught of the history of education in Europe. The spontaneous enthusiasm with which men, in different parts of France, found themselves working upon this subject is in itself quite phenomenal. I cannot undertake to make a complete record of the books that have been produced, teeming with scholarship and all unanimous in their results. But I will glance at a few of the more important works, knowing that it is within the scope of this REVIEW to supply the bibliography of all educational subjects.

<sup>1</sup> *L'Instruction primaire en France avant la Revolution, d'après les Travaux récents et des Documents inédits, par l'Abbé Alain.* Paris : Librairie de la Société Bibliographique, 1881, pp. xvi, 304.

The first, to my knowledge, to let in light on the subject of the education of the people, was the erudite Director of the National Library of Paris, M. Leopold Delisle. In his learned essay, called *Etudes sur la Condition de la Classe Agricole, et l'Etat de l'Agriculture en Normandie au moyen age* (Evreux, 1857), he dwelt upon the intellectual status of the peasantry of Normandy, and from original sources proved that people to have been well cared for as regards education. This was a side light, revealing an unexpected state of affairs. The book is a model of its kind, and has been largely so utilized in France. The next author to deal with the subject was M. Fayet. In 1858 he read before the Scientific Congress of France, his first memoir on the state of primary education in Auxerre during the past centuries. On the same occasion we find a similar memoir from the pen of M. Quantin.<sup>2</sup> Since that time M. Fayet has been indefatigable in collecting documents throwing additional light on the subject, and he has written some other valuable works concerning it.<sup>3</sup> In 1868 M. Maggiolo read at the Sorbonne his important essay, *De la Condition du Maître d'Ecole en Lorraine avant 1789*. Since then he has issued papers and volumes, all bearing on the question of primary education; but the main results of his investigations are to be found in valuable articles of his scattered through the pages of Buisson's *Dictionnaire de Pédagogie*.

Other works on the subject began to multiply with astonishing rapidity, and they furnish a striking example of what may be achieved when method and scholarship and untiring research are brought to bear upon a disputed or an ill-understood issue. Thirty years ago, men might inform you concerning the Colleges of the Jesuits, or the Oratorians, in France during the sixteenth and seventeenth centuries, but on the state of primary education, or whether it had existence

<sup>1</sup> Congrès Scientifique de France, 15e Session, tenu à Auxerre en 1858, T. II., pp. 115, 130.

<sup>2</sup> Among others, we may mention *Les Écoles de la Bourgogne, sous l'Ancien Régime*, Langres, 1875; *Recherches historiques et statistiques sur les Communes et les Écoles de la Haute-Marne*, Paris, 1879.

at all prior to the Revolution, they were in total darkness. To-day, he would be a very daring or a very ignorant man, who would assert in presence of an intelligent audience in any part of the civilized world, that there was no primary education before the end of the eighteenth century. It was with the sole view of refuting this assertion that the whole library of educational literature just referred to was produced.

There is scarcely a province in France in which archives have not been overhauled; and facts and figures of all kinds have been pressed into service, and made to reveal results as astonishing as they were unlooked for. I shall not attempt an exhaustive enumeration of them. Beaurepaire has unfolded in three volumes the history of public instruction in the diocese of Rouen before 1789.<sup>4</sup> Quantin did the same for the department of the Yonne.<sup>5</sup> De Charmasse gave us invaluable documents bearing on the state of education in the ancient diocese of Autun.<sup>6</sup> Babeau brought to light the state of education in the department of Aube.<sup>7</sup> Armand Ravelet, the brilliant editor of *Le Monde* of Paris, in the introductory portions of his history of Blessed John Baptist de la Salle, summarized such of these as had been published at the time of writing, and added new matter, the result of his own research.<sup>8</sup> These are but a few of the many works that I might quote. They have all been utilized to the best advantage by the Abbé Alain.

I shall now endeavor to give some idea of the primary school in the Middle Ages as we find it outlined in such works and documents as have been mentioned.

<sup>4</sup> *Recherches sur l'Instruction publique, dans le Diocèse de Rouen, avant 1789.* Evreux, 1872, 3 vols., 8vo.

<sup>5</sup> *Histoire de l'Instruction primaire avant 1789, dans les Pays formant le Département de l'Yonne,* Auxerre, 1874.

<sup>6</sup> *État de l'Instruction primaire dans l'ancien Diocèse d'Autun pendant les XVII<sup>e</sup> et XVIII<sup>e</sup> Siècles,* Autun, 1871; second edition, Paris, 1878.

<sup>7</sup> *L'Instruction primaire dans les Campagnes avant 1789,* Troyes, 1875.

<sup>8</sup> *Histoire du Vénérable J. B. de la Salle, Fondateur de l'Institut des Frères des Écoles Chrésiennes,* Paris, 1874. Leon Gautier has made further additions to this portion of Ravelet's work in a new edition, which he edited in French and which was afterward translated into English by the late Kathleen O'Meara.

## II.

There is no time in the history of the Christian Church when schools did not exist, now of one kind, now of another. Even down in the catacombs we find next to the little chapel the school-room for the catechumens, where they had their own teachers, distinct from those who gave instruction to the faithful.<sup>9</sup> In the East we need only mention the schools of Edessa and Alexandria. Wherever monastic institutions were established, schools flourished. Then there were the episcopal school, the cathedral school, the parish school, the burgh school, the rural school, schools attached to the hospitals for the poor,—all of which flourished at one or other time during the Middle Ages, throughout Christendom. In the graphic pages of Gregory of Tours (539–593), we read accounts of poisonings, murders, wars, intrigues at the royal court, while Chilperic is discussing Arianism and writing bad verses. But even in those lawless days there are indications that schools abounded. Chilperic turns grammarian and adds to the alphabet. Gregory says of him: “He sent orders to all the towns in his kingdom that the new alphabet be taught the children and that all books formerly written be effaced by the pumice stone, and written anew.”<sup>10</sup> Again, Guibert of Nogent,—born about 1065,—writing of education in his day, says: “Somewhat before this time, and even since, there was so great scarcity of schoolmasters that hardly a single one could be seen in the country, and not many in the large towns; and even these were so backward in learning that they could not be compared with the class now (1110) to be found in the country schools.” He witnesses a general revival of learning,—“seeing how on all sides men give themselves zealously to the study of grammar, and the ever-increasing number of schools renders knowledge easy of access to the rudest men.”<sup>11</sup> From this time on evidences of the existence of the rural

<sup>9</sup> Padre Marchi, *Monumenti delle Arti Christiane Primitive nella Metropoli del Christianesimo*, Roma, 1844, p. 172.

<sup>10</sup> *Histoire*, V., 45.

<sup>11</sup> *History of the Crusades*, Preface.

school become more frequent. M. Simeon Luce, in the course of his historical researches, feels bound to notice its existence in the **fourteenth century.** He says: "It is a grave mistake to imagine that there were no primary schools. Mention is made of rural schools in all the documents,—even in those in which we could least expect to find it,—and we can scarcely doubt that during the most stormy years of the fourteenth century most villages had their masters, teaching children reading, writing, and some arithmetic." Elsewhere the same author places before us a little scene, which he represents as occurring in 1377, that brings home to us the schoolmaster of that distant day finding difficulty in collecting his dues. Tassin de Loitre,—such is the master's name,—after drinking wine in the tavern of one Thomas D'Aunoy, refuses to pay. "And why not?" asks the hostess. "Because," replies Tassin, "you keep a cleric at my school for whom you owe me more than forty pence."<sup>12</sup> James Grant bears witness to a like multiplicity of schools in Scotland. "Our burgh schools," he says, "were not created by an act of Parliament; they had their origin in connection with the church, or were called into existence by the people themselves; but in whatever way they were founded, undoubtedly toward the end of the fifteenth century, schools were planted in every considerable town in Scotland; and the memorable Act of 1496, which has been so frequently quoted, assumes the existence of schools enough for supplying the people with knowledge of art, 'jure,' and 'perfect Latin.'<sup>13</sup> Babeau, as the result of his researches, finds this state of affairs everywhere throughout France. "According to a great number of traditions," he says, "school was as much frequented, if not more so, formerly, than it is to-day."<sup>14</sup> As early as 1500, in the Middle Rhine province, there were schools every two miles. In the annals of Wesel, under the year 1494, there were charges for five teachers "to

<sup>12</sup> *Histoire de Bertrand du Guesclin et son Époque : La Jeunesse de Bertrand* (1320-1364), p. 15.

<sup>13</sup> *History of the Burgh and Parish Schools of Scotland*, p. 25.

<sup>14</sup> *L'Instruction primaire dans les Campagnes avant 1789*, p. 41.

instruct the youth in reading, writing, figures, and church music."<sup>15</sup> [www.libtool.com.cn](http://www.libtool.com.cn)

Nor were the parents of mediæval days as indifferent to the education of their children as some would lead us to suppose. In the burghs and villages it was customary with fathers when binding out a young son to learn some trade, or hiring him out to do manual labor, to impose on the master conditions obliging him to send the child to school at certain times and seasons, and to procure him elementary instruction. Thus we read that in 1398 one Jean Milles, in apprenticing his son as servant to a certain William Louvet, stipulates that the master shall find the child in all the necessaries of life; among others so named are: "eating, drinking, shoes, clothing, and the being kept at school." Again, we read that in the year 1399, among the stipulations under which a minor is bound to his uncle for nine years, is one that the latter shall keep him at school during the whole time and shall see that he be tonsured—"faire avoir couronne."<sup>16</sup> This solicitude extended to the time when they could no longer look after their education. A customary expression, found in the wills of merchants and artisans of the thirteenth century in regard to a child was: "*Volo quod sibi provideatur in scholis.*"<sup>17</sup>

The clergy were equally interested in the education of the children. In the rural districts they were wont to teach school themselves. And in the eighth century we find a bishop of Modena, when investing one of his priests with an important parish in the city, exhorting him "to be diligent in keeping school and educating the children."<sup>18</sup> A statute of the diocese of Rouen, of the year 1230, reads: "Let the clergy frequently exhort their parishioners to be careful and exacting in sending their children to school, since no one

<sup>15</sup> Janssen, *Geschichte des Deutschen Volkes*, I., pp. 23, 24.

<sup>16</sup> Tonsure admitted to the benefit of clergy, and was greatly sought after by parents for their children. We read that in the diocese of Rouen, from the Michaelmas of 1465 to the Michaelmas of 1466, there were tonsured 3954 children. Cf. Beaurepaire, *Recherches sur l'Instruction publique dans le Diocèse de Rouen, avant 1789*, pp. 53-62.

<sup>17</sup> Louis Guibert: *Dictionnaire de Pédagogie*, Art. *Limousin*, p. 1594.

<sup>18</sup> Cerruti, *Storia della Pedagogia in Italia*, p. 95.



without instruction can be admitted to ecclesiastical benefices." <sup>19</sup>

Dederich Goelde, a Friar Minor, in a catechism which he wrote in 1470, thus speaks of the duties of parents toward their children: "Children should at an early age be sent to school, to honorable and worthy teachers, in order that they learn to be respectful and to save them from learning sin and bad habits in the streets." <sup>20</sup>

The Church was ever solicitous to maintain a supply of teachers, especially for the primary schools. The Council of Vaison, held in 529, decreed that, as was the general custom throughout Italy, each pastor should have in his house a class of young men studying for the priesthood. These young men were also engaged in teaching the small children. And so, in the ninth century, one of the questions to be asked when the bishop makes a visitation of his parish, is: "Whether the parish priest has with him a cleric who can teach school—*qui possit tenere scholam*—and assist him during the divine services." <sup>21</sup>

Riculf, the bishop of Soissons, admonishes his priests that among other things they pay particular attention to the scholars confided to them, and so teach them grammar that they will not destroy its fruit by inaccuracy in their conversation.<sup>22</sup> The good bishop, in asking his priests to find a method of teaching grammar by which pupils could speak correctly, was giving them a problem that very few of the schoolmasters of the present day have been able to solve. Later on, we find the statutes of Troyes decreeing that every parish priest shall have dwelling with him a cleric who shall teach school, and that said priest shall notify his parishioners to send their sons to the church to be properly instructed by this cleric.<sup>23</sup> Monasteries also supported a certain number of young

<sup>19</sup> Beaurepaire, op. cit., p. 53.

<sup>20</sup> Cf. Janssen, op. cit., I., p. 22.

<sup>21</sup> Hineman, *Statutes of 852*, XI., *Acts of the Province of Rheims*, I., p. 211.

<sup>22</sup> *Constitutions of the Diocese of Soissons*, 889, Art. xvi.

<sup>23</sup> *Statutes of the Synod of Troyes*, beginning of thirteenth century, cf. Babeau, op. cit., p. 8.

clerics with a view of their becoming teachers.<sup>24</sup> And in each large monastery there were generally two schools, one for those intending to enter the service of the Church, and the other for youths who were to continue to live in the world. In 817 the Council of Aix-la-Chapelle issued a decree which shows that masters were looked after in those early days. The decree reads: "If it should happen that the Brother who shall be charged with the care of the children should take little or no pains to instruct them, or should teach them other things than the subjects they ought to learn, or should have injured them in beating, let such be severely punished and removed from his office, and let this office be committed to some other Brother who shall keep the children innocent by the example of his life, and shall excite them to the performance of good deeds."<sup>25</sup> In the cities, as early as the eleventh century chapters took charge of the schools.<sup>26</sup>

The schoolmaster in the Middle Ages, we may infer, was, up to the fifteenth century, generally a young ecclesiastic or a cleric who dwelt with the pastor, helped him to sing the divine offices, aided him in many ways, and generally acted as sacristan. Flodoard tells us of such a cleric who, in order to study, or for some other purpose, was wont to steal the oil from the lamps burning before the relics of certain saints. His pupils, to whom he was teaching the psalter, informed on him. Even when not a cleric, the schoolmaster still performed certain functions in the church. Thus, we read the following articles of agreement, bearing date of July 25, 1699: "The said Gaillardet promises to teach reading, writing, cyphering, plain chant . . . and obligates himself to ring the bells when storm, wind, or hail threatens, and to sing at benediction during Advent and Lent."<sup>27</sup> This formula embodies the traditional occupations of the schoolmaster for centuries. A similar document has been handed down to us from the Catholic

<sup>24</sup> Beaurepaire, op. cit., II., p. 28.

<sup>25</sup> *Statuts et Réglemens des petites Écoles de Grammaire de la Ville, Cité, Université, Faux-bourgs, et Banlieuë de Paris*, Paris, 1672, p. 214.

<sup>26</sup> Choron, 2d fascic., p. 54.

<sup>27</sup> L. Maggiolo, Art. *Bourgogne* in Buisson's *Dictionnaire de Pédagogie*.

days of Scotland. It reads: "Master Harry Henryson is taken bound to be the good, true, and thankful servitor of the abbott and convent, and their successors, during his lifetime, and to attend to high mass and even-song at the high solemn festival times, with his surplice on."<sup>28</sup> In Paris, the master was expected "to preach on Palm Sunday in the Church of Notre Dame," or to pay out of his own purse for one to replace him.<sup>29</sup> At Pavilly, the master and his pupils were wont to attend mass on Sundays and solemn feasts in the chapel of the priory, where they chanted, and after mass both master and pupils dined with the prior.<sup>30</sup> The connection of the schoolmaster with singing in the church dates far back. Thus we read that when Charlemagne would change the system of music from the Gallic to the more efficient Roman system, he ordered all the schoolmasters to bring their antiphonaries to the chanters Theodore and Benedict to be corrected. Hence we generally find that the precentor of the cathedral is also the superintendent of schools. But we must not for a moment imagine that because of the offices he filled around the church, the schoolmaster of mediæval days was not held in honor. Such offices were not considered to be in any sense degrading. In those ages of faith it was thought an honor to be employed in the humblest manner with anything connected with the worship of God. "Men have been amused," says the Abbé Alain, "they have even feigned indignation, upon seeing our old schoolmasters both teachers, chanters, and sacristans. These good Christians took quite another view of the matter. The humble duties they performed in the church were great in their own eyes, and far from making them fall in the estimation of pupils and people, they added to their respect."<sup>31</sup> The General Assembly of the clergy of France, held in 1685, decreed that "the schoolmasters, clothed in their surplices, should be incensed in the church and should hold the place of honor above all the laity, even the aristocracy of

<sup>28</sup> Grant, *History of the Burgh and Parish Schools of Scotland*, p. 23.

<sup>29</sup> *Mémoires de la Société de l'Histoire de Paris*, T. xiii., p. 47.

<sup>30</sup> Beaurepaire, *op. cit.*, p. 28. This dinner was called *Truée*.

<sup>31</sup> *L'Instruction Primaire en France avant la Revolution*, p. 132.

the parish.<sup>32</sup> The teacher was, according to Merlet, "after the pastor, the man of the parish." He saw the child born; he added his congratulations to the young couple pledging their love at the foot of the altar; he joined the last prayers uttered over the tomb that was closing down on some departed one."<sup>33</sup> He was the counselor of families, the confidant of secrets; when a letter was to be written, to him men and women had recourse. Not infrequently did he exercise some civic function in connection with that of teaching; now that of notary public, now that of registrar, now that of lawyer, now that of mayor of the town.<sup>34</sup> He was held in respect during life, and his memory was cherished after death. Nor was the schoolmistress less esteemed. There is pathos in this inscription bearing date of 1687: Catherine Ravigné, schoolmistress, was buried in presence of the chapter assembled, bearing with her the esteem of the whole congregation for her many offices of charity done to each and all.<sup>35</sup> Moreover, the schoolmaster enjoyed many privileges from the state. He was generally exempt from taxation and from military services.<sup>36</sup>

The manner in which he was paid varied with the locality. Sometimes he received a certain stipend from the burghers or the parish. Sometimes he taxed each pupil according to the subject studied. A document of the thirteenth century thus regulates the stipends of a grammarian: The town was to be responsible for the payment of all the younger children within its limits not studying grammar, and the master should exact from them no salary. From those outside, the sum of five sols was required. Those studying grammar should pay seven sols and six pence; and the grade extended to twenty sols.<sup>37</sup> The poor were always enabled to receive instruction gratuitously. A decree of the town of Worms in 1260 reads as follows: "No one should be excluded from the schools on account of indi-

<sup>32</sup> *Collection des Procès-verbaux du Clergé*, T. v., pp. 602-603.

<sup>33</sup> Merlet, iii.

<sup>34</sup> For these and other instances see Alain, *op. cit.*, pp. 144, 145.

<sup>35</sup> C. Post, *Dictionnaire de Maine-et-Loire*, T. iii., p. 379.

<sup>36</sup> Babeau, *Le Village*, p. 231, sqq.

<sup>37</sup> Compayré, *Études Historiques et Documents inédits sur l'Albigeois*, Albi, 1841, p. 209.

gence." Frequently the master received payment in kind, according to the local products. The Abbé Alain, after summing up the results of those authorities who entered into details on the subject, says: "All things considered, the position of our ancient educators, as regards ease and competence, was scarcely inferior to that of their important successors in our own days."<sup>38</sup>

### III.

Such was the schoolmaster. What of the school itself? The primary or rural school was at first frequently held in the church, and it was only after a long struggle and reiterated synodal decrees that it became located elsewhere. Thus, Reginald of Durham, writing in the twelfth century, assures us that it was the custom to hold school in the church, and mentions the incident of a boy who thought he would get rid of all his school troubles by throwing the key of the church into a deep pool of the river flowing near by.<sup>39</sup> The Bishop of Bayeux in 1662 forbids the holding of schools in churches and chapels.<sup>40</sup> If the pastoral residence was large enough, school was held there. The children of all grades were assembled in the same room, and it was only after stringent legislation that the boys were separated from the girls. In the cities this arrangement was more readily brought about. The school-books were few. The child had one book containing the alphabet and his prayers in Latin. It was sometimes called the ABC; but because it bore the image of the Cross, it was more generally known as the *Croix de par Dieu*.<sup>41</sup> The next book placed in his hands was the psalms and offices for Sunday.<sup>42</sup> "It is undoubtedly to the study of the psalms," says de Charmasse, "made on the school benches, that we must attribute the universal taste which all classes of society in the Middle Ages

<sup>38</sup> *L'Instruction Primaire*, p. 133.

<sup>39</sup> James Grant, *History of the Burgh and Parish Schools of Scotland*, p. 5.

<sup>40</sup> *Lettre Pastorale*, p. 56. The little book on Method attached to this Letter, is rare and valuable.

<sup>41</sup> *Croix de par Dieu* is equivalent to *Croix de parte Dei*.

<sup>42</sup> It was called the *petit Latin* and from its peculiar form the *Longuette*. Cf. Babeau, *op. cit.*, p. 39.

preserved for the almost daily recitation of the psalter.<sup>43</sup> The child was invariably taught to read Latin before he had learned to read in the vernacular. In England the custom was changed during the sixteenth century.<sup>44</sup> In France this was considered the natural method, inasmuch as the Latin tongue was the foundation of the French. In consequence of this method, children were frequently withdrawn from school before they had learned to read in their mother tongue. The custom had begun at a time when Latin was the vulgar tongue.<sup>45</sup> It was only in the seventeenth century that La Salle succeeded, amid great opposition, in changing this order, and teaching the French first. The old arrangement may seem to us a great hardship, but we must remember that we are dealing with a period in which newspapers were not in existence and books were scarce and expensive. Those in the mother tongue were comparatively few and costly. Strolling bards made the people familiar with the substance of popular song and legend—the romantic literature—that ran side by side with the spiritual and theological writings of the period. Even for those who were taught to read in the vernacular, the amount of available reading matter was scanty, and did not extend beyond their catechism, with some Bible history, and an occasional pious book. In the sixteenth century a code of politeness was added. Advanced pupils were further taught to read charts and manuscripts. We find mention made of prizes given for excellence in the reading of documents.<sup>46</sup> When the student could decipher old registers and dusty parchments, often set down in writing difficult to read, his education was considered complete. The master had nothing more to teach him.<sup>47</sup> Teachers have been rejected because they could not decipher the deeds, charts and documents of a township.<sup>48</sup> Those of my readers who have

<sup>43</sup> *État de l'Instruction primaire dans l'ancien Diocèse d'Autun*, 1878, p. 22.

<sup>44</sup> Mulcaster, *Positions*, p. 31.

<sup>45</sup> *Essai d'une École Chrétienne*, Paris, 1724, p. 293.

<sup>46</sup> Maggiolo, *Les Archives scolaires de la Beauce*, p. 19.

<sup>47</sup> Babeau, *L'Instruction primaire dans les Campagnes*, p. 40.

<sup>48</sup> Sérurier, p. 54; *Archives de la Gironde*, C. 328z; Alain, op. cit., pp. 168, 169.

had any experience in deciphering all such documents cannot fail to respect the intelligence and patience of the teacher or pupil who had become expert at the work. In the seventeenth century pupils were taught to read books printed in the black-letter or Gothic characters. Thus, one of the earliest hand-books of pedagogy says: "While they are learning politeness and to read manuscripts, the master shall teach them how to read in some book printed in Gothic letters, showing them once a day the characters, ligatures, abbreviations, and capitals in this kind of printing."<sup>49</sup>

Arithmetic in the primary school did not extend beyond a knowledge of numeration. Far into the Middle Ages the Roman system of learning figures and letters by means of pebbles was employed.<sup>50</sup> Alcuin, as well as Isidore, sought rather the mystical meaning of numbers than their practical utility. Only in computations bearing on the ecclesiastical year was any serious use made of them. Even Gerbert gives only the teaching of Boëthius, and though he simplifies the abacus, he does not introduce Arabic numbers, as has been frequently asserted.<sup>51</sup> It was in 1202 that Leonard Febonacci, a merchant of Pisa, published his books on arithmetic and algebra, in which he introduced the Arabic figures, decimals, and another modification of the abacus. Vincent of Beauvais, one of the most encyclopædic men of his day, popularized the system. Up to 1581 we find no mention of arithmetic in the primary school. Mulcaster speaks only of "writing and reading" as the two things which children might easily learn "for religion's sake and their necessarie affaires."<sup>52</sup> An arithmetic published in 1719, in France, contains numeration and the first three fundamental rules. The examples are all in the concrete, dealing with yards of cloth, casks of wine, and the like. The book was then considered a novelty.<sup>53</sup>

<sup>49</sup> *L'École paroissiale*, p. 253.

<sup>50</sup> Cf. *Etymologia* of Isidore of Seville.

<sup>51</sup> Chasles, *Mémoires de l'Académie de Science*, 1843.

<sup>52</sup> *Positions*, p. 139.

<sup>53</sup> It was called *Instruction nouvelle pour enseigner aux Enfants à connoître le chiffre et à sommer avec les gets*, Lille, 1719. Resbecq has an analysis of it in his very instructive and valuable work, *Histoire de l'Instruction primaire dans le Département du Nord*, Paris, 1878, pp. 84, 85.

Writing was taught in the primary school. But as the schoolmaster was frequently the scribe of the village, and in the employment of his pen found an additional source of income, he was very slow in teaching writing to his scholars, fearing lest they would afterward supplant him as public scribes.<sup>54</sup>

In the fourteenth century writing is but little practiced among the people; it still belongs to an exclusive profession. In the fifteenth century it ceases to be so exclusive, and we find that the *bourgeoisie* write. In the first quarter of the sixteenth century the signatures of all kinds of artisans begin to appear. At this period also do we find the writing-masters organized into guilds, apparently for mutual protection against the encroachments of other teachers. By a decree bearing date of July 2, 1661, primary teachers are circumscribed as to the amount of writing they may teach their pupils and prohibited to teach special pupils unless they are licensed to keep a writing-school, all being in accordance with a decree made in the year 1600. And in like manner, the writing masters were forbidden to teach any subject beyond writing, arithmetic, and orthography—"for which purpose only they were permitted to use books in print or in manuscript, without abusing them or using them to teach reading except in the manuscripts assigned and for the purpose only, without fraud or subterfuge."<sup>55</sup> It was Jean Baptiste de la Salle who broke up this monopoly, about twenty years afterward. In addition, the girls were taught sewing and knitting, and all the children were taught singing. Religious instruction pervaded the school from morning till night. The last quarter of an hour was daily given to Christian doctrine, and on Wednesday and Saturday afternoons the children were taught the catechism of the diocese. Later on, in Paris, as complaints were made that the children were devoting too much time to catechism lessons, those of Saturday were transferred to Sunday.<sup>56</sup> And

<sup>54</sup> E. Rendu, *De l'Éducation populaire dans l'Allemagne du Nord*, p. 8.

<sup>55</sup> Cf. Charles Jourdain, *Histoire de l'Université de Paris*, p. 215.

<sup>56</sup> *L'École paroissiale*, p. 113.



that teachers be imbued with the spirit of faith and piety, they were expected to read daily in some spiritual book. The precentor of Notre Dame prescribes the following books: *The Imitation of Christ, Lives of the Saints, Introduction to a Devout Life* by St. Francis de Sales; Catechism of Cardinal Bellarmine, Catechism of the Archbishop, the Old Testament—especially Proverbs, Wisdom, Ecclesiastes; the New Testament. This is the spiritual food with which their piety was nourished. In addition, they were recommended to read two valuable works on methods of teaching, *Le Pédagogue Chrétien* and *L'Escole paroissiale*.<sup>57</sup>

Such were the subjects taught in the primary schools of the Middle Ages. Let us not censure them for their limited scope. We find it no better elsewhere. We turn, for instance, to the Moorish primary schools in Spain, and we find the children of the poorer classes learning, in their way, what our Christian children had been learning in theirs. They are taught reading, writing, and religious doctrine. The child first learns the Arabian alphabet. He is then taught the difference of letters according to punctuation, accentuation, sound, the composition of letters, and the other elements that enter into the study of Arabic words. He is afterward carefully drilled upon pronunciation. Finally he learns to read the Korân, which is for the Arabian the Alpha and Omega of all study. Here his education finishes.<sup>58</sup>

It is evident that the Christian mediæval primary schools were not always and in all places kept up with uniformity. Nor were these the only schools in which children might learn the elements of knowledge. There were numerous private schools kept by a class of teachers who were known as grammarians. These grammarians seem to have been a restless class, passing from town to town. They were subject to pay a tax.<sup>59</sup> Erasmus has pictured them with a pen dipped in gall.

<sup>57</sup> *Statuts et Réglemens des Petites École de Grammaire de la Ville, Cité, Université, Faux-bourgs et Banlieuë de Paris*, 1672, Preface.

<sup>58</sup> Henricus Middeldorpf, *Commentatio de Institutis litterariis in Hispania quæ Arabes Auctores habuerunt*, Goettingæ, 1810, p. 53.

<sup>59</sup> Choron, *Recherches Historiques, Bulletin de la Société Archeologique*, fascico 2, p. 69.

He calls them : " A race, of all men the most miserable, who grow old at their work surrounded by herds of boys, deafened by continual uproar, and poisoned by a close, foul atmosphere ; satisfied, however, so long as they can overawe the terrified throng by the terrors of their look and speech, and, while they cut them to pieces with ferule, birch, and thong, gratify their own merciless natures at pleasure." <sup>60</sup> This might have been a scene of frequent occurrence, and yet there might have been, and no doubt there were, many worthy men belonging to the profession.

Throughout the Middle Ages the level of education varied with times and places. The ravages of war, the terrible scourges of plague and famine that devastated whole peoples, were as disastrous to the progress of education as they were to that of life and civilization. The school, being sustained by local enterprise, varied with the fluctuations of local energy. What we might call the public school in France was created only in the fifteenth century, reached its highest state of efficiency in the sixteenth century, declined in the seventeenth century, and, under the new impulse given to all primary education by La Salle, revived in the eighteenth century. We are told that during the eighteen years of the reign of Louis XVI. more schools, both large and small, were founded and legislated for than during the whole French monarchy in twelve hundred years.<sup>61</sup> Paris was always a specially favored city as regards education. Independently of the schools attached to churches, eleven masters and one mistress figure in the roll of the land tax levied on the inhabitants of Paris by Philip the Fair, in 1292. In the fourteenth century we find record of forty-one masters and twenty-two mistresses ; in the fifteenth century, there are a hundred ; and at the close of the sixteenth century, the precentor Claude Joly enumerates no less than five hundred schoolmasters and schoolmistresses. The statutes regulating these schools date back to the year

<sup>60</sup> *Encomium Moria.*

<sup>61</sup> Boutiot, *Histoire de l'Instruction publique et populaire à Troyes, pendant les quatre derniers siècles*, pp. 7-15.

1357.<sup>63</sup> It should be remembered that this was the period—from the thirteenth to the sixteenth century—in which the great University of Paris flourished and counted its students by the tens of thousands.

## IV.

And now, let us take a rapid glance at school life as revealed to us. Then, as now, there was little uniformity in the age at which children were sent to school. The old French romances generally speak of the hero being sent to school and taught to read and write. This is true of Hervé de Metz.<sup>64</sup> It is true of Garin, who knew how to read in Romance and in Latin.<sup>64</sup> Of another hero we are told that “when he had attained his twelfth year he was a full-blown bachelor . . . and had passed four years at school.”<sup>65</sup>

Sometimes the hero was fifteen years before his schooling was finished, as was the case with the son of Parisi la Duchesse.<sup>66</sup>

James Melville, of Scotland, born in 1556, tells us that in the fifth year of his age the “grace-buik” was put in his hands at home, but he made little progress in it. At the age of seven he was sent to school at Logie Montrose.<sup>67</sup> During the first five or six days the pupil was placed apart from the other scholars and no lessons were assigned him. Afterward he was supplied with his A B C book, which he carried hung to his belt.<sup>68</sup> He also brought the rod with which he was to be punished.<sup>69</sup> The use of the rod was universal. We read

<sup>63</sup> Ravalet, *Life of Blessed de la Salle*, illustrated edition, p. 27.

<sup>64</sup> Bibliothèque Nationale, MSS. française, 19,160.

<sup>64</sup> Le Loherains fut a escoles mis. . . .

Bien savoir lire et roman et latin.—*Garin le Loherains*, I., 179, 180.

<sup>65</sup> Quant ot xii. ans moult fu biax bachelier

D'esches de tauble fut bien en doctrinez

Et a l'ecolle fut bien iiij. ans passez.

—Bibl. Nat., MSS., fr. 19,160, f. 3, § 7.

<sup>66</sup> Quant l'anfes ot quinze ans et compliz et passez—

Premiers apprist a letres tant qu'il en soi assez.

—*Parisi la Duchesse*, ll. 964 65.

<sup>67</sup> James Grant, *History of the Burgh Schools of Scotland*, p. 59.

<sup>68</sup> Bibliothèque Nationale, MSS., fonds latin, 15,955 : *Anonymous sermon*.

<sup>69</sup> Grant, *op. cit.*, p. 61.

of its employment in England in the eleventh century.<sup>70</sup> St. Louis, King of France, when a boy, was beaten with rods once a week.<sup>71</sup> Guibert of Nogent tells us of the harsh treatment he received, and when his mother, seeing the welts and bruises on his back, wept and said she no longer wished him to learn grammar, he replied that even though he should die he would continue to learn and become a clerk.<sup>72</sup> All were not equally harsh. Bishop Bertram speaks of St. Germanus of Auxerre as a kind teacher, who not only gave him knowledge, but by his prayers led him to the honor of embracing the priesthood. Fortunatus draws a beautiful picture of this same saint in his cathedral, surrounded by the ancients as well as by the youths whom he is training for the priesthood.<sup>73</sup> Anselm of Bec stands forth pleading for mildness and stoutly protesting against the rod as the sole means of training the child. "Can you by beatings," he says, "form the heart of the child and lead it to good principles?"<sup>74</sup> But the men of that day and generation believed in the efficacy of the rod as an essential factor in education.

School opened at half-past seven in the summer months, and at half-past eight in the winter months.<sup>75</sup> The child was there generally half an hour earlier. On entering, his first act was to say a prayer on his knees.<sup>76</sup> One of those prayers has been handed down to us from the Catholic days in Scotland. It will bear repetition: "I thank Thee, heavenly Father, that Thou hast willed that the past night hath been prosperous for me; and I pray that Thou wilt also be favorable to me this day, for Thy glory and the health of my soul; and Thou who art the true light, knowing no setting, Sun eternal, enlightening, supporting, gladdening all things, deign to enlighten my mind, that I may never fall into any sin, but, by Thy guiding,

<sup>70</sup> *Alfric's Colloquies.*

<sup>71</sup> Henri Martin, *Histoire de France*, 4me ed., t. iv., p. 133.

<sup>72</sup> *Vita Sua*, lib. i., cap. 6.

<sup>73</sup> *Carmina*, lib. ii., 8.

<sup>74</sup> Cf. *Christian Schools and Scholars*, vol. i., pp. 418, 419; Choron, fascic. 2, p.

74.

<sup>75</sup> *Recueil des Ordonnances Synodales du diocèse d'Autun*, 1685.

<sup>76</sup> *L'École paroissiale*, p. 67.

arrive at life eternal. Amen." <sup>77</sup> The children began the day's study by assisting at the mass. On their return from the church they took their breakfast. In those days, it was customary for every child to bring not only his own meal but also something for the very poor who had none to bring.

Now that school has begun it would interest us to know the methods pursued in teaching. There lies before me an old wood-cut of the sixteenth century representing the interior of a school. As customs were slow to change, we may take it for a type of the school in the Middle Ages. The teacher is seated in a large arm-chair, with a low-crowned, broad-brimmed hat on his head and a mantle on his shoulders. He holds in his hand a bundle of rods, and in his lap a large folio lies open. The boy whose lesson he had been hearing stands aside while the master is talking very earnestly to another boy with hat in hand, and we infer that the latter has come late and is to be duly punished. A long table runs down the center of the room, at which the other boys stand in various attitudes with open books before them. There is a low stool destined for the new comers. A small boy has his book laid upon the stool, while he himself is engaged with balls or marbles on the floor. In another engraving, bearing date of 1493, the same low stool is found, and on it sits the same small boy, holding his book out to a little terrier as though he would have the dog to read. In this engraving it is evident that the teacher employs exclusively the individual method. He knew no other. Each boy in turn stood before the teacher, recited or read his lesson, and resumed his seat to give place to another. In the mean time, the remainder of the school was doing as it liked. The assiduous ones were occupying their time in reading or spelling or arithmetic or writing; the giddy ones were disturbing the others as far as they might do so with impunity. Much time was lost and only slight results were achieved. An anonymous pamphlet, issued about 1680, bewails the loss of time that is the consequence of this individual method. "In our colleges," he says, "we find pupils of the

<sup>77</sup> Directory of Aberdeen Schools, cf. Grant, *op. cit.*, p. 60.

same capacity placed in the same class; why is not the same done in our primary schools?"<sup>78</sup> Another anonymous work, a teacher's manual, advises that children be taught writing at as early an age as possible so that they may have occupation, and to avoid disorder while the master is engaged with the lessons of each one.<sup>79</sup> Still another manual recommends that the more advanced pupils call up their less advanced companions every half hour to recite a lesson—a method "making as many masters as there are pupils."<sup>80</sup> On the whole, the individual method was the only one known and applied up to the seventeenth century in the primary school. This led to great waste of time. Jean Baptiste de la Salle was the one to revolutionize the whole system of primary teaching by introducing the simultaneous method.<sup>81</sup>

With the individual method there was necessarily an absence of emulation. During the Middle Ages we meet with few modes of recompense for work done in the primary school. In 1585 we come upon a class of Abecediarics, who, in presence of several wrote the same sentence, and he whose penmanship was declared best received from the hands of the mayor "two pens and a penknife."<sup>82</sup> In more advanced classes books were given as prizes. But the best boy in the school was otherwise honored. And this leads us to consider the sports and recreations of the school-boy of that day.

I have now before me a most interesting old print, taken from a book of Hours, bearing the date of 1523. The subject is boys coming out from school. Some are flying a hawk; others have hurling-sticks and a ball, and one of this party has fallen down; others again are testing their strength by standing on one leg and placing the soles of their shoes flat

<sup>78</sup> *Avis touchant les Petites Écoles.* It is to be found in the Bibliothèque Nationale.

<sup>79</sup> *Essai d'une École Chrétienne*, P. vi., chap. 14. This essay is not to be confounded with the *Conduite de l'École Xtienne*, a work on the same subject by Jean Baptiste de la Salle.

<sup>80</sup> *L'École Paroissiale*, Paris, 1654, p. 75.

<sup>81</sup> Cf. André, *Nos Maîtres d'hier: Études sur les progrès de l'Éducation et sur les Developpements de l'Instruction populaire en France*, Paris, 1873, p. 295.

<sup>82</sup> Maggiolo, in Buisson's *Dictionnaire de Pédagogie*, i., p. 724.

against each other and then pushing till one gives way. Another school-boy game was this: At one end of an alley-way a suspended stick supports a crown decked with ribbons. At the other end stood the scholars, and each in turn sought to knock down the crown. He whom luck or skill favored received compliments from his companions, and was crowned king of the *Neude*. As such he enjoyed many privileges during the year.

But the game that crowned all other games with mediæval students of all grades, from the primary school to the university, was cock-fighting. It was emphatically a school-boy sport, and had its origin in the school.<sup>83</sup> The annual recurrence of the day of *les joutes de coqs* was keenly looked forward to. We find the custom established in London about 1174. We learn that about that time, every Shrove Tuesday, the boys were wont to bring their fighting-cocks to the master and during the whole morning they had cock-fighting in the school-room.<sup>84</sup> After dinner they indulged in the game of football. In France, on the day appointed, all the students assembled in a large hall. Their birds were fasting, and were nourished with some drops of generous wine. The two first champions were placed facing each other over a plate of oats. They eyed each other for some time and then began to attack. The defeated one was withdrawn and replaced by another. The cock that floored the greatest number is victor; his master is proclaimed king and is carried through the town in procession amid universal rejoicings. During the remainder of the school year he takes the lead in all religious ceremonies and public reunions.<sup>85</sup>

In the rural districts and in the poor schools of the towns, where each boy could not afford to keep his own bird, the students indulged in the sport known as "Killing the Cock." In this case the bird was pursued and beaten to death. In many places it was the schoolmaster who, by stipulation,

<sup>83</sup> Leopold Delisle, *Études sur la Classe Agricole en Normandie au Moyen Age*, p. 185.

<sup>84</sup> Fitz Stephen-Pogge.

<sup>85</sup> *Histoire de Chateau Thierry*, p. 168.

furnished the cocks for the occasion. Thus, in 1282, we find a schoolmaster at Dieppe held indebted for no less than four.<sup>66</sup> In 1353, the schoolmaster of Rameru was bound to furnish his pupils annually with a cock to be thrown at with sticks.<sup>67</sup> The practice was continued down to recent days in some of the districts of France. And this in spite of protest and interdict on the part of Church authorities. Thus, as early as 1260 we find the barbarous amusement condemned by the synod of Coprigni, presided over by the bishop of Bordeaux.<sup>68</sup>

A day which the younger children celebrated with great pomp and ceremony was the feast of St. Nicholas. On that day they chose a bishop from among their number. In many places the honor was reserved for the best and most studious boy. The chosen one was dressed up in gorgeous pontificals and borne in procession to the church with the accompaniment of fife and drum and violin. He ruled as king of all celebrations during the day, and in honor of him the children of the school received presents and were feasted. Afterward a play was enacted in which St. Nicholas figured as savior and protector of person and property. He was frequently represented, as in our modern pictures of him, in the act of restoring life to three children. But the playing of this rôle led to so many abuses that it was suppressed by act of parliament, and the schoolmaster permitting naked children to appear on the stage was heavily fined. The saint was also represented as finding stolen goods that had been placed under his protection. Champollion-Figeac brought to light one of those plays dating back to the twelfth century, written by one Hilary, an Englishman, and a disciple of Abelard. It is one at which Abelard himself might have been present. The play is very simple and rude, and is written in a mixture of Latin and French. It had been for centuries the tradition to write comedies, farces, and plays in the Latin tongue. We have now arrived at a point where there is a breaking up of the tradition. Latin is becoming more exclusively confined to the schools. But in

<sup>66</sup> Delisle, *op. cit.*, p. 185.

<sup>67</sup> *Ibid.* cf. Boutiot, *op. cit.*, p. 18.

<sup>68</sup> Labbe, *Concilia*, xi., c. 800. D.



the cities and large towns it was still understood by the people. Few were the boys there present who could not have taken in the whole sense of this play. And what with the robbers carrying off the stolen goods and what with the spectacle of a rude angry man, loud in words and fierce in gesture, the play must have greatly amused the little ones. Barbarus,—who impersonates a rude and ignorant man,—confiding his treasures to the protection of St. Nicholas, places them at the foot of his statue. The treasures are stolen. Thereupon, Barbarus grows furious, and frets and fumes and bemoans his sad lot in having placed his goods in such bad keeping. He goes up to the statue, and with violent gestures tells Nicholas that he must return the goods or he shall pay for them :

Mea congregavi,  
Tibi commendavi ;  
Sed in hoc erravi.  
*Ha ! Nicholax !*

*Sé ne me rent ma chose, tu ol comparras.*

But words having no effect, he takes a whip and threatens to beat Nicholas if the goods are not forthwith coming. Nicholas goes after the thieves, and induces them to repent of their evil ways ; which they do, and they forthwith make restitution. In fear and trembling these men bring back the goods to the place from which they had been taken. Barbarus thereupon becomes jubilant :

Nisi visus fallitur  
*Io en ai.*  
Tesaurus hic cernitur,  
*De si grant merveile en ai.*

In a transport of gratitude, Barbarus offers Nicholas all the goods, but Nicholas appears to him and exhorts him to thank God alone : “ Not to me the merit ; that belongs to God alone ; bless Him and bless the name of Christ.” Whereupon Barbarus becomes converted.<sup>89</sup>

And now that the play is over, let us also return from our

<sup>89</sup> *Hilarii Versus et Ludi.* Paris, 1838, pp. 34-39.

short excursion to the primary schools of the Middle Ages. From the close, narrow, badly lighted, and poorly ventilated school-room of those days, with its dingy walls and low ceiling, we pass into the light, spacious, well-ventilated school-rooms of our own times. But let us remember that in other days there were other manners, other customs, other standards of comfort, and another order of ideas. Our own progress is only of recent growth and has been very slow. Moreover, the seeds of that growth have been sown elsewhere. In the mean time I find that I have been neglecting the Abbé Alain. I cannot conclude without stating my appreciation of the solid work he has done, by placing within the scope of all the result of researches scattered through many volumes bearing especially upon education in the sixteenth and seventeenth centuries.

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## THE HERBARTIAN SYSTEM OF PEDAGOGICS. (II.)

The subject of education itself falls with Herbart into three divisions: instruction (*Unterricht*), government (*Regierung*), and moral training (*Zucht*). Before beginning a discussion of each of these, it will be convenient to discuss some of Herbart's more general notions regarding education. The watchword that is inscribed on the banner of every Herbartian is, *Ersiehender Unterricht*, instruction that makes for character. The idea that education ends in mere knowledge or intellectuality, in technical ability or bare mental power, has no place in Herbart's thoughts. The ideal that always hovered before him, and to which the whole educational organization must be subservient, is the formation of character in its essential elements—"the systematic creation and culture of representations, the elements of mental life, up to the attainment of many-sided interest, out of which shall proceed, on the one side, a direct capability and aptitude to will, and on the other, taste, or moral-æsthetic judgment." It is the task of education to create in the soul a richness of demand (*Verlangen*), which shall form the source of future desire and will; and so to direct the desires thus created that they shall contribute to the needs of practical life. It is interest that forms the transition from the objective representation to the subjective will; "it stands in the middle between mere contemplation and active appropriation." "We are indeed inwardly active when we are interested, but outwardly inactive until interest passes over into desire and will." Instruction, then, on the one side, enriches desire and will, and on the other it reaches its second goal, the moral-æsthetic sense, by a careful elaboration and development of sympathetic interest (*Theilnahme*). This is to be brought about by the presentation of those forms of life that mirror the relations of human will, whether directly or indirectly. This, of course, involves an exhibition of human life in its various relations,

past and present. The present, however, with its highly complex civilization, does not furnish us—especially the young—with a clear perception of its moral-æsthetic relations. How many older heads have become confused in trying to unravel the tangled skein of modern civilization! Education must begin with simpler conditions, with the picturing of an ideal boy-age. This the teacher finds in the *Odyssey* of Homer. The linguistic part of the boy's education should begin, then, with Greek, and not with Latin. It should begin with the reading of Homer before the end of the tenth year, and should continue with literary and historical studies according to the advancing age of the boy. We find herein the thought of beginning this side of education with an exhibition of the simplest forms of human society, the basis of an important later development by the Herbartian school; namely, the *cultur-historische Stufen* (the grading of instruction according to the historical growth of human culture and institutions). It is a chief duty of education to present the world in its moral order and to interest the pupil in its moral forms. It does this by presenting to him *pictures* of the will (*Bilder des Willens*), which excite his moral judgment and imitative instinct. The psychological question, how does morality arise, *i. e.*, how do the awakened desire and will unite with moral-æsthetic judgment into a totality which forms the end and aim of all education, can at present be but briefly answered. It is not alone in that "æsthetical necessity" by which we are forced to pass judgment upon our will according to moral principles, but in the unity of the person who wills and who judges, that we find the mediation of the two elements. The psychological necessity of living in harmony with one's self impels the pupil, when there has been a proper development of moral judgment, to a harmony between his will and the moral ideas. "He must scorn himself, if he does not follow."

The classification of many-sided interest—empirical, speculative, æsthetical; sympathetic, social, religious—gives the key to what should form the matter of education. Everything merely utilitarian, except as it may serve as a means to learn-

ing, as, for instance, reading, writing, etc., must be excluded. With this exception Herbart cannot see how any great department of learning is to be excluded from the field of education, and we find, therefore, that he is not a partisan in the strife between the humanists and the realists. He had no sympathy, however, with the old realistic, utilitarian view of education, but turned with a strong preference to the ideal humanism. But, on the other hand, he believed that mathematics and physics are necessary parts of character-building instruction.

The whole purpose of Herbart's pedagogics, then, is to effect the culture of intelligence, desire, and will in close union with the moral ideas, so that the latter may penetrate and determine the former. Whatever may have been his success in reaching this highest ideal of education, the earnestness and originality of the attempt demand our warmest acknowledgment and regard.

We may pass now without further remark to the

#### TECHNICS OF INSTRUCTION.

We have seen that all mental life consists in the reciprocal action, relations, and conditions of the representations; that the business of education is to supply ideas, to assist in their arrangement, and to bring their proper relations before consciousness. An ideal system of pedagogics must show how this is to be done. We are indebted to Herbart, perhaps, more than to any other man, for a series of fine observations giving clearness and certainty to the procedure of instruction.

The first step in this direction is the doctrine of Attention, a subject that has received its most exhaustive and fruitful treatment at Herbart's hands.

Voluntary and involuntary attention are the two parts into which the subject naturally falls. The first is brought about, through the effort of the will, in obedience to some remote purpose in the government or training of the teacher. In this case the representations are *given* to consciousness and are not spontaneous (*freisteigend*). At this point one of the greatest and commonest mistakes of teachers is made. They imagine

when they are forcing attention or inducing it by means of remote ends, such as good marks, emulation, high rank in school, prizes, etc., that they are best serving the child and the school. They do not consider that they are losing sight of the main purpose, which is the excitation of direct interest. This can only arise out of the subject itself. The voluntary attention, however, is by no means to be rejected in those cases where self-control is necessary, as in long-continued direct perception, in learning by heart, etc. For this latter procedure, Herbart gives practical hints. We should not begin with learning by heart even when this itself is the end to be reached. First must come clearness in single perceptions; then the association of the same. There should be no hurry: the beginning must be slow, especially where great difficulties are to be met. Bodily movements, oral recitation, often in concert, writing, drawing, are all helps which are not to be neglected. Even where the memorized matter is to be always held by the memory, perpetual repetition is a questionable means, for it may easily lead to overpressure. It is preferable to exercise the mind by constant application of the matter in hand to that which actually interests the pupil.

Involuntary attention is divided into primitive and apperceiving. In primitive attention the representation arises solely through its own individual power; in apperceiving attention it is assisted or reinforced through its connection with representations already present. For the primitive attention, Herbart lays down four rules:

1. The sense impression must have sufficient strength; hence the need of direct sense-perception (*Anschaung*) of things. This failing, a picture is preferable to a description.

2. Excess of sense-impression must be avoided, so that receptivity may be prolonged.

3. A rapid piling up of one thing upon another must be avoided. There must be singling out, separation, procedure step by step, in order that through the opposition of the representations, a hindrance or mutual arrest shall not arise among them.

4. There must be intermissions, or resting points, so that the aroused representations may have time to restore their equilibrium, or, in other words, so that the child may have time enough to apprehend, in its proper connection, what has been given to him. It is not advisable, therefore, to hold young children to recitation for long periods at a time.

The apperceiving attention is that state of the mind in which each new representation is brought into proper union or relation with those already present. It is of the greatest importance in education, and although presupposing and depending upon the primitive attention, it is observed very early in life. Apperception must constantly be exercised in all instruction, for instruction is given in words only; the representations upon which the interpretation of the words depends must be supplied by the hearer or learner. When this kind of attention is once properly pursuing its course, it should not be disturbed. The teaching must go on until it has satisfied the expectation that it has aroused. The solution must plainly answer to the problem. Everything must be connected. Attention is disturbed by untimely pauses or the introduction of foreign matter. It is disturbed when that is brought into the light which should have remained in shadow. The same is true of oft-repeated words, set forms of expression—everything that emphasizes the language at the expense of the subject-matter; this is true even of rhymes, stanzas of poetry, and rhetorical adornment when used in the wrong place. A fundamental rule is that, before being set at work, the pupil shall be led into a field of consciousness similar to that in which his work is to lie. This can be done at the beginning of a recitation hour by giving a short review of the work of the preceding lesson or by a general view of that which is to be attempted, or both. This thought is more fully developed by Herbart's disciples. Instruction builds upon the foundation of experience already gained in or out of the school. The fact that that which is already possessed is to be widened and strengthened and arranged, excites attention and expectation. If that which is already possessed is not strong and vivid enough, it

must be reproduced in order to lead the pupil into the field of thought where his work lies. The right care for the apperception, *i. e.*, the proper disposition of the masses of representations as they exist in consciousness or come into it, is of the greatest importance in methodical instruction. For, only by a vital and consistent uniting of new representations to those already present, can the compass of thought be continually extended and made a permanent acquisition. This is the reason why the teaching of great numbers of unrelated facts, in geography and history for instance, is such a fatal blunder.

In the activity of the mind in taking on or apprehending the representations in their manifoldness, we meet with the notions of Absorption (*Vertiefung*) and Reflection (*Besinnung*). Absorption is the giving up of one's self to an object in thought. It is the special care that one gives to a subject in order to apprehend it fully and enter into it. But absorption should not be distorted. A single, habitual frame of mind that would falsify and minimize all other impressions, must be avoided. "The mind should manifest itself clearly in many directions."

But again, the personality that rests upon unity of consciousness would not obtain in continuous absorption, if the collecting power of reflection did not step in to unite the manifold that absorption has given. Reflection must, however, avoid the synthesis of the contradictory, for where this occurs confusion follows, or the mind is lost in doubt and irrational desires. "But the true significance of reflection (*Besinnung*) is not that what we call inner synthesis, consists merely in a uniting of representations in general, but that we simultaneously gather them about the focus of our self-consciousness, and make ourselves aware of them as our possessions or mental states."<sup>1</sup> But since the two notions, absorption and reflection, exclude each other, each must pass over into the other. Herbart calls them the inspiration and expiration of the soul.

<sup>1</sup> Schmidt, *Encyclopädie der Pädagogik*, Art. Herbart.



## THE FORMAL STAGES IN INSTRUCTION.

In this connection we come next to the logical distinction of four steps or stages in instruction and method. They are: (1) clearness; (2) association; (3) system; (4) method. These ideas we shall find fully developed and applied by Herbart's disciples, under the name of *die formalen Stufen des Unterrichts* (the formal steps of instruction).<sup>2</sup>

Taking up the four notions in order, we have:

1. Clearness.—By this term Herbart means the apprehension of the individual, or single object, as such. The manner of instruction is simple presentation on the part of the teacher and reception on the part of the pupil. It may, according to one of Pestalozzi's methods of elementary instruction, consist in the teacher's presenting a word or a sentence to the class and having the latter repeat the same, singly or in concert. In general, it means the perception of any concrete or individual fact by the pupil. This step is one of absorption.

2. Association.—This consists in a progress from one absorption to another, as opposed to the non-progressive absorption of the first step. It appears as a uniting that is determined through the imagination, "which tastes every compound and rejects only the tasteless." Association is not complete when, in that which is learned, there is not force enough to bring the imagination to the front, or when that which is learned checks its action. The method for this step is conversation, which gives the pupil an opportunity to investigate, to change, to make consistent the accidental union of thoughts, and to assimilate, after his own fashion, what is learned. This step, although characterized as absorption, seems to contain elements of reflection. It is an elementary stage in the process of apperception or assimilation of knowledge.

3. System.—This is the step in which each part of that which is learned finds its proper place in relation to the other parts. It evidently belongs to the non-progressive reflection (*ruhende Besinnung*). "It is the rich arrangement of a rich

<sup>2</sup> See, in German, Wiget's *Die formalen Stufen*; in English, the writer's *Essentials of Method*.

reflection." Its essential condition is clearness of the individual elements; its method is the connected discourse. The bare statement of an all-pervading principle does not suffice to bring its importance into view, except to him who reflects. To see the importance and bearing of this principle one need only consider what a chaos instruction is when co-ordination does not come in to unite and articulate any given manifold. Just as the mind synthesizes the manifold of sensation into significant unities, so the teacher should synthesize the manifold given in instruction, in order that each factor may find its place in an organic whole. This stage completes the association of the elements of knowledge and brings about the highest scientific organization of which the pupil is capable.

4. Method.—By this term Herbart understands the well-ordered self-activity of the pupil in the solution of tasks, and in investigation under the leadership of the teacher. He sees in this step the progressive reflection. The mode of procedure is to assign tasks and problems whose preparation is the duty of the pupils, and which the teacher corrects.

As before remarked, it is one of the chief merits of the Herbartian school to have further developed these thoughts of the master.<sup>3</sup> We may therefore defer a more minute discussion of the subject, and close this department of our topic with a few quotations of general import.

Herbart says: "In general, absorption should precede reflection, but just how far it must do so remains undetermined. Certainly the two must be kept together as closely as possible, for we wish no absorption that would be harmful to personal unity, the condition of which is reflection. We can desire no reflection whose long and unbroken continuance would create a tension under which a sound mind could not exist in a sound body. In order, therefore, to keep the mind in balance, we prescribe the general rule: give equal promi-

<sup>3</sup> The most elaborate application of these four ideas, now known in Germany as the formal stages of instruction, is found in Dr. Rein's *Theorie und Praxis des Volksschulunterrichts nach Herbartischen Grundsätzen*. In these books all the work for the eight school years is laid down in great detail, and a large number of model exercises worked out according to the formal steps.

nence to absorption and reflection in every group of objects, even the smallest; that is to say, emphasize equally clearness of the individual perception, association of the manifold, co-ordination of the associated, and progress through exercise according to this co-ordination. Upon these conditions depends the charm which should rule in everything that is learned."

In this connection Herbart's protest against tediousness in the school-room is pertinent. He says: "Experience often brings a tediousness that we have to bear, but which the pupil should never have to suffer at the hands of the teacher. *Tediousness is the greatest sin of instruction.* It is the privilege of instruction to fly over steppes and morasses; if it cannot always wander in pleasant valleys, it can at least exercise in mountain climbing and reward with broad fields of view."

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## THE PSYCHOLOGICAL STUDY OF CHILDREN.

Prominent among the characteristics of modern science are the attention and zeal devoted to the study of beginnings, and to the comparative study of phenomena appearing in different forms and stages. Psychology has profited by this tendency, and in no department more markedly than in the study of the mental growth of children. It is my object in the following pages to outline the position, the purpose, and, in part, the results of this field of study in so far as it is of interest and importance to the student of education.

There are two fundamental facts or laws upon which the significance of the term education may be said to depend. The first is the fact of life itself, of growth,—the fact that the individual enters the world in a condition simpler than that which he is destined to attain. The second is the law of habit, implying that every response of an organism to a condition in its environment renders the repetition of that response more certain; implying, too, that the establishing of certain forms of response renders more difficult the establishing of others, and thus securing for the first stimuli the strongest impressions. We have thus designated a period of life in which modification is easy, in which habits sanctioned as valuable by centuries of civilization may be founded, in which individual character may be formed. This is done by the combined influences of the parents, the associates, the environment, the educator; and the educator's work being more professional, more systematic, more studied than the others, it becomes most important for him to appreciate the biological and psychological significance of the period of life with which he comes into such intimate relation.

This pre-adult, preparatory stage of life is not confined to the human species, but increases in length and importance as we ascend the animal scale up to man. Contrasting a low-

type with a high-type organism, we find in the one a short span between birth and maturity, and one rapidly traversed; in the other a long span, slowly traversed; in the one a minimum, in the other a maximum of adaptability and modifiability. The low-type organism has a shorter road to travel to reach its goal and enters upon this life in a more nearly mature condition than the high-type organism; it is in a very true sense "older" when it is born, for the characteristics of age here pertinent, are settled modes of reaction, and little of the modifiability that accompanies youth and immaturity. A prolongation of the period during which adaptation to a complex and variable environment is possible and easy, will, it is clear, greatly favor intellectual progress, and it is in this light that the length of infancy, childhood, and youth appears in its full and true educational significance.

Illustrations of these points are many and various; the greater perfection of the powers at birth in the lower animals appears in striking contrast to the helplessness and imperfections of the human infant. The chick walks about a few minutes after birth, pecks accurately at objects, correctly interprets the sights and sounds of its environment, and to a considerable extent is able to take care of itself. Such powers take weeks to appear in a kitten, and months or years in the human babe. These ready acquisitions of the chick are largely inherited; those of the infant are established with regard to the needs of the environment. As a consequence, there is a more generic similarity among the members of a low-type species, more marked individuality among the members of a high-type species; in the one a large share of characteristics inherited in common, in the other a large share of acquired characteristics peculiar to individuals. Turning to the stages of growth from savagery to civilization, we find the same distinctions between levels of progress. The pre-adult period of the savage is shorter than that of the civilized man, and his modifiability, his mental status, correspondingly deficient. The powers of the savage are precocious in their appearance, but they are proportionately limited, proportion-

ately non-progressive. There is, too, an earlier waning of the faculties, a more fundamental similarity among individuals, an altogether simpler psychic life.

Briefly, then, the biological significance of this formative period of life is supreme. The period increases in length with the advance in intellectual status of the species, as also of human races; and this length is in part gained at the expense of the greater immaturity of the young when entering the environment, in the complex relation to which life consists.

The important aspect of "Child Psychology" above emphasized is its close relation to the psychic development of animals and to the evolution of the savage into the civilized man. The cardinal principle involved is that these three paths of mental evolution are connected by a significant, though imperfect and disjointed parallelism—that the criteria by which stages of mental efficiency are measured along one of these paths are serviceable as well along the others. Though admittedly limited in scope, this parallelism has been of such service in opening up trains of thought overlooked for lack of a directing attention, in giving life to facts known but not appreciated, that its value, and particularly its educational value, is unmistakably great. Mr. Romanes claims not only a large share of emotional and intellectual capabilities as the common possession of child and animal, but also the same order of appearance of these powers in the ascending scale of animal organisms, and in the growing development of the child. The growth-processes of childhood would thus appear as an imperfect epitome of the evolution of the species. The generalization becomes truer and broader by taking into account the embryonic period of life during which functions and organs are acquired and outgrown, that in the species represent the acquisition of ages. By accepting this parallelism, if not as a probable truth, at least as a guiding point of view, we will be on the alert for observations and experiments that biology would deem important, and will gain a sustaining interest in what might otherwise be a tedious and seemingly trivial task.

There occurs in the normal growth of the child a point at which the most intelligent animal is outstripped, and thenceforward the comparison between child and animal becomes weak and scanty. This period seems related to that at which there arises the use of language not merely as a means of indicating subjective states, but as a means of widening the mental horizon, as an intellectual implement. Objects are attractive no longer merely for their sense value but for their higher, more symbolic meaning. Voluntary attention, imagination, memory, complex distinctions, comparison, association, rational expectation, logical inference, begin to be established, and the entrance is gained into the world of human thoughts and motives. At this period and in these directions the parallelism between the child and the savage assumes a wide and suggestive importance. Caution in tracing this parallelism is imperative. The adult nature of the one, involving intense passions and the strength needed for their satisfaction, must be borne in mind, as well as the weakness and civilizing environment of the other. And yet, with all this difference in their manifestation, the underlying intellectual and emotional processes are often strikingly similar in the two. The further elaboration of this parallelism will long remain one of the dominant and inspiring motives in the study of the child's mind and heart.

The professional psychologist finds in the study of children a rich mine of facts, by means of which the nature of mental processes may be illustrated and explained. It is to him a psychological method, a means of determining the relations and status of various psychic phenomena. In the adult mind the several processes are so intricately interwoven, the modes of combination so manifold, the phenomena so variously conditioned, that analysis is difficult almost beyond expression. The psychologist, therefore, eagerly turns to the simpler mental complex of the child, and there sees origins and draws distinctions which the experiences of later life hopelessly obliterate; and from the order and mode of appearance of the several faculties, deduces conclusions that form at once a welcome

check upon inferences from other lines of thought and corroboration of them.

A large share of the study of children is devoted to a field of equal interest to the psychologist and the biologist, and deals mainly with the relation of mind-growth to body-growth, with the unfolding of the senses, the development of the motor activities, of reflex, automatic, instinctive, and voluntary actions, and the influence of these upon other and more specifically psychological functions. This study pays special attention to the earliest days of infancy, and demands a skillful interpretation of the very few modes of expressing inward states then present. It demands, too, carefully devised and accurately applied tests, and the repeated corroboration of results upon many infants. Here lies the key to the understanding of the infant's intellectual limitations, of the striking mutual dependence and parallel growth of the receptive and expressive faculties, of the relative value of the various senses, of the beginnings of spontaneous interest and possible training, and of other problems destined to increase and diversify as the field is more thoroughly entered into and conquered.

These delineations of the various points of view from which "Child Psychology" claims interest and study, are far from exhaustive. Nothing has been said of the more special problems, such as the bearing of this study upon the origin and growth of language, upon the relation of the building-up of mental faculty to its decay in old age, its "second childhood"—or in mental disease, to its arrest and morbid growth; upon the conception of perverted activity in adults as a reversal to childish traits, or undue persistence of them; upon the origin and development of sex characteristics, both bodily and mental; and the like. In brief, the child presents a microcosm in which every student, in so far as he studies something human, something living, something developing, may discover something belonging to his chosen field. And with all these interests the student of education should find a close and living sympathy. The practical nature of his task,—the fact that his is the art to which the others attempt to build up the



science—imposes upon him a certain breadth of interest, an eagerness to profit by the results of all who take for their study any of the many phases of childhood.

Having thus realized the goal toward which effort is directed, and the various incentives urging the student onward toward it, we may attempt such a survey of the actual achievements of the various paths that have been more or less thoroughly and successfully traversed as is compatible with the limitations of a single article.<sup>1</sup>

One important use of child study is to differentiate between functions that in the adult have become merged, to reveal what is inherited and what acquired, and thus to furnish an experimental basis for such much discussed issues as that between the nativists and empiricists. Thus in the adult the eyelid involuntarily closes when an object approaches the eye. So also the pupil contracts when exposed to a bright light. But observation of the infant shows that these processes, equally reflex in the adult, do not stand on the same footing; for the pupillar reflex is present at birth, while the other appears first at about the eighth week. From this Preyer concludes that the latter is of more recent acquisition by the species than the former. A further study of vision in early infancy shows that much of what with us is fixed and necessary is the result of much trial and slow acquisition.

<sup>1</sup> The field of study to be reviewed is distinctly modern, belonging in the main to the last third of the present century, as may be seen by reference to Hall's *Bibliography of Education*, pp. 85-93. The more important recent contributions are (1) the English translation of Preyer's *Die Seele des Kindes* (International Education series, volumes VII. and IX.), with the excellent summary of the infant's monthly progress contributed by the translator, Mr. H. W. Brown; (2) Perez, *L'Enfant de trois à sept ans* (1886), a continuation of his former work; (3) Perez, *L'Art et la Poésie chez l'enfant* (1888), a special study of the early growth of the artistic faculty; (4) an announced work, also by Perez, on the development of character in children; (5) Sikorski, *L'évolution psychique de l'enfant*, *Revue Philosophique*, 1885; (6) Binet, several studies in the *Revue Philosophique*, 1890. (7) Stanford E. Chaillé, *Infants, their chronological progress*, a brief article in *The New Orleans Medical and Surgical Journal*, June, 1887. The most important and accessible works in Hall's Bibliography are numbers 6, 8, 21, 24, 26, 30 (accessible in a reprint, 1884), 38, 39, 43, 52, 54, 55, 57. Number 42 is wrongly printed; the page reference is to an article by Champneys, Pollock's article being in *Mind*, III., p. 392; both are valuable.

There occur abnormal movements of the eyes that are impossible, because useless, to the adult, from among which those leading to distinctness of vision are retained. The movements of accommodation, the perception of distance, so immediate and unconscious in adults, are imperfect and misleading in the child. Seeing is an art that, like walking, the infant slowly acquires after many trials and not a few failures.

Much of what is fundamental in character, disposition, and inheritance depends upon the nature and intensity of the emotions. In the very earliest days evidences of general bodily pleasures and pains are given, and in the first weeks more specific emotions may be observed. Surprise, fear, anger, and jealousy seem to be the most frequent. Preyer has observed startled surprise in the first weeks of life. Darwin's child showed fear of noises at four and one half months. A child of three and one half months showed fear of cats. Fear of thunder, of large bodies of water, of persons in black have been observed, and not as the result of suggestion. Some of these fears are outgrown as soon as reason begins to direct the emotions; and in all these early emotions the intellectual element is at the lowest. Such fears are present low down in the animal scale. Romanes has observed fear in caterpillars; Spaulding has observed innate fear of hawks in chicks, of dogs in kittens; while the more intelligent animals exhibit a more rational dread, more rationally overcome. Just as the child, afraid of a squeaking toy, discovers the harmlessness of it and grows to like it, so a dog frightened by the rolling of apples on the floor overhead is quieted when taken there and shown the cause of the noise. Romanes' dog was badly frightened by a bone drawn across the room by an invisible thread. The pushing away of distasteful objects appears as early as the second month, and for many months after there is an intense passionateness upon slight provocation, a screaming rage when objects of desire are removed or bestowed upon another, that irresistibly suggests an inheritance from savagery. Indeed, the community of emotional traits is quite extensive in the child and the savage; in the one as in the other the whole temper-

ament is unstable, impulsive ; violent passions easily aroused and readily forgotten, and an equally intense pleasure over trifles. Jealousy appears early, and a child of fifteen months would grow jealous upon seeing her parents kissing one another. Similar traits in animals have been repeatedly observed. In brief, we find such traits as are regarded as most fundamental, appearing early in childhood ; we find such traits possessed by relatively low groups of animal species ; and we find many of the traits leading to the virtues of civilization equally undeveloped in the child and in the savage.

The educator naturally turns with especial interest to the early stages of those powers which it is his function to direct and strengthen. What we may term reasoning—or a specific adaptation of the individual to a relatively new condition in the environment, and which when explicitly stated would involve a logical train of thought—appears quite early, although it then lacks explicitness and logicity. Darwin thus describes the first act of this kind in his infant son: “After grasping my finger and drawing it to his mouth, his own hand prevented him from sucking it ; but on the 114th day, after acting in this manner, he slipped his own hand down so that he could get the end of my finger into his mouth. This action was repeated several times, and evidently was not a chance but a rational one.” Lindner records an equally conclusive observation. His daughter, when twenty-six weeks old, finding her bottle so placed that she could draw no milk from it, raised the bottle with her feet until the flow was established ; if the feet were pulled away she repeated the act and continued this awkward procedure for three months before learning that the hands were better adapted for such service. Such acts, the counterparts of which have been observed in intelligent animals, conclusively show that thought is possible without words.

There is one prominent process in the early evidences of mind of great value in determining levels of intelligence—the association of mental states or ideas. The viewing of one action as a sign of another is a simple type of such association

that in turn leads to rational expectation, to a knowledge of cause and effect. Darwin says of his child that, when five months old, "associated ideas arising independently of any instruction became fixed in his mind; thus, as soon as his hat and cloak were put on, he was very cross if he was not immediately taken out of doors. When exactly seven months old he made the great step of associating his nurse with her name, so that if I called it out he would look round for her." Tiedemann's boy at five months grew impatient to go out when his nurse put on her hat. Preyer's child, in his sixteenth month, seeing a box out of which he had received a piece of cake on the preceding day, made a begging movement with his hands. Particularly important is the association of a sound with a person or thing, for it is in this that language consists. Perez tells of a child, but four and one half months old, at once recognizing the voice and laugh of his nurse, who had not yet entered the room and had been away on a short holiday. The recognition of words is doubtless much aided by the accompanying vocal and facial expression, but the association between word and thing soon becomes established. A child a year old could not see any article relating to outdoor promenades without saying "mené, mené" (*promener*), which was an invitation for some one to take him out. Preyer's child, when sixteen months old, would look for a ring when the word was mentioned. "A girl, to whom some of the Froebel songs were sung, and who was taught appropriate movements of the hands and feet, always performed the proper movement when one of the melodies was merely hummed, or a verse was said (in the thirteenth month), without confounding them at all." Preyer's child, in his fifteenth or sixteenth month, will make appropriate gesture answers to such phrases as "where is the man," "the clock," "the eye," "the nose"; will cough when the word is spoken, will nod "yes" or "no," and the like. Darwin's child at nine months "associated his own name with his image in the looking-glass, and when called by name would turn toward the glass even when at some distance from it"; and at the same age he learned that an object causing a shadow

in front of him was to be looked for behind. While many of these processes are paralleled in the performances of a trick dog or a monkey, yet I think we may agree with Darwin in saying that "the facility with which associated ideas due to instruction, and others, spontaneously arising, were acquired, seemed to me by far the most strongly marked of all the distinctions between the mind of an infant and that of the cleverest full-grown dog that I have ever known."

Moreover, the study of these processes illustrates the general law that the receptive powers are in advance of the expressive ones; that appreciation antedates and surpasses execution. We recognize more than we recall, we appreciate distinctions that we cannot reproduce, we comprehend ideals that we cannot achieve, and so on. Just so the child understands words and gestures before it expresses its own wants and feelings by them. Such an expression of ideas by an artificial symbolism perhaps marks the upper limit of animal intelligence; a most remarkable example of it is to be found in Sir John Lubbock's dog, Van, who selected out of many cards the one with "out" on it, when he wished to go out. But the more abstract conception of number was beyond Van's capacity; and it is noteworthy how late and difficult is the acquisition of that special form of association that we call counting. Professor Preyer found it almost impossible to teach his child the difference between three matches and four matches even as late as the twenty-seventh to thirtieth month. Professor Stanley Hall found that of children ready to begin school life, eight per cent. did not comprehend the meaning of "three," seventeen per cent. of "four," and twenty-eight per cent. of "five." Romanes succeeded in getting a chimpanzee to hand out from one to five straws at command, but, above five, errors are frequent. So, again, many savage tribes do not count above four or five, having, like the London chimpanzee, a general conception of "many" for all higher numbers. We thus have presented a striking illustration of the unanimity of evidence drawn from many different sources. There is, however, a kind of quantitative perception, a matching of sensa-

tions, that antedates accurate counting, and the final analysis of which, still to be achieved, will contain much of value to the educator.

I have left myself hardly enough space for a mere mention of the many points of educational interest in the early growth of language; points revealing like stages and processes in the expressions and interpretations of children as in the life-history of words among different peoples; points indicating common philological traits in the language of children and of savages; points giving unexpected insight into the mental processes that accompany and provoke expression; points illustrating how differently words are assimilated by children from the meanings given them by their elders; points indicating the same peculiarities and defects in the child's expressions as in the decay of language in disease and old age; in fine, points bearing upon all the manifold interests for the sake of which language is studied. There is, for instance, the significant reduplication in infant speech, the repeating of syllables, shown by nothing more clearly than the words adopted from baby-talk, mam-ma, pa-pa, da-da; German, pu-pe, am-me; French, be bé, and the like; with the further fact that such words (according to Sir John Lubbock) are from twenty to eighty times as frequent in savage as in European tongues. Of equal interest is the origination of words by children, such as the word *mum* of Darwin's child for food, which he later adapted into *shu-mum* for sugar, and still later into *black shu-mum* for liquorice, much as the people unfamiliar with horses called them big dogs, or as a certain fruit for evident resemblances was called a pine-apple. Furthermore, there is the interesting process by which a word first associated with a single definite object attaches itself to others of the class, by which at times the designation is too wide or too narrow, or drifts into quite irrelevant channels. Mention should be made, too, of the collections of infant vocabularies, picturing the acquisition of words in children, indicating, among other things, the predominance of nouns, the effect of the ease of

pronunciation, the late use of auxiliary parts of speech, or of the first person pronoun, and so on.

I must treat still more scantily what is perhaps the most typical, most inward trait of childhood, the child's imagination. There is the vivid and peculiar mental apperception that tints and colors everything with the distinctive hue of childhood; that endows all objects, animate and inanimate alike, with such feelings and motives as manifest themselves in the child; that prompts explanations of natural phenomena, the happenings of the sky and the weather, in a way so suggestive of primitive explanations and nature myths. Closely connected with this is the early development of the dramatic instinct, converting commonplace routine into thrilling romances and interesting situations, as also the imperfect distinction between fact and fancy, between waking and dreaming, that makes fairyland hardly less real than life, and sees in actual events the stuff that dreams are made of. These and other manifestations of childish imagination abound in valuable hints, showing the similarity between the infant's mind and the infancy of mind; showing, too, how the educator may link his more artificial interests to these spontaneous tendencies of childhood and strengthen them into permanent and valuable organs of knowledge getting.

I have thus all too briefly indicated some of the points on account of which child-study claims the educator's interest, and must content myself for the rest with the assurance that further study will deepen these interests and make more real the connection between the science of psychology and the art of education.

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## DISCUSSIONS.

### THE PRONUNCIATION OF GREEK.

In a recent issue of the *Revue des Deux Mondes* there is a notable article, on the pronunciation of Greek, by Émile Burnouf, son of the eminent Orientalist. The special interest of this article centers in the hope of reviving and justifying the study of this "language of the gods," by treating it as a modern language and pronouncing it according to the best usage now prevailing in Greece.

The history of the pronunciation of Greek is traced, and it is clearly shown how, at the downfall of the Eastern Empire, the Greek nation, besides its material and political losses, suffered a supreme humiliation consequent upon its apparent effacement in history. Up to that time all who used the Greek language pronounced it as did the Greek nation itself. But, thereafter, even while the rediscovered texts of the ancient authors were being hailed with joy in western Europe, Greek was so pronounced as to be unrecognizable by a Hellene. The latter, speaking his own tongue, could no longer be understood by other Europeans. The principal author of this revolution in pronunciation is affirmed to have been the learned Erasmus, who set the style of pronouncing separately all the letters of which a Greek word is composed. To illustrate from the French—if a stranger to that language should say *boëuf*, he would be said to pronounce French arbitrarily. Why did the eminent classicist adopt this barbarism? He assumed that the way in which the Greeks then pronounced their own language could not be the same as in ancient times, because the prevailing custom was contradicted in various ancient manuscripts by the transcription of Greek words into Latin, and *vice versa*, as well as by the abuse of the letter *i*, which was written in several ways. Thus the custom grew up of pronouncing separately all the letters as they were pronounced in the several countries of Europe. This "Erasmian invention" was assisted by the notion that the Greek was a dead language, and should be treated as such. There



was, indeed, a scattered population, speaking a dialect which pretended to descend from the ancient tongue, but since it, like its native land, had become enslaved to the Ottoman, it was held to be of no account. As for the language of the Klephts, its existence was absolutely ignored. Their chants, so full of national enthusiasm, were not studied until after the battle of Navarino. The Erasmian method was, however, of assistance in writing Greek from dictation. In consequence, the Germans have come to pronounce the Greek diphthongs *ai, ei*, as in their *Fräulein, Main*. The French not only arbitrarily divide the simple written sounds into two letters, as *ai, ei*,—although in their own language they do not so divide them,—but they eliminate the delicate shades of several consonantal sounds, as gamma, delta, theta, and so on.

Burnouf makes merry over what he terms the still more astonishing style adopted in the English pronunciation of both Latin and Greek. He gives as his specimen the first verse of Virgil's *Eclogues*, recited *à l'Anglaise*: *Taitire, tiou pétioulé rikioüfans seub tegmini fédjai*. He adds: "The curious in phonology would be exceedingly interested in a discourse of Demosthenes or a recitation of Xenophon in the mouth of an English professor." If, then, one should listen to the same passage from a Frenchman and a German, he would hear three different discourses. If, again, he should listen to a Hellene, still a fourth would be heard. If one should listen to the Greek recited in some of the classes of the American schools and colleges, according to the so-called Continental system, he would be introduced to still more astonishing varieties, identical with no languages as pronounced, whether living or dead. At present it is the Tower of Babel come again, so far as the pronunciation of the Greek language is concerned.

Yet it must be conceded that there are no two correct ways of pronouncing a language. "Even," says Burnouf, "for Parisians themselves *Versailles* is shibboleth." Why, then, cannot scholars unite in adopting the modern pronunciation of Greek as their standard? Is it asked, is there such a standard? While there are provincial varieties of speech in Greece, as in other countries, it is held that the usage of the educated people in Greece forms a standard by which a correct pronunciation can be measured.

In the Hellenic world of to-day three stages of the language may be observed. First, the popular, full of Turkish, Slavic,

and other foreign elements. Second, the language that may be called classic, tending to purify itself by the elimination of strange words, to recuperate and enrich itself with grammatical forms which the people at large have forgotten. This is the language of the prose-writers, savants, and journalists, and is, also, the official language. Third, a romantic, literary school, the Klephtic, which aims to preserve in its poetry the language of the mountains. These three linguistic varieties, Burnouf points out, are pronounced similarly. Thus the tradition embraces the whole Hellenic nation, which fact is an indubitable sign of its antiquity.

Reference is extensively made by Burnouf to a work in "good Greek," by M. Papa-Dimitrakopoulos, who has exhaustively discussed, from the historical standpoint, the whole subject we are touching upon. This learned Hellene shows conclusively that the Greek alphabet in ancient times, as written, no more corresponded to the spoken than, we may say, does the English or French of to-day. So that it is unreasonable to see in all the letters of the alphabet signs representing distinct, separate sounds. Take, for example, as a test, *ei*, which is now pronounced in Greece as long *i*. This can be traced by a continuous tradition to be the same as *y* or *upsilon*, in value equal to *ê*, called by the Greeks *îta*. In the fifteenth century Rabelais' Panurge says, *tinyn*, where the Erasmian would say *toi-nun, anankei*. In the church chants, as far back as the year 492, we find *ischyros* for *ischuros*, *êlêison* for *êllêson*. The *Kyrie* has the same letters pronounced in the same way since the second century. A friend of Cicero, in the first century B. C., reproaches the Greeks for writing the sound *ei* in two letters instead of one. Callimachos' amorous Lysanias cries *Naikhi kalos, kalos naikhi*, and echo answers, *Allos êkhei*. So *ai* was pronounced as *e*, *ei* as *i*. Numerous quotations from the Septuagint renderings from the Hebrew prove the thesis defended by Burnouf, namely, that Greek has been spoken continuously very nearly as it is pronounced in Greece to-day.

The suggestion is further made that a convention of educated Greeks be called to discuss the subject and arrive at an understanding as to a correct pronunciation of their language, so that, provincialisms being discarded, one common pronunciation can be sanctioned and authoritatively announced. The Greeks alone, it is fair to say, united in a competent and im-

partial assemblage, can determine the values of their own letters.

By way of showing the necessity of some general agreement, Burnouf states, as his own experience, that he has always from his own faculty chair pronounced the Greek *à la moderne*, but that this example has made little headway, the general current both in the colleges and universities being the other way. If, however, it be insisted that the Greek has its claims as a modern language, why will it not be advantageous to introduce a pronunciation as the standard which will put it upon the same footing as other modern languages? I agree with Bournouf that in no other way can the study of this noblest of the classics be more surely raised to the just and elevated position which is its due. Those who have once adopted this method are strong in their testimony that they never had the true appreciation of Sophocles and Thucydides until speaking this language as it is now spoken in its ancestral home. I well remember the impetus given to my own interest in Greek by the study in college of modern Greek with that profound master of the language in all its stages, Professor E. A. Sophocles. A new interest was afterward awakened when I read the songs of the Klepths in Fauriel's *Chants de la Grèce Moderne*, a book not so well known as it deserves to be by classical scholars. The differences that exist between its language and ancient Greek are soon noted and accounted for by the student accustomed to turn from one dialect to another of the classical Greek. Such aphæreses as *den* for *ouden* and *na* for *ina* are no stranger than the Homeric *ra* for *ara*, and so on. The pathos and intensity of some of these chants are impressive, while the personification of natural objects and the human nature so frequently attributed to birds and others of the brute creation, manifest the existence in this romantic Hellenic dialect of the old Greek sense of the animate and human in natural objects.

In conclusion it is not too much to say, that if Greek is not to be allowed to die out, or to be still more closely confined to a mere coterie of philologists, its more general study can in no other way be so facilitated as by treating it as what it really is—a living, modern language.

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## IMAGINATION IN MATHEMATICS.

A few years ago I was one day in a company of distinguished mathematicians, three or four of whom were authors of series of well-known text-books, when the conversation drifted into a discussion of the best method of teaching the extracting of the square and cube roots of numbers. Some of the gentlemen were in favor of deriving the rules directly from the squaring and cubing of a binomial, and others favored the derivation of the same rules from the squaring and cubing of numbers containing units and tens. I ventured to express the opinion that the most concrete procedure, and therefore the best method, was to use diagrams representing square units of surface, in teaching the extraction of the square root, and to use solids representing cubic units, in teaching the extraction of the cube root. Thereupon I was met by the objection that the processes which I recommended in teaching the extraction of square and cube roots were not right, inasmuch as they could not be applied to the extraction of higher roots. This objection pointed to a road that I had not traveled; for I had never thought of the suggested application of my method. The discussion stopped at this point; for I was too diffident or too dull to see my way clearly to answering the objection.

On returning home that evening I reflected as follows: Any number may be represented by a row of equal squares placed side by side; the square of the number will then be represented by as many of such rows as there are units in the number. Any number may also be represented by a row of equal cubes placed side by side; the square of the number will then be represented by as many of such rows as there are units in the number; this representation we may call a plinth. The cube of the number may then be represented by as many of such plinths, laid one upon another, as there are units in the number; this representation of the third power of the number we may call a cube of the second order. Since the fourth power of any number is as many times the third power as there are units in the number, the fourth power of the number under consideration may be represented by a row of cubes of the second order equal in number to the units in the given number; this row we may call a block of the second order. Since the fifth power of any number is equal to the product of

the fourth power by the number itself, the fifth power of the given number may be represented by as many of such blocks, placed side by side, as there are units in the given number; this we may call a plinth of the second order. The sixth power will then be represented by as many plinths of the second order, placed upon another, as there are units in the given number; call this a cube of the third order. The seventh power of the given number will then be represented by a row of cubes of the third order consisting of as many as the units in the given number; call this a block of the third order. The eighth power of the number will be represented by as many of these blocks of the third order, placed side by side, as the units in the number; call this a plinth of the third order. The ninth power of the number will be as many plinths of the third order, placed one upon another, as there are units in the given number. In like manner, by means of ideas of cubes, we may represent in the imagination any power of any number.

I next asked myself this question: If I have constructed in my imagination any power of a number, how shall I modify such construction so as to represent the same power of a number greater than this by a given number of units, tens, etc.? For example, if I have constructed the seventh power of thirty, how shall I modify this construction so as to represent the seventh power of thirty-five? I reasoned thus: The cube of the second order, representing the third power of thirty, must be enlarged by three regular solids, thirty by thirty by five, three thirty by five by five, and one five by five by five, in order to represent the third power of thirty-five. The block of the second order, or the fourth power of thirty-five, will now consist, not of thirty, but thirty-five blocks of the second order. The plinth of the second order, the fifth power of thirty-five, will contain thirty-five blocks of the second order. The cube of the third order, or the sixth power of thirty-five, will consist of thirty-five plinths of the second order. The seventh power of thirty-five would contain thirty-five cubes of the third order. And so we might continue the process, and represent definitely in the imagination the modification of the representation of any power of any number needed to complete the representation of the same power of a larger number.

Having thus invented a method of representing the formation of the powers of numbers through pictures created by the

imagination, I inquired how I could picture to myself the reverse process of finding the roots of numbers, when I knew only the numbers. I made my first inquiry, of course, as to a concrete case. For example, how can I find the seventh root of a number consisting of ten places? As the product never contains more places than all the factors, it is evident that the root will contain two places. As the seventh power of tens will contain seven zeros, the seventh power of the tens of the root must be found in the number left after rejecting the seven figures at the right. Having found the tens and constructed the seventh power of the tens of the root, as already explained, I set myself to find the units of the root.

It occurred to me at once that the problem was now reduced to the question of how to find the thickness of the additions which must be made to the cube of the second order, representing the third power of the tens, so as to complete the representation of the third power of the entire root, that is the tens increased by the units. It was evident that the entire representation of the seventh power of the tens might be thought of as consisting of cubes of the third order. The square of the tens would equal the number of cubes required to cover one face of one cube of the second order; the product of this square by the tens would equal the number of cubes required to cover one face of each of the cubes of the second order in the block of the second order; the product of the third power of the tens by the tens would equal the number of cubes required to cover one face of each of the cubes of the second order contained in the plinth of the second order; so the fifth power of the tens would equal the number of cubes required to cover one face each of all the cubes of the second order contained in the cube of the third order; and, finally, the sixth power of the tens would equal the cubes required to cover one face of each of the cubes of the second order contained in the block of the third order; that is, the representation of the seventh power of the tens. But in order to enlarge the cubes of the second order, additions must be made upon three sides of each: hence three times the sixth power of the tens will equal the number of cubes required to cover all the faces of all the cubes of the second order contained in the representation of the seventh power of the tens. In other words, three times the sixth power of the tens will be the proximate divisor with which to divide the remainder after subtracting the seventh

power of the tens from the number, in order to find the thickness of the additions to be made to the representative of the third power of the tens so as to form the representative of the third power of the tens and units; that is, in order to find the units of the seventh root of the given number.

Having found the units of the root, two courses were open to me: I could either go on and modify my representation of the tens so as to form the representation of the whole number, computing the value of each addition as it was made; or I could raise the whole root to the seventh power, subtract, etc.

It is obvious that the same course of reasoning would apply to hundreds and tens, thousands and hundreds, and to any other successive orders of units; and also, that when two figures of a root were found, thousands and hundreds, for example, the same process could be applied to the finding of the next figure.

In the way thus briefly and imperfectly sketched, I had, at the end of an hour, met the objections of my friends, the mathematicians, by doing the very thing which they had said could not be done. This called my attention afresh to a fact which I had often observed in city boys, namely, that they were lacking in that power of imagination which would enable them to represent in distinct forms and combinations the matter to which mathematical reasoning is to be applied. Due reflection has convinced me that the training of the imagination is too much neglected in mathematical instruction. I was able to do in an hour what, I think, as I look back upon it was a pretty good piece of arithmetical work, because I had long been accustomed to call in the aid of the imagination whenever the faculty of abstract reasoning failed.

Mathematics—arithmetic in particular—has three fairly distinct stages in each of its departments, the stage of direct observation, that of representation, in either memory or imagination, and that of abstract reasoning. These stages of learning should follow one another in the order named. The first step was formerly much neglected. Of late years, in my opinion, the second step is most neglected. Observation is often carried to an extreme length. When the pupil has observed numbers sufficiently to fill his mind with all needed ideas, it is better to call frequently and seriously upon his imagination. When reason halts, it is often much better to

fall back upon imagination than observation. In the example described in this paper observation would have been impossible. It often happens that creations of the imagination are much better than real objects, as a means of discovering relations between them, because they are transparent. They are better for another reason, they are, or may be, ever present. Then again, they are inexpensive. Above all, they require closer attention.

I believe much time may be saved and much clearness of insight gained in learning the simple rules of arithmetic, compound numbers, common and decimal fractions, and, indeed, all parts of arithmetic, not to speak of the higher mathematics, if the use of the imagination is fully recognized by the teacher and made to perform its proper work.

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#### THE RESULTS OF THE PRUSSIAN COMMISSION ON SCHOOL REFORM.

The final conclusions of the Commission show that the Emperor's position was in the main well taken. The loud echo of approval from parents and the public, which followed his memorable speeches, is now succeeded by a syllabus of reforms, which is, as far as it goes, in harmony with the royal views, and which was voted by the Commission with singular unanimity. It is evident that there was much clashing of views in the course of the deliberations, for the monarch, in his speech at the close of the proceedings, (December 17), addressed his thanks particularly to those "who have sacrificed their previous practice only after serious inward struggles." But there is nothing to indicate that the published conclusions do not represent the deliberate convictions of the Commission.

The practical results may be summed up as follows: the higher schools as a class are now simplified by getting rid of the Realgymnasium; more freedom is allowed in adapting the hitherto unvarying school-curriculum to local needs; the institutions which have courses covering nine years (Gymnasia, Oberrealschulen) are to be freed from the burden of a large



number of pupils who belong elsewhere; the pupils themselves are relieved from labors now recognized as useless; more attention is to be given to physical culture and school hygiene; the study of modern languages is put on a better footing; and the condition of the whole body of teachers is to be improved, both intellectually and financially.

These reforms reach out far beyond direct educational interests, and will profoundly influence the whole life of the nation. Hitherto, graduates from the Upper Real-schools have been debarred, in whole or in part, from positions under the government in the postal service, and in forestry, mining, and architecture, not to speak of public service in the so-called learned professions. The Higher City Schools (*Höhere Bürgerschulen*) have hitherto not qualified for subaltern positions in the various state bureaus. If, for instance, a large mining town, possessing no higher school of any sort, set about providing a Higher City School, the tax-paying parents were met by this provision, which effectually prevented their children from rising in the government services. As a result, such towns were sometimes induced to support a costly Gymnasium or Real-school, in place of the institution they needed, and these stood empty the whole year round, because the population had no use for the higher education they afforded. The fact that the Higher City School did not qualify for the privilege of one year's service in the army (instead of three) has overcrowded the lower classes of the Gymnasia and Real-schools with an undesirable class, who merely "sat out" the privilege there, disappeared after Lower-secunda, and left the three highest classes meagerly attended.

All this is now changed. Gymnasia, in which the three highest classes are very small, are to be converted into Higher City Schools. In cities where several Gymnasia exist, one of them is to be changed into a Higher City School. In places where no higher school has yet been founded, the preference is to be given to the Higher City School. In such a case instruction in Latin is provided in the lower classes for the minority who are preparing for a higher training. The teachers of higher branches in the Higher City Schools, as well as in all schools with a six years' course, are to receive equal pay with teachers in the schools with a nine years' course. It is proposed to dignify the Higher City Schools with the name Real-school,

which shall at the same time indicate its relation to the Upper Real-school.

Finally, the certificate of proficiency given by the Higher City School will now qualify the pupil for any subaltern position under the government, and also confers the coveted privilege of one year's military service.

The certificate of proficiency given by the Gymnasium at the end of the course remains the recognized gate of entrance to the university and to the higher public service in church and state. The certificate of the Oberrealschule qualifies for entering the schools of technology, the schools of mines, architecture, forestry, and the postal service. It does not admit the candidate to university courses in general, but merely to those in mathematics and in natural science, and even to those only when the Realschule has provided instruction in Latin. This it will be able to do during the period of transition, since the Commission, following out the Emperor's suggestion, recommends forbearance and conciliation in carrying through the reforms; but the ultimate purpose of the regulation is clearly to debar the graduate of the Oberrealschule from the university, should he not subsequently attain proficiency in Greek and Latin. On the other hand, the Commission makes it at least possible for a graduate of either Gymnasium or Realschule to change his whole future career by admitting him to state examinations in subjects not covered by his certificate of proficiency. If his proposed change of plan for life should necessitate only a moderate amount of additional acquirement, before entering upon special studies, the Board of Control may, at their discretion, relieve him from further examinations.

The examination at the end of the school course is retained, but it now assumes the simple form of a graduation from the highest class (Ia) and must be confined to the material taught during that year. No candidate can be excluded from this examination, except upon the unanimous vote of the school faculty. The Latin essay, as a part of the examination, is dropped; and this regulation, unlike the other provisions of the Commission, is to take effect at once.

The candidate will not be tested in speaking Latin, and the Greek exercise in the examination at the end of *Secunda* is no longer required. The scope of the written examination in the exact sciences is more sharply defined. The other provisions

for the final examination are of less weight, when considered singly; but taken as a whole, they afford considerable relief to the perplexed and overburdened candidate.

It was mentioned above that the Realgymnasium (which provides a nine years' course, with no Greek, but with Latin six hours weekly during the whole course) is to be abolished as soon as practicable. This leaves Greek and Latin the characteristic difference between the Gymnasium, on the one hand, and the German schools (Oberrealschule and Höhere Bürgerschule), on the other. The courses in these two classes of schools are to be quite distinct from the very beginning, except where local circumstances imperatively call for a partial amalgamation. These provisions constitute the first two regulations adopted by the Commission.

The succeeding paragraphs (III. and IV.) are concerned with reforms in the Gymnasium. A reduction in the whole number of hours of instruction is pronounced desirable. This must fall partly on the classics and partly on other branches. The instruction in ancient languages may be imparted in a shorter time, if the study of the classical authors themselves be regarded as the chief object, and the grammatical exercises be made use of chiefly as means to that end. The writing of an essay in idiomatic Latin no longer constitutes the final aim of the Latin instruction.<sup>1</sup> The Greek exercise, as a test for entrance to the highest class (Prima) is dropped. The introduction of English in the gymnasial course is recommended. It may be compulsory or optional according to local conditions. Drawing should be dropped in Sexta but made compulsory in the classes from Quarta to Upper Secunda, inclusive. The greatest stress must, under all circumstances, be laid upon instruction in German. The number of hours is to be increased, wherever practicable, but above all a greater degree of facility in the use of German is to be striven for in class work in every branch of study, and especially in translations from foreign languages. The recent history of Germany is to receive more special treatment. This is to be accomplished by a proper limitation of other historical material, and without increasing the number of hours already devoted to that subject.

The decrease in the number of hours per week devoted to instruction, now proposed, must not result in increase of work

<sup>1</sup> This no doubt is the meaning of the unusual expression, "Der lateinische Aufsatz kommt als Zielleistung in Wegfall."

at home. The resulting transfer of the bulk of the work to the school, asks for an improvement in the method of teaching, an improvement which cannot be fully realized, unless both teachers and scholars fulfill what is expected of them. This makes certain preliminary conditions indispensable, though local circumstances may limit their strict application. These conditions are (besides the obvious one of a smaller number of pupils, both in each class and in each institution): preparatory training of teachers in pedagogics; raising the social position and pay of teachers as a class; limiting the number of specialists, who impart instruction merely in single branches; greater responsibility of the class teacher for the prosperous condition of his pupils, both physically and mentally; attention to games and daily physical exercises; further development of instruction in light gymnastics,—this instruction to be given by teachers of the school; instruction, both to teachers and scholars, in school hygiene; employment of a school physician; open-air instruction in natural science, as well as in the geographical and historical study of local surroundings (*Heimatskunde*).

It is declared that the higher schools are able to influence the moral training of their pupils, by general discipline; by fostering a religious sense through religious teaching, through suitable public religious exercises and in the explanations of authors read in class, by ready and sympathetic attention to the individuality of each scholar, where the classes are not too large, by curtailing the employment of outside specialists and by the moral example of the educator himself.

The school is to aid the family, wherever possible, in the care and discipline of the pupils out of school, by discreet visits in families, in the school arrangements, and on the occasion of public school exercises. Parents are to be encouraged to meet the school half-way in this intercourse.

It will be the duty of the school to promote in every way the highly important religious instruction preparatory to confirmation, and to provide suitable hours for the same. It is also recommended that each school day be begun with brief devotional exercises.

The number of scholars in each class must not exceed 40, and 400 is the limit fixed upon for each institution. In the upper classes, a division into two sections is to be avoided, wherever possible. More than twenty-two hours' instruc-

tion must not be required from any teacher in the higher schools. [www.libtool.com.cn](http://www.libtool.com.cn)

The scientific training of future teachers, hitherto given by the university, is pronounced sufficient, in the main; but the need of methodical plans of study, as a guide to students, is emphasized. The university should also provide for the practical carrying out of these plans. The value of archæological studies, and of university traveling scholarships, is recognized. School instruction in modern languages is to lead to a free use of them in speaking and writing. University instruction in the same subjects ought to increase this facility.

In Germany, public discussion of these resolutions has proceeded from every class of society, and has embraced every conceivable shade of opinion. The most authoritative utterance remains the protest on the part of the faculty of the University of Berlin against relaxing the thoroughness of classical training as a preparation for the university. This was given out during the proceedings of the Commission in December. It remains to be seen whether the published recommendations of that body are calculated to allay the apprehension expressed. There may be no significance in the fact that the university of the capital is not represented in the committee which has since been appointed to sift the results of the Commission and to visit certain model schools, with a view of making further recommendations. It is to the labors of this committee that we must now look. The practical difficulties in the way of carrying out certain of the provisions are great, and the limit of time (April 1, 1892) is very brief; but there are no indications that the German public, at large, has lost faith in the near realization of the chief reforms. The members of the committee are: Dr. Hinzpeter of Bielefeld, former tutor of the Emperor, chairman; Dr. Schrader, curator of the University of Halle, deputy chairman; Dr. Fiedler of Breslau, director of Oberrealschule; Dr. Graf, a distinguished physician of Elberfeld; Dr. Kropatscheck of Berlin, formerly professor in one of the Berlin colleges, and now a distinguished member of the Conservative party in politics; Dr. Schlee of Altona, director of Realgymnasium; Dr. Uhlhorn (Protestant), abbot of Loccum.

The reader will have been struck by the fact that many of the recommendations of the Commission tend to bring the German higher schools down toward the healthy level of the best of our American colleges. The standard of our foremost insti-

tutions is hardly inferior to that now held up by the Commission. But the chief difference will be, that in Germany the governmental control will bring all schools up to the mark, while in this country most of the colleges, a few of the best excepted, will fall below it.

Many of the questions discussed by the Prussian Commission have long been ventilated in this country, and some of them have been satisfactorily settled. The students of our colleges can certainly not complain that too much stress has been laid upon Latin essays, or that physical culture has not received adequate attention. But there is one special feature in our collegiate institutions which it might have been useful for the Prussian Commission to consider. I mean the elective group system, an adaptation of which to the German schools might have enabled the members of the Commission to carry out most of the needed reforms.

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## EDITORIAL.

The work of the Bureau of Education at Washington is not well enough understood by those for whose benefit it has been undertaken. Neither the people at large nor the special students of education seem to appreciate fully the character and scope of the Bureau's unostentatious activity. The educational library that it has built up, while far from complete, is one of the most useful and accessible in existence, and is being added to as rapidly as the rather meager annual appropriations will admit. It now contains more than thirty-eight thousand volumes and over one hundred thousand pamphlets. All of these are carefully, even minutely, catalogued and indexed, and are at the disposal of any student who wishes to consult them. At the present time an effort is being made to procure complete sets of the text-books in general use abroad. The value of such a collection is apparent. An educational museum has been begun, and might soon surpass those of Europe, if proper accommodations were provided for it by Congress. A well-arranged and classified collection of school furniture, apparatus, and illustrative material is very instructive, as visitors to such museums at Paris and St. Petersburg well know.

The correspondence of the Bureau is very large, and rapidly increasing. Last year more than sixty-two thousand letters were handled, and over three hundred and forty thousand documents. The publication of some important monographs, as well as the second part of Mr. I. Edwards Clarke's splendid work on "Art and Industrial Education," has been delayed by the great pressure at the government printing-office. But monographs may soon be expected on "The Training of Teachers in the United States," "School Savings Banks," "Physical Training in American Colleges and Schools," "Spelling Reform," "University Extension," "Teaching of Biology in the United States," and other topics of general interest and importance.

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There is one other feature of the Bureau's organization which seems to be of peculiar value. That is the presence there

of a corps of trained and accomplished specialists whose duty is to keep close watch on important developments of educational, thought and practice in every part of the world. In this way the Bureau keeps its finger on the pulse of the world's educational activity. These specialists are thus enabled to prepare very promptly accurate reports on any subject referred to them, as well as to answer questions on subjects falling within their range, whether propounded by a state legislature, a superintendent of schools, or a university professor.

The teachers of the country owe it to themselves to sustain the Bureau, to avail themselves of its advantages, and to assist in building up a public sentiment that will be strong enough to induce Congress to support this important work by more liberal appropriations.

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It was announced some weeks ago that at a recent conference of the head masters of English schools a resolution was introduced favoring the omission of Greek as a compulsory subject at the universities, and that the resolution was strongly supported. The full report of the proceedings of the conference has since appeared in the *Journal of Education*, and is very interesting reading. The resolution in question was introduced by Mr. Welldon, of Harrow, whose influence as an educational leader is by no means dependent upon the important position which he occupies. It read as follows: "That in the opinion of this Conference it would be a gain to education if Greek were not a compulsory subject in the universities of Oxford and Cambridge."

In support of this resolution Mr. Welldon argued that it would not tend to lower the standard of intellectual efficiency in the public schools of England. It would largely increase the number of pupils who avail themselves of the benefits of a university education. At the present time, more than half the boys in seventy-five of the schools represented in the Conference were not studying Greek. Under the present system these pupils were excluded from the universities. In Germany and in the United States there was a strong movement in favor of relaxing the requirements in Greek. For students of medicine and of natural science, for boys preparing for the Indian civil service or for business, the enforced study of Greek was a positive drawback. He held the passage of the resolution to be a considerable step forward in the cause of educational reform.



Mr. Bell, of Marlborough, proposed an amendment, or rather a substitute, to the effect that a knowledge of Greek should not be required of any candidate for admission to the universities who passes in Latin and gains distinction in mathematics and natural science. Dr. Percival of Rugby had still another amendment, to the effect that a student not passing in Greek, should pass in Latin, French, and German, and gain distinction in either French or German. The discussion which followed was conducted on the lines that we are very familiar with in this country. The really able, progressive thinkers in the Conference were in favor of Mr. Welldon's motion. The opposition consisted in prophecies of woe and disaster if Greek was no longer required, and assumed, without proof, as is usual in these arguments, that a smattering of Greek in some mysterious way gives a culture and discipline not otherwise attainable. On the vote, both of the amendments were defeated, and finally the original motion was lost by a vote of 31 to 29. As the editor of the *Journal of Education* remarks, another such victory for Greek would be fatal to its cause, for if votes had been weighed, and not counted, the motion would have been easily carried.

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It is necessary to bear in mind, when judging of a discussion on this topic, that the most earnest opponents of compulsory Greek are those who prize most highly the service of ancient Greece to civilization. It is in the interests of Greek itself, and of its more thorough and loving study, that such motions as Mr. Welldon's are made. Those who insist that every college and university student must study Greek, whether he wishes to or not and regardless of the career that he has chosen, are short-sighted in the extreme. They are claiming for their favorite study an interest and an importance which it cannot be shown to possess, and they are denying to the modern languages and to natural science a value and a significance, both for culture and for discipline, which they certainly have. The case for compulsory Greek rests on sentiment, not demonstration.

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It is quite within the truth to say that for several years past the most important contribution to the literature of higher education in this country has been the annual report of Presi-

dent Eliot of Harvard University, together with its voluminous appendices, tables, and statistics. The report for 1889-90 has just been printed, and is of more than usual interest. Almost every year sees some change, great or small, in our college and university organization, for we are still groping for the best and most useful system. Nowhere have the various problems been met more systematically and courageously than at Harvard, and while exception is often taken to some of the solutions there reached, no one can deny that a consistent, coherent, and successful university organization has been built up. The Harvard plan merges the college and the university. They are distinguished in degree, rather than in kind. There is no sharp line, indeed no line at all, unless the conferring of a baccalaureate degree be so regarded, between the graduate and the undergraduate student. The gradation is easy and natural from the freshman class to the attainment of the degree of Doctor of Philosophy. One academic body supervises all of the courses of instruction that intervene.

This system results in a university course of six or seven years' duration. The crucial question is, are the students properly equipped for entrance upon such a course at the time that they leave the fitting school? It is usually held that they are not; that a strict disciplinary course in a college, where much if not all of the work is required, is first necessary. At Harvard, on the other hand, the question is answered in the affirmative, and the young man is led on, through a series of courses selected by himself, from discipline and information to criticism and research. While critics of this system are numerous and emphatic, they are not always well-informed as to what the "Harvard plan" which they denounce, actually is, nor are they always careful to examine the official reports in order to learn how many of their objections have been shown by experience to be groundless.

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Of the 402 students who enrolled themselves at Harvard for the first time during the last academic year, 95 came from public schools, 86 from endowed schools, 82 from private schools, 54 from tutors, and 85 from colleges. One hundred and thirty-two different schools and colleges were represented in the list. Inasmuch as school graduates are not admitted on certificate, but only after a rigid examination, this is a

remarkable showing. Since 1886, it will be remembered, an examination in Greek has not been required for admission. Yet in 1890 only 31 candidates, or 8½ per cent. of the whole number, offered the permissible substitutes for Greek.

It is also noted that one effect of the elective system has been to start a movement away from instruction organized by years of the college course and toward instruction organized by departments of study. Whether this was originally contemplated or not, it is a most important development; for the unnatural and illogical character of the rigid class system is coming to be recognized as one of the serious obstacles to the improvement of our college teaching. It is remarkable that the principle which works so excellently at the University of Virginia, has not been applied more extensively elsewhere.

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University students will be glad of the admirable definition of "Seminary," given by Dean Smith in his report to President Eliot, which appears as an appendix. It is this: "A course organized for training in research, with stated meetings at which the students present for criticism and discussion the results of their studies." The same officer throws much light on the recent proposition of the faculty, when he says that "it is not correctly described as a proposition to reduce the college course to three years. It is a proposition to make it possible, by a moderate reduction of the requirements for the degree,—which would still leave the standard of the degree considerably higher than it was twenty years ago,—for those students whose best interests are served by their graduation in three years to do so under advantageous conditions. It cannot yet be looked upon as a definite or final solution of the problem as to the relation of the college to graduate and professional studies. It is in the nature of a cautious experiment."

For the first time, we believe, the annual income of Harvard has exceeded a million dollars. In 1890 it was \$1,013,306.33; of which \$162,225.49 was in the form of gifts for immediate use, and \$361,618.37 was collected in fees from students. The gifts for capital account during the year amounted to \$277,282.03.

One effect of the recent political upheaval in the state of South Carolina has been a change in the educational conditions of that state, which many intelligent citizens think is distinctly a step backward. For some time past South Carolina has been building up, slowly but surely, an educational system of considerable scope and strength. It had not by any means reached its ideal. There were few professionally trained teachers in the state and there was no normal school. Furthermore, the school session has been of an average length of not more than three months in each year. The state superintendent of schools has not always been an educator of recognized standing and capacity. Such teachers' institutes as have been held were not of the most helpful kind, and the feeling has found expression that the money spent for county institutes was almost entirely wasted. Such state institutes as have been held were supported by the trustees of the Peabody Fund. The only professional schools in the state have been a medical school in Charleston, a law school at Columbia, and the theological seminaries supported by the several religious denominations.

All of these institutions, and various other elements, were working together successfully for the improvement of the educational status of the community when the recent political movement commenced. A training school for teachers had been established under most competent direction. A state university was in operation which commanded the respect of older institutions, and by reason of the ability and energy of its faculty was rapidly extending the sphere of its usefulness and influence. It comprised departments of Greek, Latin, modern languages, the English language and literature, history and political science, logic and rhetoric, mental and moral science, mathematics and astronomy, physics and chemistry, geology and mineralogy, biology, hygiene, bacteriology, agriculture, agricultural chemistry, veterinary science, pharmacy, mechanical engineering, materia medica, pedagogy, and law. Its scientific departments were equal, if not superior, to all similar departments in the South. The department of pedagogy had become the foundation upon which a model normal school could have been erected. The state teachers' institute of last year was of a high character. The trustees of the university were in favor of throwing open to women the doors of the university normal school, together with those of several

other departments. There was every promise of having not only a valuable normal school at the university, but carefully superintended institutes under the direction of the officers of that school.

All this broad and generous development has, however, been brought to a standstill. Not one dollar has been appropriated for teachers' institutes. The Winthrop Training School has been dismissed with a pittance. The university, as such, has been abolished, and supplanted by a literary and classical college. To compensate the state for the destruction of this most valuable educational institution, very little that is tangible has been done. All the income of the state that is available for such a purpose, has been given to an agricultural college, as yet a mere phantom, having no existence, except in the imagination of its projectors and in a few uncovered walls in a remote corner of the state. It is difficult to see what motives that are commendable could have led the new political leaders to enter upon this policy. It certainly will be some time before the old commonwealth can enter again upon the promising path of educational development from which she has just been turned.

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The points of contact between politics and education are already too numerous, and if the state undertakes the manufacture and supply of text-books, as is now being urged in various legislatures, they will be considerably increased. It is asserted in many parts of the country that the people and the schools are being forced to contribute enormously to the profits of the publishing firms, and that no relief can be expected unless the compilation, publication, and supply of text-books are carried on under state supervision and direction and at state expense.

Even granting the premise, which may be disputed with some success, the conclusion does not necessarily follow. A careful study of the experiments in this direction that have already been made would certainly shake the confidence of any unbiased mind in the measures that are proposed. The materials for such a study are furnished in a valuable article on the subject by Professor Jenks of the Indiana State University, which is printed in the current issue of the *Political Science Quarterly*. Professor Jenks views the question as a problem in

social science rather than one in educational administration, yet his facts and conclusions are distinctly of value to those who approach the subject on its educational side. He describes carefully the steps that have been taken in California, Minnesota, Indiana, West Virginia, and elsewhere, toward state control of the text-book supply, and reaches the conclusion that advantage in price, when it exists, is gained at the expense of the quality of the books. The result in California, where the books are manufactured by the state, is that the expense is not directly reduced, and the books are of an inferior quality. In Minnesota, where all the books are furnished by one contractor, the cost to pupils has not been reduced below the rates at present offered by private publishers, and many of the books are unsatisfactory. In Indiana the contract system has been successful in lessening prices, but the books are not the best possible. With this experience before them, legislators should act very cautiously on the many radical measures now being pressed upon their attention.

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On the 4th of February Mr. Charles F. Thwing formally entered upon his duties as president of Western Reserve University and Adelbert College, at Cleveland, O. His inaugural address was an eloquent statement of the relation in which the college stands to the community. It was a plea for generous popular support of higher education, in return for the benefits that the colleges confer upon the people. The college was commended as an investment, because of its ability to use money for the formation of intellect and character. Speaking of his own institution, President Thwing forcibly said: "It has no prejudices to nurse, no heresy to teach, no schism to perpetuate. This college and university are for the people; not for the poor as poor, not for the rich as rich, but for men and women as men and women. They wish to maintain in this many-college state a high ideal and a noble achievement of college and professional education. To every agency like themselves they stretch forth a hand of heartiest co-operation."

## VII.

### REVIEWS.

**Webster's International Dictionary of the English Language**, being the Authentic Edition of Webster's Unabridged Dictionary, Comprising the Issues of 1864, 1879, and 1884, now thoroughly Revised and Enlarged under the Supervision of NOAH PORTER, D.D., LL.D., of Yale University, with a Voluminous Appendix. Springfield, Mass.: G. & C. Merriam & Co., 1890, pp. xcviii, 2011.

"Webster's International Dictionary, the Authentic Unabridged, revised and enlarged." This looks like the origin of a new species. The genus Webster appeared in the form of "An American Dictionary," with American writ large, and a patriotic preface setting forth the necessity for it. The volumes of 1828 have grown to great bulk, and, under the skillful hands of G. & C. Merriam, given rise to many varieties. The Unabridged Webster has become an authority among all English speaking peoples. And so the time has come for an International Dictionary. The copyright upon the original Webster's Unabridged has expired and strange publishers have reprinted it and are selling it at cheap prices as the genuine Unabridged. The first use that many a man will make of the Authentic Unabridged will be to look up *authentic*. The editors would have saved many a worry if they had given their title as an illustration under the meaning of *authentic* which they intend it to bear.

The Merriams are, in good comity and morals, entitled to claim for the International its due succession to the authority, the rights, and honors of the Unabridged. The success of the Webster books has been greatly due to them. The International has been prepared, they say, to meet "the severer requirements of a new generation." The work upon it has been in progress over ten years, not less than one hundred persons have done paid editorial labor on it, and more than \$300,000 was expended in editing, illustrating, type-setting, and electrotyping it before the first copy was printed.

The general character of Webster's Dictionary is familiar to every one. It tries to give under each word just what the common reader is likely to wish to know about the word and

about the objects denoted by it. Students of language have criticised it often as going beyond the province of a dictionary, mixing up the encyclopædia with it, and the like. But beyond all question it is a very convenient kind of book. Webster himself had genius in this line, a peculiar felicity in hitting on the right facts to bring in, which has been caught by the revisers and enlargers of his book. So that one who uses many dictionaries recognizes the Webster type at once. Several English dictionaries have been made like it with good success, and the Germans, who esteemed it so chaotic and unscholarly at first, are now publishing a German Webster by Moriz Heyne, one of the most efficient collaborators of the great Grimm Lexicon.

The first matter in the dictionary to which attention is drawn is the vocabulary. In the early editions the effort was to add new words. They ran up from 60,000 to 110,000. But now the Century promises 200,000 words, and Dr. Murray more than a quarter of a million. These are too many to be handled in a single volume. The old Webster was as large as could be raised with one hand. The International has been obliged to use higher powers than were required to work the drag net, to use reason, judgment, to reject and to select from these hosts. We have compared considerable portions with the Encyclopedic and the Century and Dr. Murray, and are well pleased. No words are rejected which it is plain that readers will look for; there are very few here which are not interesting to some class of readers.

Going over the columns in this way, however, the enormous number of technical terms in the natural sciences forces itself on the attention. The thousands, tens of thousands of names of natural objects, not names used in real life, but closet compounds of words fished from the Greek dictionary, many of them never uttered by any human being, stagger one when he meets them in such force. In spite of a strong prepossession in favor of having such words in Webster, a doubt has arisen whether this side of the vocabulary may not be overdone; whether there has not been a change, since the plan was formed, in the popular interest in these sciences of classification. Has not the Darwinism, which so stimulated interest in all living things, become rather an old story? Are not our lively minds, readers and thinkers, now turning to the proper study of mankind, man, and looking up technicalities in psy-



chology, ethics, political economy, civics, history, literature, linguistics? It is true, however, that there has been copious cutting out of natural names and much care of the others. We do not find any single word which we wish to comment on as showing bad judgment in the admission or rejection.

The same selection and condensation has been used in the definitions. Nothing could well be better than a large part of them. But any verbal definition or description may fail to give a good idea of the object named. Here, then, are pictures to help out, greatly improved in fitness for their purpose, and greatly increased in number compared with the old Unabridged. For objects that cannot be pictured there are quotations which show the thought in its relations; the current phrases help out also, and they are given in large numbers. We have noted the special difficult words which have come up during the examination of the dictionary. The first word was *authentic*, which was mentioned above, the next was *copyright*. Wondering how long time the Webster copyright ran, I looked in the Century first and then in a cyclopædia without finding it, and was about to take up a law dictionary, when it occurred to me to try Webster. There it was, all right, simply, precisely stated: Twenty-eight years with a renewal of fourteen. This is an experience which I have had a hundred times with the old Webster: a search through all the cyclopædias in the college library in vain, a find in Webster at my elbow. This quantitative definition of copyright, true scientific work, exact figures, has been added in the International, and is a fair specimen of it. Then *pons asinorum* turned up in the New York Tribune. A good many college graduates seem to remember no other demonstration in geometry than the forty-seventh in Euclid, and no other title than *pons asinorum*, and they put the two together. The dictionaries are all alike about the meaning, but the International pleased me well by having a diagram of the fifth, the true *pons*, looking quite bridgy. About the same time the *Sunday School Times* wanted to know whether *tireless* was a good word. It is not in the International, though it should be, as it is found in Bishop Heber and other classics, and is a good word every way; *untireable* will not do; nor *undaunting* for *dauntless*; *irresistible* might do for *resistless*; this use of *-less* is well established—*exhaustless*, *quenchless*, etc., are questionless,—and it ought to be given under the suffix *-less*, but it is not in the International. The

absence of *tireless* was doubtless an oversight as it is not in the other dictionaries, except the Encyclopædic. Worcester uses it, to be sure, to define *untirable*. *The Independent* asked about "peevy," the name of a tool for handling logs. The International knows it not, nor does any other dictionary, except Bartlett. It is a common tool in these days of telegraph poles and log-rolling generally, and its inventor, Mr. Peevy, deserves a dictionary immortality. An inquiry from England about "*condition*," as used in American colleges, found the verb *condition*, but not the noun *conditions*, back studies. *Tangerine*, the fruit, is given, but not *ekemis* and *elemi*, names of figs; *Kodak* and *hoodoo* have not reached the dictionaries, nor *sheeny*, which figures in one of the New York pictorials, and is in Bartlett. But the International is very good on American uses of words, and all the "questionable" current speech.

On the philological side there is considerable change in the new book. The brief history of the language by Professor Hadley, a masterly sketch, has been skillfully touched up by Mr. Kittredge, of Harvard. The introductory discussion of pronunciation has been greatly deepened and widened by Professor Samuel Porter, and stated in the language of Mr. Bell's system so far as that applies. Professor Porter is an independent thinker, and a minute and accurate observer. This introduction is a capital treatise of phonetics. A body of rules for syllabication in agreement with pronunciation is given, and the vocabulary words are carefully printed in syllables, and accented. This will please the teachers. The great phonetists may say, if they must, that syllables are imaginary divisions, and the philological dictionaries, like Dr. Murray's, may decline to indicate syllables even in the pronunciation; but they are very real in the school-room in teaching, spelling, and pronunciation. The Webster convention about them, even if it is nothing more than a convention,—a view which we do not accept,—has been a powerful influence upon the speech of America for distinctness and uniformity, and it is indispensable in the school-room.

The International respells the words for pronunciation, an acceptable addition to the old Webster, and it indicates the pronunciation of the unaccented syllables with a nicety never attempted in the old dictionaries. The means of indication are very ingenious, and easily understood by any one who

pronounces the key words correctly. There is seldom more than one pronunciation given in the vocabulary, but there is a table of words differently pronounced. The vowel gamut is English. The scientific terms and other book words which have no folk-pronunciation are pronounced like Latin, as heard in the English method. The great number of scientific men of foreign blood among us, and of the Germanized scientists of home blood, and the Roman pronunciation of Latin in the schools, are fast rendering this pronunciation of scientific terms strange; it has always been very rare. But it would not have done for a Webster to displace it.

The International is English also in adopting lightened pronunciation, obscure and abbreviated syllables, more freely than the old Webster. The Southern English pronunciation of this sort has been heretofore ridiculed among us, and vigorously corrected whenever it has appeared in our schools. But the London phonetists have lately made a vigorous crusade for it as spoken English by eminence. There ought really to be a distinct recognition of two kinds of pronunciation: one, the standard literary English of oratory and pedagogy; the other, allowable weakenings in conversation. Prof. Whitney has made a notable attempt to represent both in the pronunciation of the Century dictionary. His scheme is certainly scientific, and it seems to be successful, a good advance beyond the single obscured pronunciation indicated as the only one in the International. This will embarrass many a teacher in the spelling classes, and tend to weaken the distinctness of articulation characteristic of the American schoolmistress. She will be slow to understand that *cent* does not spell *cent* in *recent*, and shrink from *resunt* as much as from *sullur*.

The etymology of the International is excellent; simple, clear, and according to the latest authorities. We mean the etymology in the body of the work. It is notable, however, that its relation to the rest of the work has been inverted. The world has changed since the great eponymus of the American dictionaries retired to Amherst with his houseful of lexicons, and devoted his ten best years to making a synopsis of all the languages.

The well-known appendixes of proper names and phrases and all sorts of useful knowledge are retained in full force, revised and enlarged by the ablest scholars.

F. A. MARCH.

**The Defense of Poesy : Otherwise Known as an Apology for Poetry.** By Sir PHILIP SIDNEY. Edited with Introduction and Notes by ALBERT S. COOK, Professor of English in Yale University. Boston : Ginn & Co., 1890, pp. xlv., 143.

Professor Cook's monograph will serve the excellent purpose of introducing to American readers an exhaustively edited classic, once far more read and remembered than now. Sir Philip Sidney in his day was "the plant and flower of light" of Elizabethan courtesy. His three-and-thirty years were filled to overflowing with aspiration and attainment, with venture and vicissitude. As one looks on his young face, brilliant with intellect and life, it seems prophetic of what it really accomplished ; a poet's face encircled with the Tudor ruffles, refined, —spiritualized, one might say,—almost to effeminacy, yet full of lines of daring and strength. Looking on this likeness, as it lies engraved on the pages of Languet's *Correspondence*, we see the ideal of Edmund Spenser, we understand the vivid longing that he felt to "company with" Sir Francis Drake ; we hear the author of the celebrated prayer used by Charles I. on the scaffold ; we instinctively feel the poet of the *Arcadia* and the "Apologie for Poetrie." The speaking similitude of him by Oliver in the same book, images forth the lineaments of the poet's soul as no after generation has caught them ; and it is this beautiful soul whose fragments Professor Cook picks up and enurns, as Victor Hugo says :

D'en faire une urne sainte à contenir l'extase.

The shrine is worthy of the saint whom it tabernacles, and in Professor Cook's hands it has been chiseled and wrought with every delicacy of treatment. The pedagogical value of thorough editions like this of Elizabethan and Jacobean classics is always great. The English soul in these times was all on fire ; there is a throb in the prose which no other epoch can imitate ; a power and a pulsation in the poetry which is very near the arterial current of things. In *The Defense of Poetry* we have one of the finest examples of emotional, palpitating English prose, fresh from those laboratories where poems, too, are wrought. The land of *Astrophel* lies close to *Arcady*, and both slumber in the perpetual sunshine which alone can ripen the radiant vintage of the soul. How steeped Sir Philip was in this sunshine, in antique lore,—in Aristotle no less than in the suaver atmospheres of Plato ; how in all probability his

wings were tipped with iridescence from Dante's plumes; how his spirit drank of Greece and Rome with a thirst unquenchable, and assimilated the potion in every fiber as a spiritual philter; how he snatches a few sentences from the *Ethics* and the *Poetics* of Aristotle, and then elaborates them into a cunningly contrived framework for his definition and defense of poetic art, as Spenser utilized the Aristotelian classification of virtues for the vast enginery of the *Faërie Queene*: all this is skillfully brought out in an instructive Introduction, fortified by detailed Notes, leaving hardly anything untold that the student-reader needs for his orientation. The "normalization" of the spelling is another help to readers who do not care to flounder round in Tudor cacography; besides, Professor Garnett, in his *English Prose from Elizabeth to Victoria*, just published, gives the general reader all that he needs of the "original" orthography. In his analysis of the *Defense*, Professor Cook runs his scalpel all through the anatomy of the structure and reveals its architectonic principles; not a tower of Bel or of Babel, speaking confused languages, but a Giotto tower, full of beauty and reminiscence, full of art and intellect, a masterpiece of intellectual engineering, constructed after subtle plans known to the Elizabethans alone. The most valuable part of the essay, however, is that from p. 44 on, which treats of English poetry—drama, lyric, and narrative—as it appeared to Sidney, English diction and versification, accent and vocabulary. These pages throw abundant light on "how a contemporary viewed it," and incidentally admit us into Sidney's own *atelier*. He wrought according to a plan, not like Lope and Hugo when they wrote:

Quando he de escribir una comedia,  
Encierro los preceptos con seis llaves.—*Lope*.

Sidney's "six keys" are all revealed, and they open the very sanctuary of his soul.

In the numerous and explicit notes we notice little ground for animadversion. The editor's remark that *atheism* occurs for the first time in this essay (p. 109) may be supplemented by saying that two examples of *atheist* occur in Lyly's *Euphues* (Arber's Reprints, pp. 15 and 177), a trifle earlier.

JAMES A. HARRISON.

**Gustavus Adolphus and the Struggle of Protestantism for Existence.** By C. R. L. FLETCHER, M.A. New York : G. P. Putnam's Sons, 189 , pp. xiii., 316.

Under the above title Mr. Fletcher contributes to the series, the "Heroes of the Nations," a sketch of the one man who could have been selected as best representing the Swedish people at the highest point of their national greatness. The figure of Gustavus Adolphus, in its sharp outlines, in its dramatic vigor, and in its contrast to most of the men with whom he was called upon to deal, would seem to lend itself peculiarly well to biographical treatment, and it will hardly fail to be a source of regret to the reader as he finishes this book, that so much of its limited space has been given to matters lying outside the single biographical aim. Of course one sympathizes with the desire of the scholarly writer to give as complete a picture as he can of all the relations into which his hero has to enter; but in a work of which the avowed aim is to bring out the "hero," all detail should be strictly subordinated to the clearness and force of the central figure.

As to the scholarly character of the book one is disarmed at the outset by the very frank statements of the author as to the sources from which he has drawn. He makes no claim to original research of any sort, is confessedly unfamiliar with the Swedish language, and is not an expert, to say the least, in the art of war. He has got his information from the German historians, especially from Droysen, and the great history of Geijer, translated into German, with more or less use of the correspondence of the king. This material has been used intelligently and the conclusions of the learned authors accepted or rejected as they seemed to commend themselves on their merits.

We must heartily approve what the author is willing to call his own "arbitrariness" in the use of foreign names. There is active among us a feeble kind of self-styled "correctness," which prides itself on the use of forms justified perhaps, on etymological principles, but without support in English usage, and it is high time that such a protest as that with which Mr. Fletcher refers to this matter in his preface, were made by every sensible writer. The only guide here is the feeling of the author himself as to just how much "correctness" may be admitted without making his language unintelligible to the kind of readers whom he addresses. Hardly the same approval can be given to our author's literary style. He is a

victim to the desire for picturesqueness, which is a disease of our present historical writing, whenever it shows itself in smartness of language, rather than in the telling choice of situations and in the due proportion of the narrative. No amount of *chic* in the wording can make interesting the marches and counter marches of hostile armies, but on the other hand there could hardly have been better opportunities for really dramatic effect than in describing the detail of the complicated situation in which the King of Sweden on the continent continually found himself. If Mr. Fletcher has not made the best use of these opportunities, nor avoided all the temptations of a ready pen, it may be confessed that these are the gifts of a master, to which he would hardly lay claim. Of actually faulty and careless English there are more illustrations than one would look for.

The career of Gustavus Adolphus has given rise to numerous controversies. They relate to his personal character and to the real motives which inspired his extraordinary activity. Catholic historians could naturally find in him nothing but the wanton disturber of the *status quo* in Europe, an obstacle in that development which, uninterrupted, would in no very long time have secured the control of the empire and of the only faith over all Germany. An extreme Protestant view, on the other hand, would make him the ideal of the Christian hero, actuated by no other motive but the greater glory of God. Between these views there is room for wide diversity, and it is to Mr. Fletcher's credit that he has known how to keep safely away from all extravagances of judgment. He gives greatest weight to the impulses of patriotism and religion, especially the former. Not that he doubts the actual sincerity of Gustavus' piety, but he inclines to think that this motive alone would not have led him across the Baltic if he had not seen in the defeat of the imperial plans in North Germany the only escape for Sweden from the danger of similar aggression. Once in Germany, he could gain the alliance of Protestants, shifting and uncertain as that alliance was, only by making himself the champion of their faith, and without their alliance the emperor could never have been kept away from the dangerous neighborhood of the Baltic. Add to these considerations the love for military glory which seems to have been born in the man, and we have the combination of impulses which best explains the wonderful events of his three brilliant years. In this conclusion

Mr. Fletcher seems to us wholly correct, and his little book can hardly fail to be of service in fixing precisely the debt the world owes to the Swedish hero. Whether his judgment of the reasons which kept Gustavus from reaching Magdeburg in time to save the city is not over partial, may perhaps be doubted.

EPHRAIM EMERTON.

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**Outline Course of Study in Elementary Science, Manual Training, and Language.** A Report of a Special Committee, Presented to the New England Superintendents' Association, November, 1890. Printed for the Association: 1890, pp. 24.

The New England Superintendents' Association has made a notable contribution to educational literature in this pamphlet. It is a report, presented at the November (1890) meeting in Boston, by a committee consisting of Robert C. Metcalf, Clarence E. Meleney and George I. Aldrich. The work of these gentlemen bears the marks of careful attention to the subject; and its thoroughness entitles them to the gratitude of all who are concerned in preparing or modifying courses of study for the public schools. The labor involved is evidently great; the ability of the authors to deal with the subject is unquestioned; the result will be valued by all friends of education: and all this is not the less true if some portions of the course shall be found wholly or in part erroneous.

In the preface two chief aims are announced in selecting studies to be taught in school: (1) "The course of study must include the studies and means of training which develop the greatest amount of mental and moral power;" (2) "Those which throw the greatest amount of light on the environments of life." On the study of nature it is said: "We must not look at nature's forms as specimens whose only interest is their accurate and wonderful structure, and the ingenious adjustment of parts, but as creations whose symmetry of form and harmony of color teach the beauty and glory of the universe, of God. "The teacher is to ascertain (1) what the child knows, (2) what the child can do, and (3) what the child can say," in order to begin the use of his environment as a means for his education: and "The child's development will be marked by the acquirement of knowledge; the cultivation of expression in making, drawing, and language; and the power and facility of applying this knowledge."



It will be seen that this aim is very ambitious ; no teacher will be expected to attain the end perfectly ; to ascertain all that the child knows and can do or say, is impossible for any teacher with a class of fifty, of course. Nevertheless, to have that aim must always be a help to good teaching. It is well for all teachers to know that all this underlies their work, however imperfectly it may be apprehended.

This "Outline Course" is in four divisions :

I. Elementary Science and Manual Training.—It may be doubtful whether such study as is here outlined should be called science. In the study of botany, for example, the first stages consist of a knowledge of individual plants through the examination of specimens. Under the guide of an experienced teacher this study may be so arranged as to lay the best foundation for the scientific study of botany—the classified knowledge. But the elementary steps are not science. However, the term elementary science may be the best, though possibly misleading.

Manual Training also may be a misleading name for the kind of exercises here outlined, since recent discussions give the term a more specific meaning to some minds. The thing itself here described is not seriously objectionable.

In this division the work of each year is classified under the three heads of observation, expression, and drill. And here it may be remarked that in this division alone, the work outlined for the first year is more than could be accomplished in the whole school time, if it were taken literally and exhaustively, or any thing approaching that. Under "drawing," for example, are the sub-headings, "From typical forms," and "Natural objects"—and this for the first year in school! But it must be constantly borne in mind that we are considering an "outline," from which the superintendent may construct a course of study, and not the course of study itself.

II. Mechanical Drawing and Construction.—This begins at the fourth year ; and in each year there are the two parts—"drawing" and "construction." Here also the amount of work is more extensive than can be done consistently with a proper regard for other studies necessary in a common school course—too extensive, that is, if taken for all that the outline may cover.

III. Course of Instruction in Sewing, beginning at the fourth year.—Why not at the third year? Here numerous

specifications are given—not that they must all be followed, perhaps; they are suggested and more or less may be adopted.

IV. Report on Language.—In this division language means words—the expression of thought by words. This fact cannot be made too prominent—that language is the expression of thought. It is the failure to remember this fact that has led to great difficulty in the study of language, and in the ability to use it. Much of the outcry against the study of language would be stilled if every teacher should forbid the use, and prevent the use, of language unless there is a thought to be expressed. Instead of so doing some teachers have punished pupils for not writing when they have nothing to say. The pupils in such cases should rather be commended for their silence. The remedy is in seeing first that pupils have something to say. Then the use of language—the writing of essays—will be both easy and delightful.

In this division two sub-headings are made in both primary and grammar schools: “Oral Language Work,” and “Written Language Work.” The first of these distinctions is too frequently overlooked. The study of language by oral speech, the training of pupils to speak correctly always, and to speak much, is of far more importance practically than even the training in writing. Even in the advanced studies, in literature, the study of one’s own speech in connection with the study of the best writers, may well occupy one fourth of the student’s time. One of Harvard’s most accomplished professors—whose ordinary conversation is as polished in style as the pages of the best writers—has gained his profound mastery of English in this way. Much more is such a practice needful with young pupils.

But the outline in question must be studied as a whole to be appreciated. This imperfect sketch can give only a faint notion of all the good it contains. If, on more critical and minute inspection, faults are observable in this “Outline,” they may easily be avoided by those who are making a detailed course of study by its aid.

A. P. MARBLE.

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**School Supervision.** By J. L. Pickard, LL.D. New York: D. Appleton & Co., 1890, pp. xiv., 175.

Dr. W. T. Harris, in his preface to this book, which forms one of the International Education Series, remarks: “But the

supervision of American common schools has for the most part grown up without profiting by the study of experiments made elsewhere. It might with equal truth be remarked of Dr. Pickard's book, that it has been written without profiting by the results of philosophic investigation. Neither from the scholastic side, nor from the administrative side, does it betray a thorough acquaintance with recent philosophic thought and experiment. And yet it contains much wisdom, and that of an eminently practical kind. It would be strange indeed if a man who has had Dr. Pickard's experience—as superintendent of schools in a large city, as state superintendent, and as president of a college—should not have something to say which is worthy the attention of all who are engaged in the work of supervision. Under the heads of "The Superintendent's Relation to Pupils," "The Superintendent's Relation to Teachers," "Relation of Superintendent to the Board of Education," and other equally obvious divisions of his subject, he has grouped the observations of many years spent in earnest and successful educational work. The book reveals a man wise, patient, amiable, and tactful. To one lacking in these qualities, I do not know of a volume which it would be more profitable to study. To the superintendent who is disposed to be too aggressive, to grasp for too much power, to tyrannize over teachers and pupils, or to assume the airs of an autocrat, it will afford the excellent counsel of moderation. To one who wishes to get the best possible result out of the material that comes to his hand, who desires to make everybody happy, from the president of the board of education to the youngest pupil, who is a reformer but not an iconoclast, it is replete with wise and fruitful suggestions. But to the man who sees that much must be destroyed before he can even begin to build a public school system that will be equally impregnable to external enemies and proof against internal disease, it will afford but little light that is either new or valuable.

In confirmation of this view of Dr. Pickard's work, it is only necessary to cite his opinions on a few of the questions in school administration that are engaging the attention of thoughtful men at the present day. It will not be denied that the appointment and removal of teachers is one of these questions. Dr. Pickard considers two extreme positions: one in which appointments and removals are made absolutely by members of the board of education; the other, in which appoint-

ments and removals are made absolutely by the superintendent. He sees the objections to either of these plans clearly enough. He considers that want of time—but a small part of the real objection—is a sufficient objection to the first scheme, and that the personal danger to a conscientious officer or the danger to the school system from the work of one who is time-serving, is enough to invalidate the second. But what does he recommend? "The superintendent," he says, "should be a member of this committee (on teachers), and through it his power will be exercised." And again, "Were his hand hidden in the committee over whose acts he might possess a controlling influence, his services would be retained until the wisdom of his counsel were fully approved." Rather a humiliating position in which to place the superintendent. "Willing to wound and yet afraid to strike," is not the characteristic that should distinguish such a man. The defect in Dr. Pickard's discussion is that he does not know, or has not considered, all possible methods. How to secure capable, trained teachers, is one of the great problems in school administration. Its solution will require a philosophy of which we have as yet scarcely dreamed.

Another instance of inadequate treatment is to be found in the discussion of "moral training." The author sets out by assuming, or rather seeming to assume, that religious instruction should form an integral part of school work, but he states fully neither the arguments for, nor the arguments against, such a position. His admonitions to superintendents to look carefully into the characters of those who apply for licenses to teach, and his suggestions to teachers as to the observance by themselves of the rules laid down for the government of pupils, are good as far as they go; but the treatment throws no new light upon a vexed question; it does not even fully represent the present stage of development in the controversy.

Still another instance might be adduced, in Dr. Pickard's views upon promotions and examinations. The most difficult problem in public school administration to-day, is how to educate children in great masses, as they are to be found in all large cities, and at the same time to afford adequate opportunity for individual development. Toward the solution of this problem, at least in our large cities, but little progress has been made. And though Dr. Pickard presents clearly and pleasingly many suggestions whose value cannot be ques-

tioned, it must still be confessed that we are nearly as far as ever from an ideal system.

Other instances of the inadequacy of this book to meet the demand for a philosophic work on supervision and school organization, might be multiplied; but these are sufficient. Dr. Pickard has written a useful book and a pleasing one; but it is not a great book; it is not *the* book.

W. H. M.

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**Lessons in Number for Primary Schools.** By FRANCIS COGSWELL, A. M., Superintendent of Schools, Cambridge, Mass. Boston: Thompson, Brown & Co., 1890, pp. xv., 140.

Those who are acquainted with the author of *Lessons in Number* will need no assurance that he has made an excellent book. The teacher who desires to make wise use of it will carefully read both the brief preface, in which Mr. Cogswell explains its plan and special features, and the table of contents with the accompanying explanations, directions, and suggestions. The body of the work consists of 140 pages, and a careful examination of them affords ample evidence that the book really possesses the merits claimed for it in the prefatory portions. In distinction from several excellent manuals designed for the use of teachers which have recently appeared, Mr. Cogswell's little book is designed for the use of pupils. While we do not agree with the author's recommendation that its use begin in the latter part of the pupil's first year in school, we think its use may begin as early as it is advisable to withdraw pupils from the study of numbers which may be handled as well as seen. In short, this book may be used as early as it is advisable to use any book whatever. We incline to emphasize the remark of the author that the use of his book should begin after the pupil has been taught the facts of numbers by means of objects. Visitors at German schools are impressed with the logical, and therefore orderly, arrangement which characterizes most of the school exercises. A distinct and definite purpose seems constantly to possess the mind of the German teacher and guides him in the management of his pupils. His questioning, for instance, is not of a haphazard, promiscuous character, but has a clear beginning, middle, and end. Perhaps no criticism upon American teachers is of wider application than that called forth by the

noticeable absence of those qualities which so distinguish the Germans. Is it too much to say that a majority of our own school exercises begin in the middle and leave off at both ends? We have been led into these last remarks by our observation of the very satisfactory arrangement which Mr. Cogswell has made of his subject matter, and we again venture to recommend careful attention to his Table of Contents. Lessons I. to XXXIII. treat of numbers to 10. The first twenty-five pages afford illustrations of all possible combinations; then follow work with concrete numbers, work with abstract numbers, and work with abstract numbers where answers are to be given at sight, there being no conscious process on the part of pupils. This last variety of exercise should have a much more prominent place than it now occupies in most of our schools. To allow pupils to say, 2 and 1 are 3; 3 and 2 are 5; 1 and 6 are 7, instead of instantly naming the results, 3, 5, 7, is not only a useless and extravagant consumption of time, but it defeats one of our chief purposes in the teaching of arithmetic. In the mechanical portions of arithmetic we must accord accuracy the highest place among results to be produced, but rapidity stands as a close second, and rapidity is only secured by producing that sort of mental action in combination of numbers that is best described by the term automatic. The same orderly arrangement characterizes the remainder of the book, but lack of space forbids further detailed comment. The same device, employed by Messrs. Walton and Cogswell in an earlier publication, will be found in the book now under consideration, making it easy for the teacher to multiply vastly the material afforded by a single page. In regard to school books we may say with special truth, "of making them, there is no end." One is at a loss to discover adequate reason for the creation of many of them, but Mr. Cogswell's *Lessons in Number* carries with it quite sufficient evidence of its right to existence.

G. I. ALDRICH.

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**Evolution of the University.**—By GEORGE E. HOWARD, Professor of History in the University of Nebraska. Lincoln, Neb.: Published by the Alumni Association of the University of Nebraska, 1890, pp. 36.

Professor Howard's address to the Alumni of Nebraska University is a broad and suggestive sketch of the whole de-

velopment of the higher education in Europe and America. He shows how the university idea took form in Italy and in France; how it succumbed to the college idea in England; how it attained its most perfect expression in Germany, and how the educational system of America, based on the English, has gradually been penetrated and vivified by German influences.

The central thought of the essay is the relation of the higher education to the needs of the community. In Italy, the purpose of university education was practical from the outset; in France and England it fell under the "thralldom of theology and classicism." In Germany, also, the era of religious conflict converted the university into "gloomy fortresses of sectarianism"; but the movement of secularization, initiated at Halle in 1693, gradually brought them in touch again with the whole social organism. In the higher education of Germany, and to an increasing degree in that of our country, chief attention is given to those matters which concern the state and the community at large.

State support of university education is justified by the interests of the state. If the common school is needed to fit every man for the intelligent use of the ballot, the university is needed to fit men for the wise and conservative guidance of our democratic polity.

MUNROE SMITH.

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#### Notes on Recent Pedagogical Literature.

**NATURALISM IN PEDAGOGY:** A Thesis presented for the Degree of Doctor of Philosophy in the Post-Graduate Department of the University of Wooster, June, 1890. By Henry Elton Kratz, A.M., Ph.D. Wooster, O.: The Herald Printing Co., 1891, pp. 14.

This brief thesis is suggestive and important by reason of the insight which the author has into the weakness and limitations of Naturalism as a pedagogical creed. He touches on the history, the phases, the helpfulness, and the insufficiency of Naturalism. The argument is clear, but almost too compact.

**THE UNIVERSITY OF CHICAGO:** Official Bulletin, No. 1. Chicago, Ill.: January, 1891, pp. 16.

This pamphlet is of especial interest to students of higher education. It contains an historical statement as to the foun-

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dation of this new institution, a list of the trustees, a copy of the charter, and a detailed outline of the proposed very extensive organization. The latter is the work of the president-elect, Professor W. R. Harper of Yale University. One item of interest is the provision that at all times two thirds of the trustees and also the president of university shall be members of regular Baptist churches. If no religious test is ever to be made requisite for admission to the university, whether as teacher or as student, it is difficult to understand why the provision mentioned is made. Its pedagogic significance is problematical.

UNIVERSITY OF MICHIGAN: The President's Report to the Board of Regents for the Year ending September 30, 1890. Ann Arbor, Mich.: Published by the University, 1890, pp. 40.

During the year the very large number of 2159 students were enrolled. Of these 1009 were in the department of literature, science, and the arts; 375 in the department of medicine and surgery, and 73 more in the homœopathic medical college; and 533 in the department of law. Less than one half of all the students come from the state of Michigan. Forty-three of the states and territories are represented. The receipts for the year amounted to \$360,308.16, of which \$111,162.75 was earned by the university. The appropriations from the state treasury amounted to \$233,512.58.

President Angell touches on the subject of the shortening of the college course. He believes it to be both possible and desirable to shorten the time necessary to take both an undergraduate and a professional course. He prefers the method of permitting an undergraduate to elect as part of his work for the bachelor's degree, certain of the preliminary professional studies. During the last decade the average age on admission to regular courses has been reduced from 19-19½ to a trifle over 18 years. This decrease is ascribed to two causes: the improvement in the high schools, and the better financial condition of the parents, which enables the students in larger proportion than formerly to go to college without waiting to earn the means of defraying their expenses.

N. M. B.



## EDUCATION IN FOREIGN PERIODICALS.

Dr. J. G. Fitch, on Secondary Education in England.

FROM A REPORT IN THE "EDUCATIONAL TIMES" OF AN ADDRESS BEFORE  
THE LONDON COLLEGE OF PRECEPTORS.

"Our schools, like the other institutions of our country, are the product partly of history and tradition, partly of accident. We have inherited some of them; some have been established to meet local circumstances or the wants of particular professions or religious communities; others are the result of private enterprise. Scarcely any attempt has been made to co-ordinate them, or to assign their relations to each other. Before the Reformation, when education was the privilege of the rich, there were mainly two forms of discipline: that of the cloister and that of the castle or the manor-house. The young squire or nobleman was sufficiently educated if he could ride and hunt, and was skillful in athletic exercises and in the performance of the arts of war. Very little book knowledge was accessible to the country gentleman, or would have been desired by society or himself. . . . And when the Restoration came and the Act of Uniformity had been followed by the secession of those Puritans who for the first time in our history were called Nonconformists, and when the Toleration Act of William and Mary had been reluctantly granted and had obliged English Churchmen to recognize Dissent as a permanent factor in the social system, wealthy and benevolent people began to be sensible of a new danger and to take a new view of the educational requirements of their countrymen. The Church of England and the whole fabric of social order with which the establishment was identified, appeared to be in peril, and it was thought that schools of a new type, designed for the poorer classes,—schools in which special pains were taken, by church attendance, by catechism and liturgical teaching,—might, if liberally endowed, prove the means of attaching scholars to the Established Church. Hence it was that at the end of the seventeenth century, and for a considerable portion of the eighteenth,

nearly all the beneficence of the promoters of education was directed to the foundation of charity schools. Their educational aims were very low, reading, writing, and the catechism, forming the staple of the instruction; the scholars were clothed in a charity dress, and were taken diligently to church; and if prizes or funds for the advancement in life of the scholars were by the liberality of the founders attached to the school, they were always devoted to the purpose of apprenticing boys or putting girls out to service. They never provided for the possible advancement of a promising scholar to the university or other place of higher education. The notion of a ladder from the cottage to the university which had prevailed in earlier times, and which has been revived in our own, was not in the mind of the founders of charity schools. The whole aim of these schools was to keep the scholars in the state of life in which they had been born, and to make them content with the established order in church and state, not to encourage intellectual ambition." For our present purpose, it is expedient to remember that schools of this class did nothing, and were meant to do nothing, for secondary instruction; and that, as they multiplied during the eighteenth century, zeal for the promotion of a liberal education by means of grammar schools was relaxed in proportion. As a matter of historical fact, no very important foundation for higher education owes its origin to that period.

The very word "clerk," with its ambiguous modern meanings, may remind us that the power to write was in England once regarded as the special prerogative of the clergy or of those who were educated in monasteries. A few of the laity were, even in the fourteenth and fifteenth centuries, admitted to the monastic schools, or to the charity schools attached to abbeys and cathedrals; and in the cathedral towns, Carlisle, Winchester, and Salisbury, grammar schools were founded before the end of the fifteenth century. The royal foundation of Eton owes its origin to Henry VI. But it was at the Reformation, and after the Revival of Learning, that the endowed grammar schools became common, and began to be numerous and vigorous enough to exert a substantial influence over the intellectual life of England. It may suffice here to name, with their dates, a very small number of the most famous of these foundations: St. Paul's (1510); Sherborne (1550); Shrewsbury (1551); King Edward's School at Birmingham

(1552); Christ's Hospital (1553); Tonbridge (1553); Westminster (1560); Merchant Taylors' (1561); Harpur's School at Bedford (1566); Rugby (1567); Harrow (1571); Uppingham (1587); the Charterhouse (1611); and Dulwich (1619). By the end of the seventeenth century there were in England no less than 620 of these institutions. They constituted the only provision which can be described as of a public kind for the education of the nation. The funds with which some of them were enriched were the spoils of the dissolved monasteries; many other schools had a distinctly ecclesiastical character. And it is largely owing to this fact that the traditional ideal of a liberal education which still prevails in England, attaches so high a value to the ancient languages. There is no other nation known to me whose intellectual history has been so profoundly influenced by its possession of educational endowments four or five centuries old; and there is none in which the aims and methods of mediæval teachers have been more reverently followed, or in which the continuity of tradition and usage in reference to learning has been so carefully preserved. The grammar schools were by their statutes enjoined to make the Greek and Roman classics their staple study; for the very excellent reasons that these were then the only studies which had been so far formulated and systematized as to possess a disciplinal character, that they were the keys to open the storehouses of all the knowledge the world then possessed, and, further, that they were the only subjects which the teachers of that time had themselves been able to learn. Most of the grammar schools were intimately connected, either through their governing bodies or by means of scholarships, with the universities. It was their highest pride to produce pupils able to proceed to Oxford and Cambridge, and to distinguish themselves there; and, as a rule, the founders in their deeds and testaments expressed a generous desire to make the schools accessible to students of all ranks, and to enable the child, even of the peasant or the trader, if he were apt and godly, to become a scholar and to "serve God in church and state." And if it has come to pass that in England, perhaps more than in any other land, a man who is proficient in the Greek and Latin languages, claims *par excellence* to be called a scholar; while one who possesses the widest and most philosophical acquaintance with other departments of human knowledge, but knows nothing of classics, hardly ranks as a liberally

educated man; we are to attribute this fact mainly to the existence of the *grammar schools*, and to the tenacity with which Englishmen have clung during several centuries to the statutes and ordinances of these institutions.

We must note, however, that the fashion of establishing grammar schools with a view to encourage the pursuit of a liberal education may be said to have almost died out by the end of the seventeenth century. The time of the Civil War and of the Commonwealth was not favorable to such intellectual enterprise, for the dominant party was not keen about the promotion of secular learning; and the beaten party was too seriously impoverished by the war to command the means of endowment. . . . Meanwhile it is to be observed that whatever was done for secondary education was done by private initiative, with the co-operation of the universities; or by the efforts of parents who could afford private tuition. . . .

The first symptom of any interest on the part of the legislature in the whole subject was the measure carried through against some opposition by Lord Brougham in 1818, instituting a commission of inquiry into the state of endowed charities, especially those connected with education. The investigation lasted several years, and resulted in the production of several enormous volumes containing detailed particulars about such charities. But it was essentially a lawyers' inquiry. It ascertained the terms of the original deed of foundation, described the nature of the trust property and its present value, told the names of the trustees and of the head-master, and reported that the will of the founder was or was not carried out. It was no part of the commissioners' duty to ascertain the educational efficacy of the schools or their fitness to supply the present wants of the community. Still less was it within the province of the commissioners to propound new schemes, or to make recommendations with a view to make the schools more useful. . . . The next step of importance was the appointment in 1864 of the Royal Commission of which Lord Taunton was chairman. . . . It was called the Schools Inquiry Commission. . . . The Schools Inquiry Commission was charged with the duty of reporting on the whole of the educational area which was bounded on one side by the primary school and on the other by Eton and Harvard and the other of the nine public schools. The investigation was elaborate and extended over nearly four years. . . . The late Bishop Fraser visited

America, and Mr. Matthew Arnold wrote his memorable Report on the Secondary Instruction of France and Germany.

The information thus accumulated was afterward summarized in a final report. So far as England and Wales were concerned, it amounted to this: the provision for intermediate and higher education was made up: (1) of endowed grammar schools; (2) of proprietary or joint-stock establishments; and (3) of private schools. . . . The commissioners reported that a very large proportion of the endowed grammar schools were in a lamentable condition of decay and uselessness, that they were very poorly attended, that they neither gave to any good purpose the instruction in the ancient language contemplated by the founders, nor had done anything, by way of compensation, to adapt themselves to the needs and circumstances of modern life. . . .

As to the proprietary schools, some designed for the children of persons of particular communities and professions, and others which had been founded by religious bodies—*e. g.*, the Friends' schools and the Wesleyan proprietary schools—were found to be flourishing, and to be well supported by the efforts of the persons specially concerned. But of those proprietary schools, which had been established simply as places of general education, a good many had succeeded for a while, but had fallen into difficulties, owing to the want of any financial stability, or any means for maintaining a permanent policy in the government. It happened, especially in my own district, that some of the best examples of modern educational enterprise had been created by private schoolmasters. But it could not be denied that, as a rule, the condition of the private schools was profoundly unsatisfactory, that the teachers were often ill-qualified, the methods of instruction antiquated and unintelligent; and the work, being never subjected to any external test or comparison, went on from year to year in a monotonous groove, and was probably less efficient than even the most conscientious of the teachers supposed it to be. . . .

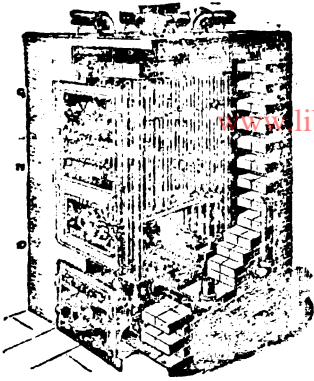
The remedial measures which the commissioners proposed for this state of things were very drastic and far-reaching. They made a series of proposals, the adoption of which was to be partly obligatory and partly permissive. They recommended that a beginning should be made with endowed schools, that they should be properly graded, their schemes of

instruction modernized, their governing bodies reconstructed on a more popular basis; the freehold tenure of the masters abolished, suitable fees imposed; all rights of personal nomination and patronage abolished, and a portion of the endowment reserved in every case for free scholarships or exhibitions, enabling scholars of merit either to receive gratuitous instruction in the school or to proceed to the university or some place of higher instruction. . . . This report, issued toward the end of 1867, produced considerable effect on public opinion, and it happened that the following year witnessed the accession to power of one of the strongest administrations of recent years—that of Mr. Gladstone in 1868. He appointed as vice-president of the council Mr. W. E. Forster, who had himself been an active member of the Schools Inquiry Commission, and to whose courageous and skillful statesmanship the country was indebted two years later for the Elementary Education Act. Early in 1869 he introduced the Endowed Schools Bill in two parts. The former of these proposed to create a new tribunal with executive powers. It was to be the duty of this body—the Endowed Schools Commission—to frame schemes for the reorganization of all educational endowments; and, if the consent of the local trustees could be obtained, to apply non-educational charities to educational purposes. The second part of the bill proposed the formation of a council, to consist of representatives of the three universities, of Oxford, Cambridge, and London, and six persons to be nominated by the Crown, with powers (1) to examine persons deserving recognition as teachers, and to award to them professional diplomas; (2) to examine and report on the condition of all endowed schools; (3) to keep a register of all qualified teachers; (4) to admit such schools as might apply for recognition to similar examinations to those provided for endowed schools; (5) to allow the scholars of all such private or unendowed schools to compete for exhibitions and scholarships. . . . But of the measure which Mr. Forster introduced he was able to carry the first part only. Very unwillingly he yielded to the objections which were urged against so revolutionary a measure, and the second part of the bill was dropped. But the establishment of the new commission was a substantial step in advance. Under the Endowed Schools Act, the administration of which five years later was confided to the Charity Commission, specially strengthened

for this purpose, great results have been attained. All over the country schools have been reconstituted, governing bodies reformed, the curriculum of instruction modernized, freehold masterships abolished, the funds duly economized, and suitable fees imposed; and although the work is not yet completed, the beneficial action of the commission has already covered the country with regenerate foundations, and given to them new resources and new vigor, and set them on a new career of honor and of public usefulness. A select committee of the House of Commons sat in 1886 to inquire into the working of the Endowed Schools Act, and collected the strongest testimony from all sides of the value of its operations. Its report pointed out, indeed, that it was one thing to frame good schemes, and another to secure the enforcement of them; and it was recommended that power should be given to a Minister of Public Instruction to perform this latter duty, and to bring into harmony the several parts of our educational machinery, which are at present scattered and divided.

The Endowed Schools Act is the one measure on the statute book which concerns the secondary education of the people. No subsequent step has been taken by the legislature. And in this respect our country differs materially from almost every civilized nation which attaches any value to intellectual advancement. . . .

Whatever has been done—and much has unquestionably been done since the Act of 1869—has been the work of private and independent bodies without any help or encouragement from the state. The institution of the Oxford and Cambridge Local Examinations has had an enormous effect in quickening the energies and improving the aims of teachers. Similar results have followed from the widely spread system of school examinations conducted by this college. The establishment at Cambridge and in London of a training college for the mistresses of high schools, the endowment at Edinburgh and St. Andrews of Professorships of Pedagogy, the institution by both the Cambridge and London universities of special examinations in the Art, Theory, and History of Education, and the courses of professorial lectures at Cambridge and the College of Preceptors, have called public attention to the need of special training for the teacher's office, and have helped to supply that need.



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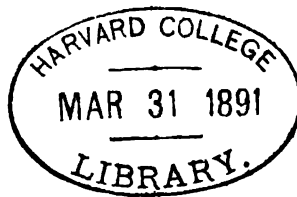
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# EDUCATIONAL REVIEW

*APRIL, 1891.*

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## I.

### ART EDUCATION IN THE PUBLIC SCHOOLS.

The social development of the last half century shows a steady growth in the recognition of the public school as one of the most important institutions of modern society. To the thoughtful man the future presents a number of social problems of the gravest import. Individual freedom from class and proscriptive tyranny has, in a broad sense, been secured. Public opinion, the aggregate of the majority of individual opinions, has become the sole basis of social order, and hence the binding force in modern society is what the majority of the people think or believe. We need to bring the full significance of this fact before us, and to consider that under this social dispensation all the baser elements of human nature are given as free play as are the higher elements, and that no man is restricted in his personal liberty until he encroaches upon the liberties of others, before we can adequately comprehend the supreme importance of public education to the modern state.

John Fiske made a valuable contribution to education, as well as to the doctrine of evolution, when he pointed out the meaning of infancy. In his suggestive treatment of this subject he asks this question: "What is the meaning of the fact that man is born into the world more helpless than any other creature, and needs, for a much longer season than any other living thing, the tender care and wise counsel of his elders? It is one of the most familiar of facts that man, alone among animals, exhibits a capacity for progress. That man is

widely different from other animals in the length of his adolescence, and the utter helplessness of his babyhood is an equally familiar thing. Now, between these two commonplace facts, is there no connection? Is it a mere accident that the creature which is distinguished as progressive should also be distinguished as coming slowly to maturity, or is there a reason lying deep down in the nature of things why this should be so?" He then points out the great advantage that has come to the race through what he calls the period of *mental plasticity*; that is, the period of infancy, youth, and adolescence, forming nearly one third of a human life, during which the individual is trained for his social duties.

The social condition of man has now reached a high degree of complexity. This social condition can be protected and properly developed, only so far as education provides for training the youth of a community for the duties and responsibilities incident thereto. With just as much thoroughness, with just as much care, we need, at the present time, to train our children to all that makes for high and noble living,—as the Greeks trained for the conditions existing in the Greek state, as the Romans trained for the conditions existing in the Roman state. So, also, we must recognize the supreme importance of training in all that makes for the highest intellectual culture and refinement in human life. With the absence of the militant power in our American state we base our institutions entirely upon the dominance of the moral and spiritual faculties among men. Indeed, our social and political organization rests wholly upon the belief that the majority of men prefer good to evil, virtue to vice, and if we take a broad view of the active forces in the social organism, we see on every hand virtue grappling with vice, justice struggling with injustice, and in these struggles we see that success can be hoped for only as all the higher faculties of man are brought into play upon the side of justice and of virtue. To state the problem in a few words: our duty is to so organize the forces that make for right living that they shall always be the domi-

nant power in the social organism, and it is only when we come to recognize this condition as fundamental to all growth in human well-being that we can get a proper comprehension of what is involved in public education at the present time.

When the education of the people is looked at from this point of view, it is seen that its greatest power must be exerted where the dangers to the social organism are greatest—that is, among the poorest classes. There is more need of the refining influences of the best education among the debased and neglected elements of population in our large cities than among the children of the rich and prosperous; and hence, the movement of the last few years to carry the most improved forms of our education among the lowest classes, is an indication of the growth of public sentiment in the right direction, and is a feeling that will undoubtedly grow in strength as social problems are more carefully studied.

We have seen, in many parts of the country, the growth of a very praiseworthy sentiment in favor of raising the national flag over our school-houses. The spirit that prompted this movement was a patriotic one and marks the growth of a national feeling stronger than that of local interests. To the educator it should stand for more than a mere loyal impulse. The flag should be made to represent more than the sovereign power and unity of the nation. Consider for a moment that in our large cities the great mass of the children see little or nothing of the government or the forces that bind society together, except as presented by the policeman. What better instrumentality is there for inculcating in the minds of the young a respect for government and law than the school-house? If we can lead the pupils to understand that the school-house is provided by the state—is provided for all, without distinction of race, condition, or creed; if we can make the school-house a place of delight, and if we can secure within it the right sort of instruction, the training that shall tend to develop the noblest qualities of mind and heart, we shall then be fostering not simply a love of country for its past history and the heroic deeds of our ancestors, but we shall be culti-

vating a love of country for what the country is doing for the children themselves in preparing them for the highest and best purposes in life. Then will the flag mean something personal to every child. Then will the government be to him not simply an abstraction, but he will come to regard it as his own great helper and sustainer. I welcome, therefore, this nationalization of the school as one of the most important of the educational movements of our time.

If, however, we make the school the symbol of the state to the children, we must have taught in it all that the child requires to enable him to become a virtuous and a useful citizen. I do not think there can be any gainsaying this proposition. Indeed, it follows logically from the very establishment of a public school, and in our day, when such important responsibilities are attached to citizenship, the public school and its instrumentalities must be measured solely by its capacity to realize its complete function.

Nearly all the states have limited the instruction that shall be given in public schools, and some confine it within very narrow bounds. But we are gradually outgrowing the restricted ideas of education of fifty years ago, and our more intelligent communities are already anticipating legislative action and are putting into their schools new subjects for study, new exercises which have for their object the development of the higher powers of the pupils, and the bringing them into the closest possible relations to the social needs of the future. Look for a moment at some of the movements that are going forward at the present time for enlarging the scope of public education. First we have the kindergarten, the recognition of the child in education, one of the most beneficent reforms that has ever come into the schools. Then we have physical training, the recognition of the fact that the citizen to have a healthy mind must also have a healthy body. Then we have the study of elementary science, which has for its object the bringing of the individual into the closest relations with his physical environment, that he may be able to enrich the world by his conquests over nature; that he may, to use the words of Bacon,

become the "minister and interpreter of nature." Then we have industrial or manual training, which recognizes that labor is one of the conditions of man's existence in the world, and that it is through understanding labor, and putting thought into labor, that man is brought more completely into sympathy with his fellows. Then we have the study of history, not simply as the record of man's military conquests, but rather as showing the steady development of the idea of brotherhood among men. And then, in addition to these, we have the instruction in art, in some respects the most important of all, because its influence tends to enrich the mind as a whole through the development and training of its highest faculties.

Now, cavil as we may against these new studies; argue, as many persons do, upon the limitations which are, or ought to be, imposed upon the state, all these features must come into the public schools, and in no niggardly way. They must come in on the broadest possible basis, or there is danger that the present tendencies of social progress will miscarry. That their introduction into the schools will revolutionize much of our existing education cannot be denied; but that need not give cause for serious regret. We may lay it down as a fundamental and incontestable proposition that existing social conditions demand these two things: First, the highest order of citizenship possible; and second, that public education must prepare for such citizenship at whatever cost.

I have prefaced these remarks because, in discussing "Art Education in the Public Schools," it has seemed desirable for the right understanding of the subject that it should be considered not simply as a specialty in education, but rather in the larger aspect of one of the branches of general education that has become a necessity of our time. It is only by regarding the subject in its broadest relations that we can rightly consider how it should be treated in the schools. It will be understood that, in so far as the elementary schools are concerned, I am



using the term "Art Education" as limited to drawing and color.

Of the new studies referred to, art education is the one least understood, and yet it is the one that in many respects is the most important. Next to language there is no branch whose scope and purpose is so far-reaching, or that bears more directly upon all that ministers to the best interests of the individual and of society. I am aware that many will regard this as far too inclusive a statement, and yet the history of civilization shows that the arts which deal with form and color have been at once of the highest value to man's utilitarian necessities and to those desires which nothing but the beautiful in nature and in art can satisfy. As a people, I think it will be admitted that we are deficient in art culture, and I do not think it will be denied that, in consequence, we are losing no small part of our intellectual heritage. This will not always be so. The indications are many that art is to have a new development in America, and on a new basis—the basis of humanity. The putting of industrial training into the schools is a great step in this direction, and will surely give a higher idea and a nobler purpose to the labor of common life. The putting of art education into the schools, side by side with industrial training, will not only give dignity to labor, but will also permit the human feeling born of labor to find fit and adequate expression.

The use of the term "Art Education" in connection with the public education has long been a great bugbear to many so-called practical people. To such persons the word art, in connection with the public schools, savors of something unpractical, something that is for special pupils, something for the benefit of the few rather than for the many; and yet a right understanding of the relations of art to daily life shows this to be an entire misconception of the subject. It is a fact, apparent to every observing person, that the social life of our people is lamentably wanting in an appreciation of the beautiful in nature as the highest truth of nature, and of the beautiful in human life and work as the highest truth of character.

This is apparent in the homes, in the amusements, and in the social customs of our people generally. In the scramble for wealth that is going on, people are losing sight of the fundamental ethical principles that hold society together, and are making a pretense of living. Now, art education, which is the study of beauty as the highest truth in nature and in human life, can be directed powerfully against this social demoralization, and hence we should be prepared to advocate art education in the schools as a potent agency in the uplifting and improvement of the community.

Goethe says: "The beautiful is greater than the good, for it includes the good and adds something to it. It is the good made perfect and fitted with all the collateral perfections which make it a perfect thing." This is but a restatement of the old Platonic doctrine which still finds recognition in the most advanced theories of ethics and education. While we are extending our system of education on the utilitarian side, we must not forget that the right enjoyment of life—that is, the exercise of the higher faculties—is as much a function of living as earning one's daily bread; and for our education to be useful, in the true sense of the term, we cannot ignore the training of the æsthetic faculties as much for moral as for practical ends.

I have felt constrained to emphasize this aspect of the subject as of supreme importance at the present time, because in the general introduction of form study and drawing into the schools there seems to prevail an idea that their chief value consists in subserving industrial ends, or as aids to other branches of instruction. The great value of form study and drawing in industry, as well as their great use in educational training, can hardly be over-estimated, but form study and drawing as the basis of art education need to be considered in much broader relations than their applications in these directions.

Now, art in form and color is not an abstraction. It is something very tangible. It is man's creative work with material things; work in which he expresses himself, his power, his

knowledge, his feelings, his ideas, for the use and the enjoyment of others. With every child there is born some degree of this power of individual creation, and closely allied to it is another and complementary power, that of curiosity, or observation; and it should be a principle in all general education to lay hold of these two great instinctive powers and give them free play in the training of every child. True art education distinctly recognizes these two mental powers as its starting point, and seeks to stimulate and direct them so that they shall act and react on each other, and result in the creation of beautiful things, not so much for the gratification of selfish or individual desires as for giving joy to others. The method of training for this end has a dual aspect. On the one side the child is led, through the exercise of his observing powers, to discover that beauty is the highest truth in all material things—in fact, that there can be no beauty devoid of truth—and, on the other side, he is trained to express his observation of the beautiful in creations that shall minister to the needs and pleasure of man. It has been truly said that sharing in some common enjoyment begets a more friendly feeling toward others than sharing in the same kind of knowledge.

Not until art education is viewed in these broader aspects can the subject take its rightful place in public education. For not until the psychological conditions for the training of the child are comprehended can a method of instruction in art suitable to children be devised, and not until its applications in social life are comprehended can the object of art in education be understood.

It is not necessary to dwell upon the fact that this view of art education does not present the subject as in any way antagonistic to its applications to industry, or to other branches of education. In fact, the more the subject is studied from this larger point of view the more will it be seen that its practical applications, both in industrial training and in general educational training are greatly increased, because there is brought to its application in these directions the creative power of

the pupils, enriched by the study of the beautiful, which is the life-giving principle in all industrial work, and the most subtle and refining force in all intellectual development and training.

With these points in mind, and in view of the wide introduction of drawing into the schools, a pertinent question arises here: Is the study coming into public education on the basis of art, or is it coming in on the basis of utility? If we look at the history of the movement for introducing drawing into the schools, which began about twenty years ago, we shall see that it started upon a purely utilitarian or industrial basis. The movement, in its inception, was but a reflection, in many respects a copy, of the movement which was initiated about a score of years earlier in England, and which has been promoted there almost solely for the benefit of the manufacturing interests of Great Britain. As the movement has developed in this country, however, it is to be observed that it has been steadily widening in character under the influences of educational thought and discussion. Experience has long made it apparent that drawing could not be maintained in the schools as a general study simply on the basis of its technical applications in industry. Consequently, the last ten years have shown important modifications of the instruction in the direction of bringing it into harmony with psychological principles. It was an important step in this direction when form study, or the study of objects, was made the starting point in the instruction. Then drawing took its place as one of the means of expressing ideas of form, and in many of our principal cities the method of instruction has been radically changed so as to make the study of form in models and objects the fundamental feature of the work. Under this arrangement the various kinds of drawing, such as free-hand drawing, mechanical drawing, perspective drawing, decorative drawing, are of secondary consideration, and are governed entirely by what the children have studied and by the ideas they have to express resulting therefrom.

That this change is in the right direction will not be ques-

tioned by any one acquainted with the subject, but it will be a serious mistake to say that, because the method of teaching drawing has been changed, so as to make it the expression of ideas derived from the study of objects, the problem of art education in the schools has been solved. In fact, it may be said that with this change of method the real problem confronts us from a new and a broader aspect than when we were dealing with the subject simply from the standpoint of drawing. Having reached the stage where drawing is regarded as but a means for the expression of form ideas derived from the study of objects, the vital point in the instruction now turns upon this question—what kind of objects shall we give the children to study for the development of the ideas to be expressed? It is not infrequently claimed that the interest of the child should be the guiding consideration here. That we should have regard for what shall attract and hold the attention of the pupil is not to be questioned, but it would be a great mistake to assume that this should be the only consideration.

If the love of the beautiful and the creation of the beautiful is the aim of the instruction, then it would seem that the objects given the pupils to study should be such as clearly present the characteristics of beauty. Now some of the objects that most interest a child may be such as possess no distinctive features of beauty—may be such as appeal to his selfish instincts or feelings. I am sure we shall all agree that such objects should not be chosen. But it is said that leaves, plants, flowers, fruit, interest children, and, as beauty is found in the study of nature, natural forms should be given as the basis of the instruction. No one will dispute that in this art training children should be given every possible opportunity to study nature, but in the choice of natural forms great care should be exercised in selecting only such as present, distinctly, beauty of form. It should also be borne in mind that the study of nature for the purposes of art is a widely different thing from the study of nature for the purposes of science. In the scientific study of nature, she is interrogated for her facts, and

these facts may be found, indeed often are found, in objects devoid of beauty. The facts, however, are none the less interesting from the scientific point of view. The scientific study of nature, therefore, is purely objective, and takes little or no account of the æsthetic elements which are involved in the observation of things from the standpoint of art.

In the artistic study of nature, however, the beautiful is the end sought; and the appreciation of the highest beauty in nature is realized only when it is perceived that the various objects in nature are fashioned upon certain type forms which express unity and purpose as the highest truths in nature—truths that transcend all material manifestations and witness the supreme, eternal power that lies back of, and gives life to, nature. The natural objects are very few that express this truth, this beauty of nature, in all their details. They become beautiful only as they are seen in their typical relations. It is one of the functions of art to present the objects of nature not in their accidental, but in their typical relations; in other words, to interpret nature in her highest aspects, not simply to imitate her in her details. Hence the art study of nature becomes largely subjective, and is very different from the objective study of nature for the purposes of science.

If this principle be conceded, the question arises, what are the typical forms that the study of nature for art purposes reveals as the supreme content of nature? They are very few and they are very simple forms, namely—the sphere, the cube, the cylinder, the ellipsoid, the ovoid, the prism, the cone, and the pyramid. The wonderful variety of forms which are observed in nature are but modifications of, or are derived from these typical forms. These types, therefore, should be regarded as truths of form in nature just as distinctly as gravity is regarded as a truth of power in nature.

Now, if it be one of the functions of art to interpret beauty of form in nature, this beauty will be perceived in its highest aspects only as it is seen to be related to the highest truths of form in nature. Hence we are brought to the conclusion that as the typical forms referred to are the abstract embodi-

ment of the highest truths of form in nature, they should be used in our elementary instruction as the best means of leading the children to discover and to realize the highest forms of beauty in the world of nature.

But the study of beauty in nature is only one phase of art education. The study of the beautiful in the creative works of man is quite as important a feature. The study of beauty of form in man's art work reveals the fact that it also is based upon the same typical forms that are found to be the embodiment of the highest beauty of form in nature, and it is the manner in which man has utilized these types with his creative imagination in the production of works for use and enjoyment that gives to his art works their highest character and significance. Thus we are brought to the final conclusion that for art training, which is to include the study of the beautiful in nature and the beautiful in art, we must adopt the type forms of the sphere, the cube, the cylinder, the ellipsoid, the ovoid, the prism, the cone, the pyramid, as the abstract representatives of all beauty, whether in nature or in art, growing out of the truths of form. The eternal power that speaks through nature's works, invests these forms with life and gives to them their highest beauty. In art, man's imagination invests these forms with humanity, which is the very culmination of beauty in art. Beauty in nature and beauty in art are therefore in their ultimate analysis one, and rest upon the same unchanging truths of form.

If I rightly apprehend the instruction in form study and drawing that is now finding its way into the schools, it is based upon the distinct recognition of these type forms as the fundamental verities for the training of children to perceive beauty of form in nature and in art; and it is the aim of the instruction so to connect the study of these typical forms with carefully selected natural forms and fine examples of art forms, that the children may be brought, through the legitimate and happy exercise of their observing and creative powers, under the influence of the beautiful, as the highest truth of nature and of art. This is not the occasion for the presentation

of the details involved in carrying out this important work. This task may be left to the many able directors of drawing who in several of our leading cities are endeavoring to give to the form study and drawing the broad character here indicated, and who are laboring against great obstacles, arising from the general misconception of the subject which exists in the public mind and in the minds of some who are directing the schools. It seems the proper place, however, for the consideration of a few points whereby the instruction in the schools may be made more efficient.

To this end one fact must be distinctly recognized as fundamental to any substantial and permanent success—that the instruction in the grades below the High School must be given by the regular class teachers. This is so obvious a fact in efficient school management as to need no argument. Following from this, however, are three very important points which I will venture to state.

First. A course of study should be prepared in which the orderly development of the subject through all the grades should be clearly presented. But few of the regular teachers have had any training in art worthy of the name. They need, therefore, to have it so presented that they may be able not only to become acquainted with the features to be taught in their respective grades, but also to see the unfolding of the subject through all the grades. Not until the class teachers are able to take this comprehensive view of the work, not until they see that the study must be recognized as an organic feature in the general course, can they be expected to take an interest in it.

Second. The instruction in this subject in the schools should be under the direction of special directors of art education. These directors should be broadly educated persons. It is not enough that they have received training in technical art work. They should also be familiar with educational methods; with the general school conditions that surround the teaching of art in the public schools; and, above all, they should be able to interpret the work in its



principles and methods to the class teachers as well as to criticise and supervise it.

Third. The schools need to be supplied with more and better objects for the children to study. The models of the type forms that are now being so generally introduced should be supplemented with casts of natural forms, artistically treated, so that the pupils in their individual study of natural forms may see proper specimens of the art rendering of nature, and also with reproductions of historical ornament, both in relief and in color, in order to afford opportunity for studying good examples of art work applied to the things of common life. In addition to these there should also be provided reproductions of choice vase forms from Classic, Renaissance, and Oriental art. Man's realization of pure beauty of form and color has found one of its most pleasing modes of expression in fictile art, and as these vase forms can be shown to be developments under the influence of the feeling for beauty from the type forms we have been considering, and as they are full of historic associations, they will greatly interest the pupils, and can, therefore, be studied with much greater profit for purposes of object drawing than the miscellaneous objects, possessing no well-defined elements of beauty, that are too frequently placed before them.

With well considered courses of instruction in art education, with the schools supplied with suitable materials and objects for study, with proper directors in charge of the work, we should see, I believe, a real art development in this country unexampled in the world's history.

Reference has already been made to the want of art culture among our people. This is one of the noticeable facts connected with our social life, and yet the student of history sees that man's creations in art are among his highest achievements, and that they are identified with his highest moral and spiritual development. In the perspective of history, it is the art creations of Athens and Rome and Florence and Venice, enshrining as they do some of the loftiest conceptions of the human mind, that make these cities immortal in the

memory of man. As a people we are ignorant of the uplifting and ennobling influence of art; and yet we have in our public school system the grandest opportunity that was ever given to carry a love for the beautiful into every home—to make it the possession of every man and woman in the land. But we may look into the future with hope. With the growth of our national power and the development of our material resources, we are broadening our education, and thereby opening the way for a better, a nobler, a happier existence for the people. We are putting into the schools those studies and methods that will powerfully help in transforming the conditions upon which the progress, the order, and the stability of the state depend. The kindergarten recognizes the humanity of the child. The study of science recognizes the world of nature as a divine storehouse, filled with exhaustless treasures for ministering to the wants of man. The industrial training recognizes labor as fundamental alike to the freedom and independence of the individual, and the power and prosperity of the nation. Art education recognizes the beautiful as not only the supreme truth in the material world, but as a part of the supreme truth in the moral world, and that so far as it enters into human life it is a Divine influence that purifies the hearts and souls of men.

The love of the beautiful, therefore, should be one of the finest results of our public education, and when art instruction shall be so incorporated into the schools that its rich, benign influence shall permeate the life of the whole people, we may then write over the door of every American school-house these inspiring words of Schiller:

Create the beautiful, and seeds are sown  
For Godlike flowers to man as yet unknown.

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## THE PEDAGOGIC VALUE OF ZOÖLOGY.

The aim of zoölogy is to form, so far as may be, a complete and accurate picture of the animal life of the earth, to exhibit both its internal relations and its relations to nature at large, and to account for it by tracing its history both in general and in detail, and by ascertaining the causes which gave it being and form. The pursuit of this science may tax to its utmost, it seems to me, every power of the mind, and the knowledge of life it leads to has value and interest for every one. It will not do, therefore, to look upon zoölogy merely as an apparatus for mental gymnastics, nor to regard it as a body of valuable knowledge, and nothing else. We must examine both what it contains that the pupil ought to know, and what it suggests that he should learn to do. As a body of organized knowledge, I would divide it according to its relations to the labor, the pleasure, the conduct, and the thought of man,—according, therefore, to its industrial, its emotional, its ethical, and its intellectual value.

Of the industrial value of zoölogy I can speak with an emphasis based on long experience. I believe that the insects of the state of Illinois derive as large a profit from the agriculture of the state as do the farmers themselves. It is certainly true that they cost the state in the long run at least half as much as the whole system of its public schools. A very large percentage of this loss could be prevented if the facts of economic importance in this one branch of zoölogy could be made a part of that common knowledge which is at the command of every pupil in the town and country school. A large farmer, a gentleman of education and a leader in farmers' organizations, mistook, not long ago, in my presence, the plum curculio for the chinch-bug. The Hessian fly, in the adult stage, is not known at sight, nor even in the

main features of its biography, to one in a hundred of those who suffer pitifully from its ravages. The simplest elements of entomological instruction, put in the plainest of English speech, hopelessly confuse the average listener, so unaccustomed is he to facts or ideas drawn from this department of knowledge. It is not beneath the dignity of the public school, or of the teacher of the public school, to help to lift the burden of such destructive ignorance from the minds of one of the largest and most important sections of the population. So I think that we should consider as important knowledge, to be carefully weighed in drawing up courses in zoölogy, all that concerns the birds, the mammals, the fishes, and the insects of a state, their distinguishing characteristics, their biographies, their habits, their relations to nature generally and especially to man. An acquaintance with this would be directly and indirectly useful to the average citizen.

It is the defect of the more modern laboratory method in biology that it tends to make near-sighted minds. One may keep his eye at the microscope so constantly and so long that he cannot see without that instrument. There are naturalists who must have nature boiled in corrosive sublimate solution and fried in paraffine and sliced by a microtome, before they care for it. There is little probability that matters will go to this extreme in a public school, and yet they may easily be made to tend too far in that direction. The children must be drawn toward, and not away from, the woods and fields and waters, and must be led to see more clearly that nature lives and feels and acts, and links itself to human interest and sympathy in the strongest and the subtlest ways; that a man cut off from fellowship with the creatures of the open air is like a tree deprived of all its lateral roots and trimmed to a single branch. He may grow down and up, but he cannot grow out. His resources of enjoyment are so narrowed that he is often an object of pity when seen away from the city street. The ordinary tourist in our National Park rushes from hot spring to geyser, and from geyser to cañon, and away again behind six-horse teams, often grumbling that there is not a locomotive

to whisk him about. It is not creditable that their education should leave our well-bred men and women so blind to the significance and beauty of the world of life. The greater part of the emotional or æsthetic value of zoölogy is lost, if the door of the class-room is shut. A personal knowledge of the habits and activities of animals, and a habit of sympathetic observation of them, are very valuable elements in the result of the skillful teaching of a well arranged course. And if to these we are able to add the clear perception of the unity of organic nature, which adds to every part some portion of the interest belonging to the whole, which accustoms the mind to travel quickly along the threads of vital connection between the single form and the complex living group of which it is a member, our pleasure in it is intensified and lifted to a higher plane. And if, again, to this idea of the unity of living nature as it now exists, we can add an intelligent conception of the continuity of its present with its past, the idea of a progressive development of life, and learn to recognize its evidences from time to time in the animal forms examined, then the single animal is no longer a temporary trifle, but a long biography, a fragment from the history of life upon the earth. We cannot afford to overlook or ignore, in teaching, the interrelations, the interactions of animals as members of natural living groups, or the value of each living thing as the product of a long struggle toward perfection.

There is also a curious fascination in the unrestricted exercise of the exceedingly human propensity to classify, which, when fully developed and disciplined, makes the taxonomic specialist,—a fascination which grows with what it feeds upon, and which has its cause and justification in some of the most characteristic tendencies of the human mind. In the deliberate and attentive comparison of form with form, and structure with structure, and in their orderly arrangement in complicated groups and grades of groups, in the perception of general features running through a mass of things otherwise variously unlike, and in the mental organization of the whole into a compact body of knowledge, the mind is simply performing on

things the processes which, when applied to ideas, we call the recognition and discovery of laws. It may easily be carried too far, but besides affording a certain peculiar mental pleasure, it furnishes a highly valuable discipline. We cannot rationally justify ourselves in esteeming as worthless a practical knowledge of the classification of animals. The young laboratory specialist may sometimes tell you that not only are Linnæus and his followers dead, but that their works and methods also have died after them; but in so saying he is trying to impose on the general and elementary work of the schools the limitations of his own special training and his own personal bias.

But much more important than those parts of this science which have an economic and æsthetic bearing, are those which familiarize the mind with the larger generalizations of the science of life. The longer I teach the more I use the technical processes of zoölogy as a scaffolding, and its technical facts as a foundation and support for a body of general laws, built up in an orderly manner from the first beginnings of the course, and illustrated at every turn, until they are as plain and familiar as the elementary laws of numbers. The following are a few such generalizations: (1) the law of progress by differentiation and specialization of structure; (2) the corresponding law of the physiological division of labor; (3) the law of the progressive development of the single animal from the single cell, by uniform stages, to its adult condition; (4) the law of the agreement of this individual development with that of the group; (5) the well known doctrine of homologies, which is really based upon the foregoing; (6) the idea of a complication and differentiation of the invisible, or at least hitherto unobserved and possibly molecular structure of unicellular animals as compared with the visible organic structure of the higher forms,—easily gotten at by way of the theory of isomorphs in chemistry; (7) the universal correlation, among animals, of structure, habits, and surroundings; (8) the law of accommodation, according to which the animal organism can adapt itself within certain limits to changes of condition, or, in some cases, almost without limit, if the changes are gradual enough;

(9) the law of spontaneous organization in a so-called life group or animal society by a mutually enforced adjustment, among species, of rates of reproduction and destruction ; (10) the fact of animal evolution, and such of its methods as are commonly considered by naturalists as settled beyond dispute ; (11) the explanation and illustration of the processes of life in its simplest forms, and the relation of life to organization ; (12) the physical and material conditions essential to the manifestation of life,—such as temperature, moisture, and a complicated and unstable composition of its material basis ; (13) the law of the limitation of growth, dependent upon the mathematical relation of the surface of a body to its mass ; (14) the correspondence between colonies of animals of various grades of organization, and the single animal body with its various organs ; (15) the gradation and development of mind in animals, through a differentiation and specialization of capacities.

Such is a partial list, in rather technical language, of generalities which, stated baldly, would of course be uninteresting, and indeed unintelligible, but which, if skillfully developed in the order of their difficulty, and repeatedly brought to the attention by new and varied illustrations, may be made as easy of acquirement as those of any other subject. When so used they give both depth and elevation to the work, and should at least be in the teacher's mind as centers around which the operations of his class should be made to revolve.

The peculiar ethical effects of zoölogical study are dependent chiefly on that side of it which deals with the lower animals as alive,—on a knowledge of them as sentient, often intelligent, and sometimes thoughtful beings. This tends to broaden and enrich the pupil's sympathetic interest, and to establish a clear conviction, abundantly supported by observation and experiment, that the principle of the uniformity of nature is not limited in its application to senseless force and matter, but that it extends over life and consciousness as well.

For the sake of clearness, in a discussion of the processes of zoölogy with a view to the understanding of their pedagogical bearing, I present a brief general outline of the subdivisions of

that science. It will be noticed that some of these subdivisions are for practical purposes only, and are not fundamental,—the division of anatomy, embryology, and physiology, for example, into “external” and “internal.” This is done simply because the methods of study and demonstration are different with respect to those phenomena which may be seen with the naked eye and without instrumental preparation, and those which require the dissecting knife and the microscope, or the apparatus of physiological experimentation. Under “zoönomics” I have intended to include “relations to nature”; and I have placed this division under physiology to give prominence to the conception of the living group of associated animals as a biological unit—an organism—having its own organs (the smaller groups), its own laws of organization, and its special points of contact with the outer world.

#### SUBDIVISIONS OF ZOÖLOGY.

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| I. Animal Morphology (Form).       | 2. Embryological.                 |
| 1. Anatomy.                        | (a) Individual.                   |
| (a) Individual. External. Gross.   | (b) Comparative.                  |
| (b) Comparative. Internal. Minute. | 3. Social (Zoönomics).            |
| 2. Embryology (Ontogeny).          | (a) Present.                      |
| (a) Individual. External.          | (b) Past.                         |
| (b) Comparative. Internal.         | III. Zoölogical Psychology.       |
| 3. Development (Phylogeny).        | 1. Individual.                    |
| 4. Classification (Taxonomy).      | 2. Comparative.                   |
| II. Animal Physiology (Action).    | IV. Zoö-geography (Distribution). |
| 1. Adult.                          | 1. Present.                       |
| (a) Individual. External.          | 2. Past.                          |
| (b) Comparative. Internal.         | V. Philosophical Zoölogy.         |

I need not say that this technical arrangement of divisions bears no relation whatever to their pedagogical arrangement. Indeed, a pedagogical arrangement of them is impossible, for no one would think of teaching all of anatomy before any physiology, or the reverse; or, still less, all of development before any classification; and least of all, perhaps, all of the facts of zoölogy before any of the causes of its phenomena, a knowledge of which alone makes it a science in the full sense of the word. Nevertheless, this list will help us to see just what mental activities are aroused and what methods suggested by each of these departments of zoölogy. I will only under-



take to distinguish those parts of each division which it is possible to make use of in public school work of a high grade, where zoölogy runs through the course.

That the structure of animals may be thus studied, goes without saying, for many schools study it already,—external structure by simple observation, and internal structure, gross and minute, by the aid of the scalpel and the microscope. If a few fair microscopes, a simple microtome, and a few mounting materials and reagents are within reach of the school, there is no reason whatever why the making of serial sections,—of the earthworm, for instance—should not be readily learned by pupils who have had some preliminary training in the use of the eye and hand.

Embryology is usually reckoned as quite beyond the reach of the common school, and yet a teacher who knows how to do so could certainly demonstrate, by mounted slides if in no other way, the principal external phenomena in the development of a chick. By what is known as the “window method” of demonstration, the whole process could be followed from time to time in a single egg, up to the fifth day of incubation, when the development is far advanced. That a study of the classification of animals is not only possible, but may be made highly profitable to the common school pupil, I am perfectly sure. We must beware, however, of confusing two quite distinct things: the mere learning of a correct classification based on all the facts of morphology as interpreted by the highest zoölogical authorities, and the effort to classify made by the pupil himself as a practice in generalization. I have yet to learn where in the common school course this training in generalization, this practice in the forming of large and complicated concepts out of concrete materials, in tracing from point to point the threads of the web of relation by which like things are unified and made into larger wholes, again capable of being compared among themselves, and so built up into higher and higher concepts,—I have yet to learn where this invaluable part of a sound education is now provided for. Doing this, first with things and then with ideas, is a most

profitable exercise, and the habit of doing it spontaneously is a large part of the education of a thinking man.

All that may be done with structural zoölogy may be done in some way with the structural side of botany; but there is no teacher's substitute for the living active animal. Neither can anything take the place of the social animal group. The plants of a wood or field or stream are simply a crowd, but the animals of a circumscribed area are a society, built up class upon class, on the vegetable world as a foundation, distinguished by competitions and knit together by the bonds of mutual aid and comfort. Whatever else of zoölogy we may slight or omit, this part, which shows us animals as simply a different kind of men, and their organized assemblages as fixed societies, which sets forth and illustrates the natural laws of life and social organization under which we also live and work, must have a place in every well considered course. As a mere discipline, however, it seems to me on the whole quite inferior to animal morphology. It proceeds by the same methods of observation and comparison as does morphology, but by processes less refined,—since experimental physiology is practically forbidden for humanitarian reasons,—and it yields a less manageable product. It is also far more difficult for both teacher and pupil, but, we must always add, vastly more interesting also.

This dynamic side of zoölogy—its physiology, commonly so called, and its psychology—is really as extensive a subject as its morphological side, and is capable of equal subdivision. The two branches starting from the same level, in observation of the single animal, run parallel indeed, one culminating in classification and the other in zoönomics; one leading to the structural group and the other to the social group,—the *Lebensgemeinschaft*, or life group, of the Germans. And still the two stand in the closest practical relation at every point, structure always explaining function, and function explaining structure. I need not say that they are really inseparable in pedagogical practice. Finally, I would point out that they both merge, as do all other departments of the subject, in what I have called

philosophical zoölogy,—in the doctrine of causes, without which, as Ray Lankester well says, no body of facts really deserves to be called a science. How and why came the wing of a butterfly to be covered with scales, the caudal fin of a crayfish to be lobed and jointed, the gastrula of an earthworm to be so similar to that of a lancelet, the eye of a nautilus to be so like and yet so unlike that of a man? How does it happen that in all Africa there is not a crayfish; that the useless mandible of a butterfly is as constantly present as the indispensable one of a beetle; that through all the ups and downs, the variations to and fro, of the essential conditions of life in any spot, the balance of life remains practically constant for centuries at a time? These little words, “how” and “why,” shed the same penetrating light of thought on this subject as on every other, and may be made to call forth any grade of mental effort, from that of the most obvious inference to the long train of reasoning, checked and tested at every turn by critical comparison with every pertinent fact. But we must not forget, or permit the pupil to forget, that the more general parts of this theory of zoölogy must be taught them *ex cathedra* merely. The real proof of almost any general proposition in zoölogy is the mass of particulars from which, as a generalization, it has been drawn; and of the weight of this evidence, none but the learned expert can truly judge. It is a weakness of the so-called sciences of observation, from the educational point of view, that their most general conclusions must be taken by the pupil on trust, and that while the processes by which these were reached may be illustrated, the evidence on which they rest cannot be commonly reviewed. All the more necessary is it that many small separate problems in inductive zoölogy should be worked out thoroughly, and that the methods and results of the pupil’s reasoning should be critically tested by comparison with the facts.

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## RECOLLECTIONS OF ROUND HILL SCHOOL.

I can give only boyish recollections of Round Hill School, for I was not twelve years of age when I went there, as a pupil of Messrs. Cogswell and George Bancroft, and their assistants. Indeed, the original scheme of the institution planned for boys even younger than twelve at their entrance, though there were really but few as young as myself, and most of them were much my elders. The scheme or plan was, I think, brought home by Mr. Bancroft from Germany, and was modeled after preparatory educational institutions which he had known abroad. A sketch of it and of the aims and methods of the founders of the school is to be found in the privately printed memoir of Mr. Cogswell. The number of the scholars also far exceeded the limits originally intended, and there came to be a long list of applicants waiting for vacancies. The school soon attained popularity and a wide repute, but faded away after a brief period of seeming prosperity. This was before the rising of alienations of feeling between the sections of the country. Though there were many excellent schools, academies, and seminaries in Massachusetts at the time, those in New York were not of a high character, and farther south they were still more deficient. The aim of those in the South was to procure teachers from the North and East. It was not strange, therefore, that the noising abroad of the method, the corps of teachers, and the promise of success of the institution at Northampton, should have rapidly drawn together, as it did, pupils from prominent and prosperous families in all parts of the Union. The highest names in the country were borne by boys in the school. Mr. Cogswell, especially, was very proud of his constituency. His own charming manners, his geniality of spirit, and his kindly relations with the young made him a favorite with parents as with their children.

The staff of instructors, tutors, and helpers engaged in various departments was so large that I think the expense to the parents of a pupil must have exceeded that of a student in Harvard College at that time. I have not had opportunity to revert to the catalogue of the college in those years, and to compare the numbers on the list of the faculty, but I recall from memory the names of the teachers—all of them supposed to have been of marked ability—who were associated with the principals at Round Hill, viz.: Dr. Beck, a German, who taught Latin; Dr. Bode, a German, Greek; Mr. Gardara, a Frenchman, French; Mr. Gherardi, an Italian,—who afterward married Mr. Bancroft's sister,—Italian; San Martin, a Spaniard, Spanish; Mr. T. Walker, afterward judge in Ohio, who, with another Mr. Bancroft, taught mathematics; Drs. Follen and Grater, Germans, German and drawing; Mr. Lucas and Mr. Robinson, singing and writing; Messrs. John and Eugene Watson, and Mr. George S. Hilliard, English branches; a dancing and gymnasium master, a Mr. Cantwell, an English gentleman, who acted as *custos morum*, attending the boys at play—and, it may be, other subordinates that I have forgotten. There were two school-rooms—one of them was used mainly for classes at recitations.

There was a row of slightly and spacious buildings, two of them, I believe, detached, the others united, with columns and piazzas, that stretched across the brow of a high and extended hill, commanding a superb view of river, valley, and wooded mountains. The streets in the town were lined with stately elms. On the hill were many chestnuts. The back slopes of the hill, running far down into levels, were disposed for three different uses. The first of these gave spacious play-grounds, with a gymnasium, and a large space on a declivity, called "Crony Village," where the boys might make huts, shanties, and burrows, in which, singly or in partnership, they could roast potatoes, apples, corn and chestnuts, frogs-legs, and various other good things for out-door appetites. The second division was laid off for garden-lots, where each boy who wished might raise flowers or vegetables, with seeds

and tools furnished to him. The third took in Mr. Cogswell's extensive farm-grounds for fruits, hay, and vegetables. There were spacious barns for cattle, horses, hay, and many wagons, one or more of huge size. The boys in turn might ride these horses; the wagons were used for journeys far and wide, often a mountain or other excursion by large or small companies. Dr. Beck, a splendidly formed and muscular man, would in the summer accompany groups of boys to Mill River to teach them swimming. In the winter he would go there with them for skating, but not on the Connecticut. The boys were forbidden to go down into the village without especial leave, even to visit parents or friends. The long hill up which ran the only road to the school, afforded a splendid and safe "coast" for the boys in winter.

No corporal punishment was practiced in the school. Deprivation of meals and retention in the school-room were the lighter penalties. A graver one was the being shut into a dark apartment in the cellar, called the "Dungeon," of which the stalwart Newton, a general factotum, was the keeper. Great efforts, with kindness, amusements, and a degree of indulgence, were used to promote the happiness of the boys. Cleanliness and neatness were exacted. Several public rooms were provided, kept warm in bad weather, where they might gather to play, read, or enjoy themselves at their pleasure. Tools for carpentry, for making bows and arrows, squirrel-traps and kites were at hand. On Sunday morning the lines would be formed in procession, by two and two, instructors taking their places at the head of sections, as each was to attend either the Unitarian, the Orthodox, or the Episcopal Church. The return to the Hill was in the same order, no scattering or loitering being allowed.

The large school-room, square, and with comfortable desks and seats, was in the entrance story of one of the buildings, with four doors opening on the grass. In cases like that soon to be mentioned, when there was not a sharp pair of eyes on the platform, boys found these doors convenient for occasionally slipping out; and as Messrs. Cogswell and Bancroft took

turns, in general, in occupying the platform, the former always intent on his duty, the latter apt to be engrossed in some book of his own, boys would creep out on all fours. The school work was opened daily with Scripture reading and prayer. The other school-room—or rather two of them in separate stories—were used, if I rightly remember, for separate classes in turn, for recitations to the different teachers in their special branches. Being used thus alternately for several hours, the large common school-room was left for quiet study or writing.

Practically, though the two associate principals were understood to have equal authority and responsibility, their relations with the scholars proved to be quite different in intimacy and sociability. Mr. Cogswell had no wife, but an unmarried sister, greatly loved by him and the boys. Much depended upon a housekeeper and her assistants,—some excellent matrons, above the grade of menials, who looked after the boys' clothing, and allowed a comfortable seat by their firesides for special favorites, for whom they would do some friendly mending, or furnish molasses to be made into candies, or dispense goodies from their private stores. For our common meals there was a large dining-room, with horseshoe table, Mr. Cogswell always sitting at the head of the outer curve. I never heard any complaint either of the quality or the amount of the food. The boys sat alphabetically, divided into messes of five—with equal portions of the various kinds of food; instructors were dispersed among them, all faring alike, and allowed to call for "more." The breakfast scene daily brought a somewhat exciting pleasure. The aforesaid Newton went down to the town daily to carry and bring a very large mail, to obtain supplies, and to do miscellaneous errands. A box was provided in the dining-room into which the boys might put slips of paper, signed by their names, stating their wants and wishes. These covered a very extensive range of necessities, whims, and fancies. Large indulgence was shown to them in this respect, and anything which a parent would not think unreasonable when charged upon his son's bill was generally

allowed. But there was an element of fun in connection with this usage. As the breakfast was closing, Mr. Cogswell would take the box and examine its contents. If he found anything ludicrous, or any fault of grammar or spelling, he would read it aloud with the signature. Thus, a boy had written, "I want a *fir* cap." Mr. Cogswell gravely announced, "Our trees do not bear caps."

Mr. Bancroft dwelt at a little distance from the school, and so could see but little of the boys except in school hours and at recitations. He was absent-minded, dreamy, and often in abstracted moods as well as very near-sighted. I have seen him come into the recitation room at an exercise held before breakfast, with a slipper or shoe on one foot and a boot on the other. More than once he sent me across the road to his library for his spectacles. These were generally to be found shut into a book, which he had been reading before going to bed. The boys, who called him familiarly "the Crittur," were fond of playing tricks upon him, which they could do with impunity, owing to his shortness of vision. The wall back of the platform where he sat, poring over a book, was thickly bespattered with "spit balls," thrown at him. I recall a sultry autumn afternoon, when, in the large school-room, a boy deliberately tossed at him an over-ripe muskmelon, got from his own grounds. His features and garb were well sprinkled with it. As the offending boy crawled out of one of the doors, Mr. Bancroft rose sternly, shook himself, and said, "I want the boy who threw that melon at me to come right up here." There was no response. Then, ordering the doors closed, he came down among the desks, putting the question to each boy. Of course they could all answer "No." The pursuit was not followed up, as many were at various recitations and the culprit was covered by others. As to the rich fruit in his garden, much of it, even before fully ripe, strangely disappeared after dark and before daylight. I think Mr. Bancroft and his family could have had only the smaller portion of it. I recall that one afternoon, as his fine peaches were ripening, he sought to make a compact with the boys, that if



they would be patient he would give them a treat. So, as the occasion came, naming three boys with whom he was a little more familiar—I thought simply because their Christian names were the same as his own,—he said, “I wish George Riggs, George Rivers, and George Ellis to come to my garden after school to gather peaches; the other boys will collect outside the fence to partake in the distribution.” On presenting ourselves for duty, Mr. Bancroft directed us, with baskets, to pick up the windfalls and to pluck from some trees—not the most luscious—and then to pass the fruit to the waiting boys through the pickets of the fence. They were received with ominous looks of disappointment. After holding a brief consultation, a group of the boys proceeded to return the gift to the donor by a vigorous “peppering” of Mr. Bancroft with his own peaches, till he found refuge from the missiles.

I suppose that Mr. Bancroft, though meaning in all things to be kind and faithful, was, by temperament and lack of sympathy with the feelings and ways of young boys, disqualified from winning their regard and from being helpful and stimulating to them. He seemed to be more earnestly bent on learning for himself than on helping them to learn. His single year as a tutor in Harvard College, before going to Round Hill, resulted in experiences wholly unsatisfactory to himself as well as to the beloved President Kirkland, his associates in the faculty, and the students. There was a continual restiveness and embroilment excited by what were viewed as his crotchets. It should be said, however, that these infelicities showed themselves only in Mr. Bancroft's relations with boyish pupils. For scholars of maturer years and high ambitions, he was a most warm-hearted, kindly, and helpful friend, doing them various and highly valued service. I have heard from many American young men pursuing their studies in Germany and in the universities while Mr. Bancroft was our minister to Prussia and Germany, that he was ever most ready to perform all manner of kindnesses for them, to advance their plans and win them privileges.

The boys at Round Hill, with all the rules and provisions

for their health, bathing, play, and exercise, were generally of the robuster sort, and full of animal spirits, which sought lively outbursts. These were manifested in their own way on the loaded stages when going to and returning from vacations. It required three, four, perhaps more, of the old-fashioned stage-coaches to transport them to and from Boston, Salem, and the neighborhood. The road was hilly, rough, and hard to travel. At first, the journey of a hundred miles was broken by a night passed at Worcester. But the inn-keeper, Mr. Thomas, a resolute man, soon refused to receive us as guests. He complained that the boys, after eating out everything he had in his house, and pretending to go to their beds, several in a room, would at midnight rush out into the halls and entries, with unearthly noises, for a pillow-fight. His other guests protested, and Mr. Thomas said that thenceforward he would only furnish us a mid-day dinner; and he did not much desire our company even for that. So after that we had to adapt ourselves to the usual mail stages, which left Boston daily soon after midnight, taking, in bad traveling, near twenty-four hours for the route. A forerunner, with a lantern, would ring at our respective homes, announcing the coming stage, and one by one we would mount it for the dark enterprise. But not a boy took the inside, which was given up for trunks, boxes, and traps. The boys clustered over the top and the outside, most of them having fish horns and whips, which were used diligently along the country roads. Simple travelers, women, and boys on these roads would often be frightened,—till they understood who the alarmists were—by being told that a linch-pin was out, or that a wheel was coming off. No tutors or guardians accompanied the boys, and they had the course to themselves.

Round Hill School was opened for pupils and for work in the autumn of 1823. Its auspices were most propitious. A high enthusiasm was excited in its favor, and a long future of success and prosperity seemed to be insured for it. It came to disaster and grief about 1830. Being then in college, if I had, as I doubt, any full and intelligent information and

knowledge of the causes of its misfortunes, they are not now distinctly in my memory. I have a vague idea that these causes were extravagant outlays,—which resulted in a burdensome debt and mortgage,—lack of internal discipline, and a loss of harmony, with discordant variances, between principals Cogswell and Bancroft, as to the conduct of affairs. No doubt all these unfortunate conditions contributed to the catastrophe. Probably the last mentioned was the most effective for harm. It must have been very difficult for men of such widely different temperaments, sentiments, and views as to methods of teaching and discipline, to have accorded in complicated arrangements involving much business. The rupture was a serious one, and the partners separated. There had been up to that time 290 scholars, 99 of whom were from Massachusetts, 46 from New York, 32 from Maryland, 28 from South Carolina, 18 from Georgia, with others from Virginia, North Carolina, Mississippi, Louisiana, Tennessee, Ohio, Michigan, the Canadas, the West Indies, Mexico, and Brazil. Only one had died at the school.

In 1831 a pamphlet was published in Boston, connected with an attempt to revive and reinstate the institution; but the hope was a failure. The list of instructors, as published, is sadly shorn of the names of scholars from Europe which had given the school so eminent a repute. Some of these, the most able, had found places in other institutions. Mr. Cogswell appears alone as principal. Nine other young men, of whom Benjamin Pierce attained distinction, were associated with him. Bankruptcy soon followed, and those fine buildings, once so bright with happy young life, were left to desolation and decay. Some fifteen years after I had been a pupil there, I visited the melancholy scene. A public establishment for summer boarders, connected with a water cure, occupied a small portion of the edifices. The remainder, with piles of bedsteads, broken furniture, and like rubbish, were sad relics of the then recent past.

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IV.

ADOLF DIESTERWEG.

The celebration, on the 29th of October last, of the centenary of Diesterweg's birth has called renewed attention to the life and work of a great teacher and educator. The whole body of German teachers made this celebration an occasion of rejoicing and thanksgiving, for Diesterweg and his memory are to them a source of pride and admiration. But Diesterweg's fame is international, and even across the Atlantic teachers will be glad to honor his memory and his services in the common cause of popular education.

I.

Adolf Diesterweg was born on the 29th of October, 1790, at Siegen, in Westphalia. His father was Magistrate Carl Friedrich Diesterweg, a man distinguished alike by his purity of heart and his love for everything beautiful and noble. He was the most popular magistrate in his circuit. Whenever counsel was needed, it was said: "Let us ask the magistrate of Siegen." Diesterweg's mother was of an earnest, devout nature, which found its best expression in noble deeds of charity. Diesterweg says that he was his father's favorite, especially after his mother's early death, and that his father frequently took him with him, mounted on a fast horse, when he made his official circuit. This period of his life saw the dawn of that delight in nature which never deserted him. "From my youth I loved the woods and mountains. We boys spent almost more time in the mountains, the woods, and the foundries, than we did in the schools." The lad also liked to frequent the shops of the artisans, where he acquired that habit of practical insight and penetration that distinguished him in after life. He showed little interest in study. The monotony of school lessons repelled him and made him doubly prize the charm of rambling through the woods and over the hills, and the pleasure of

intercourse with blithe, vigorous sons of toil. The mechanism of lessons, with the endless, meaningless learning by rote, could kindle little enthusiasm in the boy, no matter whether the subject was the Heidelberg Catechism or Ovid's *Tristia*. Yet in 1808 he left school with a good certificate. At the universities of Herborn and Tübingen he studied mathematics, philosophy, and history. In 1811 he went to Düsseldorf and then to Elberfeld, to pass the examination for engineers. The war thwarted his intention. At Elberfeld he chanced to make the acquaintance of Wilberg, who had the reputation of being an enthusiastic and genuine disciple of Pestalozzi. This acquaintance led Diesterweg to determine to become a teacher.

From the years 1811 to 1820, Diesterweg labored as a teacher in Mannheim, Worms, Frankfort-on-the-Main, and Elberfeld. As he at first followed the pedagogic doctrines of his former masters, it is easy to understand that he found no satisfaction in his new calling. The case altered when he had grasped the spirit of Pestalozzi's idea, when he had descended from the abstract height of the academical method of instruction, and had learned the simple wisdom of the great Swiss teacher. Wilberg of Elberfeld had the largest share in Diesterweg's pedagogical transformation, and Diesterweg does not know how to lavish sufficient praise upon this noble friend and his beneficent influence upon his own life.

In the year 1820 Diesterweg became director of the newly established seminary for teachers at Mörs on the Rhine. I will quote a few words from his inaugural address which reveal the earnest man who knows what he desires and who desires what is necessary for the welfare of his countrymen. They are, "It is with pride that I count myself among the instruments chosen by the government to aid the loyal dwellers on the shores of the Rhine to ascend to a higher stage of civilization. Good schools are among the blessings of a nation, and from them alone emanates the riper, more cultivated life of the citizens." It was in the true spirit of these words that he toiled for nearly twelve years at Mörs.

In 1832 he was summoned to Berlin. His past career had

been one of arduous toil, but he now saw an abundant harvest ripening about him, which filled him with satisfaction and inspired him with courage to press vigorously onward along paths already tried. An affectionate farewell was taken of him at Mörs. Old pupils and friends came from distant homes to share in it, and to listen once more to the voice which had so often kindled their enthusiasm, and grasp once more the hand of the inspiring teacher.

As director of the Berlin seminary, Diesterweg labored not only to introduce his own methods of teaching, but also to elevate the seminary so that it would at the same time educate teachers for the higher city schools. In a few years the Berlin seminary came to be regarded as a model institution all over the world, and Diesterweg's merits were most aptly expressed by the title of "the German Pestalozzi." The seminary was the master's real workshop, and in it he spent his brightest hours. The familiar labor in its narrow rooms constituted his greatest happiness. He used to say, "My pupils do not live with me, I live with them." In Berlin, this intimate association was eventually interfered with by the bustling life of the growing capital. Diesterweg's renown attracted visitors nearly every day. Aspiring men flocked from every land in Europe, and even from beyond the ocean, to see the school and learn from the wisdom of the famous master. Diesterweg's reputation as an author of school-books constantly increased, and was specially enhanced by his "Guide for German Teachers," which appeared in 1835, and his "Astronomy," published in 1840. The latter book thoroughly displays his eminent skill in the methodical treatment of a subject.

On his official tours he perceived everywhere the influence of his efficiency. After 1820 great improvement was manifested in the training of teachers, and consequently in the national schools. He was greeted everywhere with enthusiasm. Those who joyfully surrounded him and honored him as their friend and leader were principally teachers. It was their conviction that no one was more loyal to the body of educators than Diesterweg, of whom it might be said that he valued the

friendly clasp of a teacher's hand more than any other token of honor. [www.libtool.com.cn](http://www.libtool.com.cn)

The year 1847 is the darkest one of Diesterweg's life ; it is the year of his official shipwreck. This event was brought about by his literary activity. His bold demand for freedom in the *Rheinische Blätter*, and especially in the pamphlets entitled " Vital Questions of Civilization," echoed discordantly in the ears of men in high position. He was met with remonstrances, warnings, and admonitions. Diesterweg's religious teachings, too, caused dissatisfaction. In every speech and every essay some one claimed to find something anti-Christian. At last the highest officials became positive that the irreligious spirit and the dissatisfaction abroad in the nation were due to Diesterweg and his followers. But he allowed no attack to disconcert him. He bravely pursued his undeviating course, heeding only the one monitor in his own breast. The noble-hearted philanthropist was perfectly sure of the right path. That Diesterweg could be dismissed from the seminary is only made intelligible by considering the narrow bigotry of the Prussian Ministry in power at that time.

Diesterweg's dismissal is one of the saddest incidents in the history of teaching. What the discharged teacher suffered his own words reveal : " It seemed as though I must give up my life with my calling, as if I had survived my own death." The memory of this terrible time was " the revival of inexpressible anguish." The stormy year 1848 afforded a hope that Diesterweg might be reinstated. Unfortunately, this expectation was not fulfilled. In 1850 he was offered a position in the department of public instruction, which he declined because he did not consider himself qualified for the office. " Nature and the past," he says, " assign me to human beings, living human beings, not to lifeless documents. I am not created for a red-tape existence."

Even in his retirement Diesterweg showed himself a master in " the creation of light and fire." His brain and pen toiled ceaselessly to serve the old ideals. Pedagogical journeys were

now special landmarks in his life. He could once more do what he had formerly most enjoyed,—plead for the great cause with heart and voice; he could once more read in the eyes and hearts of his faithful followers the enthusiasm which he had kindled or fanned into a flame.

In the year 1854 a complete reaction took place in Prussia concerning the national schools, a reaction directed against Diesterweg's life work. Its program included a pledge "to do our utmost to effect a reformation of the evils brought on the public schools by the assiduous endeavor, secretly inaugurated and somewhat widely diffused, to realize a phantom of universal cultivation of the humanities." The schools must retrograde fifty years to become efficient, was the watchword. They did indeed retrograde so far, so shamefully, that the school committees were authorized to permit non-commissioned officers who showed an ability and inclination for the position of schoolmaster to attend the lectures at the seminaries, in order to fit themselves to be teachers in the national schools. This, of course, lowered the social position of the whole body of teachers. The "schoolmaster" again became the universal target of jest and ridicule. In 1855, Phil. Galen says, incidentally, in his *Walther Lund*: "The only charge I bring against you is that such a well-grown fellow, with so intelligent a face, can condescend to be a schoolmaster."

Diesterweg stood like a rock against this reaction. The remainder of his life was a period of uninterrupted strife; but he battled tirelessly for the motto, "The happiness of the future must be wrested from the present." In June, 1866, he lost his wife, who, since 1814, had been a loving companion in his busy life and always stood faithfully at his side, loyal alike in joy and in sorrow. They had nine children, six of whom died of the cholera when it was epidemic in Berlin. On the 7th of July of the same year Diesterweg, too, succumbed to an attack of fever.

These are the principal events of Diesterweg's life, told in their chronological order.



## II.

Right purpose, with confidence and perseverance, leads to the goal; pray and trust. Every beginning is hard; whoever presses courageously onward succeeds.

These were Diesterweg's favorite sayings, and in his life he fulfilled them in the fullest meaning of the words, showing himself as unselfish as he was undismayed. He was not forced by necessity to devote his life to the apparently insignificant cause of the national school system. When hardly more than a youth, he had an excellent position in a Latin school, and might have gained renown in a professor's chair had not his keen penetration and noble heart summoned him to the task of laying the foundation of the work of popular education. He preferred, as he himself says, to enter the humble service of the national school, a decision which may seem to shallow brains a mark of insignificant ability, but which really did credit alike to Diesterweg's intellect and character. He became a reformer of the national schools; the whole body of German teachers look up to him as a star of the first magnitude. What Pestalozzi discerned, Diesterweg pressed into the service of the national school; and in the spirit of Pestalozzi himself he became an instrument in the great national cause which Fichte, E. M. Arndt, Schleiermacher, Jahn, and others served.

The value of Pestalozzi's ideas, in wider circles, was early recognized in Germany, and it was perceived that the improvement of education must be associated with the method of instruction planned and proposed by him, and already being successfully executed under his own eyes. Enthusiastic students had even been sent to Pestalozzi, the Plamann institute in Berlin was organized entirely according to Pestalozzi's principles, twenty new schools had been founded in which Pestalozzi's system was followed, and in 1817 a special ministry for ecclesiastical, educational, and medical affairs had been formed;—but these things only prepared the soil on which Diesterweg was destined to be the first to produce abundant harvests.

As the school is rightfully judged by its teachers, by the degree of their cultivation, Diesterweg's attention was first

directed toward the class of teachers in the national schools, their education and general condition. He perceived that, "Where public instruction has deteriorated, the degeneration is due to the teachers; where it has improved, the improvement is due to the teachers. The teacher is to the school what the sun is to the universe. In him is the motive power of the whole machine, which rusts if he does not know how to inspire it with life and motion." "The real opponent of the old system of pedagogy is culture," he exclaims, and he therefore regards the principal task of a teachers' seminary to be a thorough intellectual culture of the highest possible order. Only wide-awake, independent, thoughtful, and consequently inquiring, investigating men are worthy of the teacher's office. Only by such teachers, according to Diesterweg, can the measureless, incalculable influence of the school upon the morality and education of the individual and of the nation be generated, and the true culture of the humanities be attained.

Diesterweg at the same time came forward with another demand as a preliminary condition for the elevation of the whole body of teachers. It runs: "The pecuniary difficulties of teachers must be removed, their salaries must be raised. The pitiable condition of German teachers is unworthy of their position and calling, unworthy of a civilized nation. Justice requires a change."

Diesterweg considers it disgraceful irony to put teachers off continually with references to the higher reward of their labor. He wishes the teacher to be free from undue material cares. "Security from any external accident, the possession of a sufficient amount of property for widows and orphans in cases of misfortune, age, and sickness, the sum requisite for the satisfaction of intellectual needs, and the maintenance of the cheerfulness and vigor of life,—in short, freedom from material cares,—is the first stage of liberty." The dignity of the teacher's calling also requires his emancipation from the drudgery of the minor church services as well as a minute oversight of the schools. The lack of respect for the teacher's vocation must cease. Diesterweg demands the utmost esteem

for them, "the esteem of pupils, parents, princes, and all others; for the teacher's calling is second in value, dignity, and importance to none."

Diesterweg's greatest merit lies in what he has done by word and deed for the better education of teachers. In a more prominent position, he could have labored more effectively than his great model, Pestalozzi. The idea of an independent development of all the intellectual powers, revealed by Pestalozzi's genius, was first made real and practical through Diesterweg's skill in teaching. He, too, was a *Præceptor Germaniæ*, who not only clearly perceived the essential truths of pedagogics but had a marvelous faculty of making his pupils comprehend them. His grateful pupil, S. Rudolph, says of him: "His power of description was a wonderful intellectual performance, especially when he allowed himself to be guided by the association of ideas. It gushed from every cleft and crevice of his rich nature like the jet of some playful fountain, stimulating, refreshing, rejoicing, fertilizing; it was indeed a fascinating influence. Everything he said seized upon the whole spiritual nature, every fiber of our souls thrilled in unison."

Diesterweg expressed the object of all instruction as follows: "We wish to educate men to lay the foundation of human culture in the individual." The object of the seminary education accords with the object of the education of mankind. The education of mankind he defines, in detail, "Spontaneity in the service of truth, beauty, and goodness, which spontaneity means that man must not strive painfully in patient suffering to fulfill his destiny, but with industry and earnest endeavor. It means that man must seek the foundation of his aspirations and deeds within himself, draw them from his own being; that he must think of his own needs—in order that the principle of the free disposal of one's self, of liberty, may be thus established."

Diesterweg desires no *ad hoc* education in the seminary, but a genuine, thorough culture, which generates the impulse to lifelong progress. That bit of antiquated pedantry, the dis-

inction between theory and practice, must also vanish. "All instruction, all methods must be practical," is his postulate. Diesterweg assigns to each branch of instruction its fixed value, with which the attention bestowed on it must correspond. Religion he places first. Religious culture is to him the essence of all culture. Knowledge and ability first become valuable when they promote the religious feeling. The *casus belli* lies in Diesterweg's view of religious feeling. This to him is the freest product of human education. No element of the human soul will bear so little restraint, compulsion, and violence as the religious element. Every genuinely religious man has his own religion; nothing is more individual, more exclusively individual.

Diesterweg was compelled to express his religious convictions frequently and in detail, in order to defend himself against the accusation of heresy and the charge of wishing to expel Christianity from the schools and introduce a modern paganism. I will venture to quote a few more of his most beautiful utterances: "Religion is the elevation of the heart to God, the aspiration toward God. Religious emotions are the deepest, but also the freest emotions of the human soul,—they are the roots of its inner life and at the same time its flowers; they are its transfiguration and the evidence of the divine and human nature of mankind, raising itself above everything visible and tangible. Therefore, these inner breathings of the soul must develop in freedom, if they are to be true, pure, purifying, and full of blessing."

Diesterweg hated the rigid dogmas of faith. "To seek religion in the confession of dead written creeds, is one of the greatest errors into which human beings have allowed themselves to be led." He also hated the mystical sinking one's self in the depths of religion. I will cite two more sayings which reveal Diesterweg's religious and pedagogical creed with striking brevity: "The adoption of an ecclesiastical confession of faith ought to be made only after attaining maturity. Expansion and evolution are the great watchwords of the pedagogue, the teacher of mankind. Therefore, let us

have no botchwork, no pretense, consequently no regulations of creed." Diesterweg demanded with great earnestness the *Simultan-schule*, which strives for "the true religion of heart and life, which is found not in severing distinctions, but in mutual association, in universal human benevolence and love."

Diesterweg specially urged the development of the education of teachers in the direction of verbal instruction. To cultivate a free and ready use of language, the teacher's special instrument, he considers one of the principal objects of the seminary. There is no means of forcing the pupil to clear and definite thought so certain as to impose upon him the obligation of presenting his ideas with clearness, precision, and fluency. "Speaking disciplines men." He requires a comprehensive study of the great authors of our nation, recognizing this as the best method of awakening a genuinely national patriotic spirit, as well as an essential part of education.

Diesterweg displays the utmost skill in the department of number and form, in arithmetic and geometry. Here he has improved matter and method to a degree which alone is a service never to be forgotten. How to pursue arithmetic as practical logic, he shows in the "Guide." He also published with Henser the "Manual for General Instruction in Arithmetic," in which he gave his principles practical expression. Geometry, Diesterweg calls the "whetstone of the brain." His practical works on it are his "Theory of Geometrical Combinations" and "Guide to Instruction in Forms, the Theory of Arithmetical and Geometrical Relations."

Diesterweg also fixes a lofty standard for the education of teachers in the natural sciences and in geography, as is shown in his essays, "Every School Teacher a Student of Nature, Every Teacher of a Country School a Naturalist," and "Method of Geographical Instruction." By his "Manual of Mathematical Geography and Popular Astronomy," Diesterweg introduced this branch of geography into the seminary. Astronomy was his hobby. "Astronomical knowledge is a part of thorough knowledge. It will go with us, if anything does, to the

<sup>1</sup> A school attended by both Catholics and Protestants.

brighter world beyond the grave." The study of history, Diesterweg considers, belongs to mature manhood; therefore he lays little stress upon this branch of instruction.

Technical skill he prizes highly, yet warns against too high an estimate of it. "Whoever sets so much value on external things rarely troubles himself much about the intellect," was his comment. He considers it a matter of great importance to strengthen the body by gymnastics, especially for teachers, whose profession requires more exertion, health, and vigor than any other.

Diesterweg was the first to urge that, in addition to instruction in the various departments of pedagogy, a comprehensive culture should be given, and to the former standard of pedagogical education, he added as the mission of pedagogical learning the development, in the future teacher and educator, of the idea of the education of man. But this would not be possible without an investigation of the nature and talents of man; that is, without psychological and anthropological study. The history of pedagogy must also be presented. Every seminary must have a school of practice for the production of the greatest methodical skill. Diesterweg sees how much of the teacher's power lies in method.

To the effort to obtain by better education in the seminary a body of national school teachers fitted to train a new generation, Diesterweg united constant solicitude concerning all branches of the common schools and their teachers. How loyally and kindly we see him follow his pupils in their arduous vocation. He earnestly urges continuance in study as well as faithful professional labor; he affectionately consoles where he finds dissatisfaction and anxious fear. To give teachers a helping hand, he founded, in 1827, the "*Rheinische Blätter*"; in 1835, in partnership with prominent educationists, he published the "Guide for German Teachers." Other publications for the promotion of the same object are his "Pedagogical Almanac" and the "Pedagogical Desires and Duties." In all his writings he lays down the maxim, "What I give is what I have." We find in all of them the

same idea expressed, the same enthusiasm and aspiration for the perfection of our entire being.

Diesterweg regards the association of teachers in societies as of the utmost value. With reference to this he says: "There is no more important task for teachers than to unite in educational societies and watch over the interests of their class. Without union there is no prosperity, because there is no progress."

The teacher must hold aloof from political partisanship; he must be wholly and exclusively an instructor, in the consciousness that the loyal teacher in the national school elevates himself to the position of the instructor of the nation. The following words correctly express the aim which Diesterweg had in view as the ideal of a teacher: "He must strive in each individual child to promote the welfare of the nation. This alone renders the teacher's calling a sacred one. I pray," he exclaims, "that God will maintain and increase the teachers' faith in the sacredness of their calling."

I am approaching the end of my task. The Diesterweg festival of last year has shown that in Germany the whole body of teachers are mindful of his teachings and his influence. But Diesterweg's influence extends far beyond Germany. He has been a sower who has scattered fruitful seed over the whole world. I hope that Adolf Diesterweg, with his idea of making the people strong and wise by properly instructing the youth of the nation, may also find in the United States—the high school of practical life—an ever-increasing number of grateful followers.

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V.

JAMES' PRINCIPLES OF PSYCHOLOGY.<sup>1</sup>

The fact that a recent issue of the *Revue Philosophique* mentioned this book as the "long-announced treatise of Professor James," indicates that interest in it is not confined to this continent. I think it is safe to say that no book on psychology, in any language, has been so eagerly waited for in this generation, and it is as safe to say that no other book on psychology has appeared in this generation in English that was as well worth waiting for.

The book is about half made up of review articles, in many cases, but not all, revised and brought down to the latest publications. One of its most striking features is its breadth of reference to other writers in all languages. It is undoubtedly one of the most appreciative books of the work of thinkers everywhere that we have in English. Professor James has also given his book additional value by incorporating, *in locis*, full quotations from the most available and weighty authorities. The result is a book from which a reader, not versed in the history of thought, may get a pretty fair conception of the problems and schools of modern philosophy, as far as such problems rest upon psychological or physiological data.

In point of style Professor James is an acknowledged master, particularly as regards clearness, simplicity, and picturesque illustration. In this last respect he is surpassed, I think, by few writers on philosophical subjects now living.

In philosophizing two distinct literary methods or general styles are available, massive and perspective style. The massive style proceeds by a statement of one's position, with its modifications, all, as it were, in a single mass. It is involved and

<sup>1</sup> *The Principles of Psychology*, by William James, Professor of Psychology in Harvard University. 2 vols., pp. xii, 689, and vi, 704. American Science Series, Advanced Course. New York: Henry Holt & Co., 1890.



cumbersome, but painstaking and not misleading. The perspective style, on the contrary, proceeds by a receding series of propositions, each more or less distinct, and each so clear that it seems final. It need not be said that this style is attractive. It simplifies philosophical thought, brings out clear issues and pins the vague; but it is misleading, especially to the novice in philosophy.

Professor James' literary method possesses this "perspective" quality to an extraordinary degree. He is even more panoramic than Taine. But Professor James suffers from what we may call inverse perspective—a quality which invites no end of adverse criticism of his views from men who ought to embrace him as an ally. By the phrase "inverse perspective," I mean that he states the novel and most radical side of his doctrine first, and magnifies his difference from current views; his whole subsequent discussion tends to tone down and modify the earlier statement. The reader's first impression is one of alarm, then of less alarm, then of no alarm at all, but probably of self-congratulation that such an authority agrees with his own little views after all. This is so important a consideration, that it is only just to our author to tell his general readers to read him with suspended judgment, not to do him the discredit of thinking they understand him from a single page or a single chapter, and above all not to quote him without the extremest care that a counter quotation may not be possible.<sup>3</sup>

As to method, Professor James advocates the positivist point of view of natural science, based both upon introspection and experiment, a claim which late work has now fully justified. "This book, assuming that thoughts and feelings exist, and are vehicles of knowledge, thereupon contends that psychology, when she has ascertained the empirical correlation

<sup>3</sup> In this respect Professor James is to be compared only with Mr. Bradley. He speaks of Bradley's "subtle, witty, but decidedly long-winded critique of the association of ideas" (ii, 604). I would not think of applying "long-winded" to Professor James; but neither is it just to Mr. Bradley. It might be said that they are both consummate masters of what I have called a "perspective" literary method.

of various sorts of thoughts or feelings with definite conditions of the brain, can go no further—can go no further, that is, as a natural science. If she goes further she becomes metaphysical." (Preface.) That is, it is no longer *empirical* psychology. But Professor James' own treatment shows that interpretation is the essential need of the hour, even in empirical psychology. If he shows originality anywhere, it is not where he claims it—in the point of view. The present writer has advocated this point of view for several years, and half a dozen others could be named who have; but his originality is in his theoretical construction of data, in matters of interpretation.

In the same connection, under the phrase "psychologist's fallacy" (i, 196), Professor James emphasizes a point which in our day needs supreme emphasis. "The *great* snare of the psychologist is, the *confusion of his own standpoint with that of the mental fact* about which he is making his report". . . . "he himself, knowing an object in *his* way, gets easily led to suppose that the thought which is *of* it, knows it in the same way in which he knows it, although this is often very far from being the case." This is the very bane of current speculative idealism, as far as its treatment of psychology goes. It reads into the child the speculative essentials of mind—self-activity, timeless identity, community with an absolute self-identical consciousness, etc. The first thoughts of a child are aware of the objects and of nothing else. But the psychologist, in looking at it, sees the "thought's object, plus the thought itself, plus, possibly, all the rest of the world. We must avoid substituting what we know (suppose) the consciousness *is* for what it is a consciousness of." So important is this warning of Professor James that I would not hesitate to devote all my space to sounding it out. Take this from Green: "A consciousness by the man of himself must be taken to go along with the perceptive act itself. Not less than this, indeed, can be involved in any act that is to be the beginning of knowledge at all. It is the minimum of possible thought or intelligence." On this assumption of the Greens and the Cairds and

the Morrises, Professor James is not a whit too severe in this remark. ~~[[This is a perfectly wanton assumption, and not the faintest shadow of reason exists for supposing it true. As well might I contend that I cannot dream without dreaming that I dream, swear without swearing that I swear, etc., as maintain that I cannot know without knowing that I know]]~~<sup>3</sup> (i, 274). Unity of treatment might have been brought into Professor James' account of "thought" if he had generalized the essentials of his theory in some such conception as that denoted nowadays by the word "apperception." I venture to think, subject to correction, that all of the author's theories concerning "knowledge about" a thing, as contrasted with mere "acquaintance with" a thing, are covered by the current conception of apperception. But before pressing this view, let us get hold, as clearly as we can, of his view of knowledge in general.

According to Professor James' way of thinking, what we have in consciousness is a stream flowing in time,—and empirical description of consciousness must begin with this stream, not with simple hypothetical sensations. This stream may be called, indiscriminately, Feeling or Thought,<sup>4</sup> for there is no valid distinction between them. Feeling is immediately cognitive, *i.e.*, it has an object which it knows. What we are conscious of at any moment is a segment of this stream, a cut through it, so to speak, and this is our unit of division of the stream into parts. Each such conscious segment or cut is a Feeling or Thought of an object. This object may be a single simple thing,<sup>5</sup> in which case the segment is a sensation, and

<sup>3</sup> A good example of this fallacy in current discussion is the following damaging (?) charge which Professor Watson brings against Mr. Spencer, *i.e.*, that he makes "the occurrence of a sensation the same thing as the consciousness of that occurrence."—*Mind*, lx, p. 543. Professor Watson reads into the consciousness of a sensation the knowledge (apperception) of it as a sensation.

<sup>4</sup> In what follows I attempt to state briefly and plainly the common idea which runs through the chapters on "The Stream of Thought," "Conception," "Discrimination and Comparison," "Sensation," "Association," "The Perception of Things."

<sup>5</sup> But the thing or object itself may be a relation; that is, there are direct feelings of relation (i, 245-248).

knows the thing by "acquaintance," or it may be of different related external things or events, in which case it still has only a single object, the entire complex experience, but the Feeling or Thought is now a perception, conception, etc.; its knowledge is "knowledge about" the thing or things. "Knowledge about a thing is knowledge of its relations. Acquaintance with it is limitation to the bare impression which it makes" (i, 259; ii, 77). Following him I shall use the words Thought and Feeling to stand simply for such a segment of the stream.

Now the present Thought may have as its object other Thoughts or segments of the stream, *i.e.*, it may know the past, and this is memory—the fact that a present Thought may know (cognize, feel) what has gone before in the same stream. The rule by which the exact segment of the past to be thus known is determined, is association, which is reduced to the single principle of contiguity. The reason that it is my own past that my present Thought knows (remembers) and no one's else past, we cannot say, except that my own past has a feeling of *warmth* (familiarity) to me, which no one's else past has to me, and by which I reach *self-consciousness*. "Remembrance is like direct Feeling; its object is suffused with a warmth and intimacy to which no object of mere conception ever attains. So sure as this present is me, is mine, so sure is anything else that comes with the same warmth and intimacy, and immediacy, me and mine" (i, 239).

Further, in the stream of Thought there are nodal points, so to speak; points of emphasis (attention), "substantive Thoughts," and between these points of prominence there are transition portions, "transitive Thoughts," unattended to (i, 243). But there are no absolute divisions in the normal conscious life; that is, we are conscious of no breaks. When there are breaks, the two ends of the stream grow together vitally again. "Within each personal consciousness, Thought is sensibly continuous." "Even where there is a time-gap, the consciousness after it feels as if it belonged with the consciousness before it, as another part of the same self" (i, 237). To expect this consciousness, to feel the interruptions of its objec-

tive continuity as gaps, would be like expecting the eye to feel a gap of silence because it does not hear (i, 238). Transitive connections can always be found between substantive Thoughts; vague relationships by which the present Thought retains the tradition of the past. The stream of Thought is therefore continuous. There are no physical atoms. In this supposition the associationist psychology makes itself ridiculous. "A permanently existing 'idea' or '*Vorstellung*,' which makes its appearance before the footlights of consciousness at periodical intervals, is as mythological an entity as the Jack of Spades" (i, 236). Every such so-called "atom" has a "fringe" of transitive connections; it is prominent and vivid; its fringe is pale and washed-out. But in every case it has a fringe. The simplest Feeling has a ragged edge, and this ragged edge links on to the ragged edges of other feelings higher up the stream and lower down (i, 255). The present Thought, therefore, is enriched by all the past experience of the individual, and the future Thought will be further enriched by what it inherits from the present.

In passing down the stream, Thought undergoes changes. The transitive may become substantive, and the reverse. The fringe may shine out in relief and the former object sink into dim suggestion only of feeling. These modifications in arrangement and disposition of the objects of Thought are due to the mental operations of "discrimination" and "comparison," of which no more can be said than that they are irreducible and fundamental characteristics of Thought.

Again Thought is selective. Only a slight portion of one's past is held and utilized in the present. Our individual worlds are different, because by progressive selections we have built up our experiences differently. Perhaps nowhere else in psychological literature is the essential selective function of Thought as well developed and as richly illustrated as here.<sup>6</sup>

The first peculiarity of this general conception is its use of terms. Feeling equals Thought, Feeling or Thought knows,

<sup>6</sup> I have purposely left out of account the consistent conception of the nervous basis of the Thought-stream worked out by the author.

Thought knows the past, etc. Does not this look like a subversion of the safest distinctions of current psychology? It does, indeed. But when we come to study the case more closely, we find it less revolutionary than it looks. We find that Professor James admits states of pure feeling in the ordinary sense, states which lack all "knowledge about," or relational quality. "In a new-born brain, this (strong sense stimulation) gives rise to an absolutely pure sensation," (ii, 8; i, 272). Now whether or not we admit that such a state is cognitive, that is, is knowledge at all, the distinction is yet recognized between states purely or mainly affective, and states which involve relational construction through discrimination and comparison. And I think Professor James is asking too much of us in requiring that we give up one of the few exact distinctions in terminology which descriptive psychology can boast, while at the same time he preserves the distinction in fact, and has no good terms to substitute for the traditional ones. Perhaps when he comes to treat of pleasure and pain he will give its usual meaning to the term feeling.

As a matter of conscious fact, I think the feeling of *what is going on* is distinct from the feeling of the object of ordinary sensation; and even when the former feeling is made object by introspection, there is an element of *feeling of introspection* in addition to the feeling thus observed.

Accordingly the present segment of the stream has two elements: first, the Thought of the object made up (say) of a present thing and the tradition about it derived from experience; and second, the feeling due to the cognition of this object. This latter feeling is not *of* or about anything. For example, I see a very brilliant light (Thought) and it gives me pain (Feeling). We cannot say that the pain cognizes the light. Professor James would say, I suppose, that the Feeling of the light cognizes the light. But by Feeling he would mean the whole present segment, failing to discriminate between the feeling proper and the knowledge that there is an object and that it is a light. Even though we be as positivist as possible in denying any process more than Feeling, we still have a differ-

ence between Feeling which refers outward, or backward, or forward, and feeling which has no such reference.<sup>1</sup> So if, instead of using Feeling for the whole present segment of the stream, we restrict it to that portion of the segment which is not cognitive, and give the word knowledge to that portion which is cognitive, we have the ordinary distinction between affective and presentative states. That is, we have a right to take Professor James seriously in this quotation: "What we are only acquainted with is *only present* to our minds . . . . but when we know about it, we do more than merely have it. . . . . The words, feeling and thought, give voice to this antithesis" (i, 222).

The next position is this: wherever there is an object, we find a "fringe" (i, 258, note), *i.e.*, vague felt relations which environ the object. From this we must conclude that wherever there is an object, there is more or less "knowledge about" it. In other words, there is no pure "acquaintance," and knowledge has to do, after all, only with relations. I would say that this comes very near to the doctrine of relativity, if Professor James did not go to great pains to refute relativity (ii, 900). It is not fair to him, however, to construe him in this bald way, for he holds that such relations are felt, and although we may not follow him in holding that relations are only felt, still I think he proves his point that they are at least felt. But on his meaning of the word felt, the relations involved in "knowledge about" fall in the same category, and again, we have knowledge confined to relations.

Intrinsically, here again the ordinary distinction between feeling and knowledge is valuable, I think, and should be preserved. Admitting with Spencer and James that we have feelings of relation, still such feeling is a very different thing from knowledge. The same knowledge about a thing may arouse very different feelings in different circumstances. As Professor James shows, feelings of relation may be present

<sup>1</sup> We might ask Professor James what the object is of the feeling of *warmth* spoken of above—say the first such feeling before the ego-idea is developed. To say its object is the ego, as the author intimates in i, 242, is the "psychologist's fallacy" again.

when the actual relation is not. It is probable that at first a feeling of relation is not a feeling of that relation or of anything whatever; and it is only after a child has got knowledge *about* the objects of its experience that it learns to attach the feelings to the relations themselves, and so the feelings become feelings of relation. To say the child has feelings of relation at the start is to be guilty of the "psychologist's fallacy." In short, such feelings were at first part of the affective portion of the stream, and they came to belong to the cognitive portion only because both the feeling and the relation are held together as part of a possible object of later segments of the stream.

But to proceed: the present state is a unit state, an undivided state; its object is its whole content. "The *object* of your thought is really its entire content or deliverance, nothing more nor less" (i, 275). It inherits past states, it mirrors (knows) them, but it unifies them. It is an integration of its present external object with the past of the same person. And this integration is accomplished through discrimination, comparison, and selection in several stages of generality, giving perceptions, conceptions, reasoning, etc.

We are now able to revert to a point already alluded to above. The question arises, Wherein does this conception differ from that of the apperceptionists? Here is a pulse of Thought whose content is a unit object, due to the integration of earlier with new elements of content; this object always involves relations, and these relations are brought out by the attention. Further, this pulse may be called perception, conception, reasoning,—according to the degree in which its integration bears away from concrete present experience. In other words: "This sort of *bringing of things together into the object of a single judgment*, is of course essential to all thinking. The things are conjoined *in* the Thought—the thinking them is thinking them together. This sort of *subjective synthesis*, essential to knowledge as such, is involved in Thought's mere existence" (i, 331-32).

With this I venture to compare my own definition of apper-



ception, in which the same "essential" act of mind is singled out: "Apperception is that activity of synthesis by which mental data of every kind (sensations, percepts, concepts) are constructed into higher forms of relation." "It is the essential mental act in perception, conception, judgment." "The phrase apperception singles out that act of mind which is common to them all—the relating activity of attention,—and thus by its general application emphasizes the unity of the intellectual function as a whole." "Whenever by an act of attention mental data are unified into a relative whole, this is an act of apperception." And "in its discriminating, selecting, and relating results, the concentration of attention is called apperception."<sup>8</sup>

Setting aside all philosophical implications, I see no difference in these two accounts except that my own statements have a little more of the atomism to which Professor James strenuously objects. But even this difference is due to difference in method. He approaches the subject analytically and the apperceptionists (say Wundt) approach it synthetically.

I have developed this point of some length because it serves as introduction to a broader topic. The philosophical implications spoken of are the important feature of such a treatise, both for general readers and for the teaching profession; and while we recognize Professor James' right to shut out such considerations, and while we acknowledge fully the advantage to psychology from doing so, yet, in the words of our author, "of course such a point of view is anything but ultimate. Men must keep thinking; the data assumed by psychology, just like those assumed by physics and the other natural sciences, must some time be overhauled. The effort to overhaul them clearly and thoroughly is metaphysics."<sup>9</sup> So we may well ask the question; when Professor James does "overhaul" the rich mass of data here presented, what will be the outcome for general philosophy?

It is in view of this question of the theory of the mind as

<sup>8</sup> *Handbook of Psychology: Senses and Intellect.* 2d edition, pp. 65, 66, and 79.

<sup>9</sup> Preface.

arising out of empirical psychology, that the conception of "apperception" is important. It enables us to "pool our issues," so to speak, as no other conception does. The associationists have pooled theirs; and if the believers in mental activity really wish to make a sharp and clear issue on the basis of facts, it is time they came to some mutual understanding and ceased firing into the ranks of their own army. Associationists will never be convinced by the idealism which disdains the patient interpretation of facts, nor will spiritualists ever be convinced by the bold assumptions and crude philistinism of the kind of physiologizing now asserting itself in the name of psychology in certain educational circles in America. But when it is possible for Wundt to defend a cause—(apperception) theory of mind with no neglect of the data of physiology, and for Münsterberg to join issue with him in favor of the effect—(associative) theory with equal fairness to the psychological data, and then for James to write an exposition of them both in the same spirit, we feel that truth is going to be furthered and applied. Now, with this issue thus "pooled" clearly before us, let us inquire into the meaning of Professor James' book.

What we have in consciousness is only a segment of what seems to be a stream. But this seeming cannot really be justified from consciousness itself. What seems to be "upward" in the stream is only that part of the present segment which has a peculiar "warmth" or coloring. Really it is all present in the pulse of Thought which is now; and the present pulse of Thought is absolutely all I have.<sup>10</sup> If this be true, it may be asked what guarantee have I that I have a past? that there is an I that has experienced the past and is experiencing the present? What view of the ego does this doctrine of the present Thought lend itself to?

Professor James considers this question in his chapter on

<sup>10</sup> When Professor James says we know the past (i, 688, note), he comes dangerously near to the "psychologist's fallacy." He means that certain experiences *now present* come to be object of the present Thought in a peculiar way, and this peculiar way, we learn, means the past. I think the author himself says somewhere that the child does not distinguish at first between present objects and memories.

"The Consciousness of Self," a remarkable and valuable analysis of the self notion." The doctrine which results is briefly this: Self is a very complex notion built up from the experiences of "warmth, and intimacy, and felt continuity" (i, 334), which are handed down from Thought to Thought, becoming more abstract as it is thus made matter of inheritance (i, 333-34). The kind of experiences which have this peculiar "warmth," are those primarily which center around interest and activity; that is, around the voluntary life, (i, 298). In its last analysis the notion of self is the notion of an intimate activity or agency which has become very "warm" through repeated emphasis. The element of activity, when carrying this warmth of personal identity (i, 336) is the feeling of self. Two further questions, therefore, arise: Is there a direct feeling of activity (i, 298), a pulse feeling, a fiat of will; and is the feeling of "warmth" which attaches to this activity any guarantee that there is a spiritual agent whose life in time reveals itself to consciousness as a pulse of present Thought? The latter question the author dismisses as too metaphysical to be discussed in a work on positive psychology, the former he wrestles with in his chapter on "Will."

In reference to will, the author maintains that the effect-theory holds to involuntary attention, and for so-called "feelings of innervation" in voluntary muscular movement, but that over and above these, there is consciousness of a mental *fiat* or consent which cannot be put in the effect category. It is the kernel of our feeling of self, and, considered strictly from the psychological point of view, it remains, as yet, irreducible. But whether consciousness is to be considered, consequently, a *vera causa* in nature—this again is too metaphysical a question. In short (by interpretation), this activity-feeling belongs to the affective portion of the stream of Thought, not to the cognitive portion. It is one of those original data which does not come from or by an object. It is the ground of mere acquaintance with self in the nominative case, *I*, as opposed to what I know about myself in the objective case, *me*.

<sup>11</sup> This chapter and the chapters on "The Stream of Thought" and "Will" are in my view the ablest and most significant in the book.

On this ground, our author takes up the current doctrines of the mental principle ~~and first~~ the spiritualistic theory. He states his own position of best advantage in reference to it in i, 339-40. And to this opposes an exposition of the spiritual theory (i, 343). It is only necessary to compare the two expositions to convince us that Professor James is again finding too great a difference between his own position and what is essential to critical spiritualism. To be sure, he puts the statement of the soul theory in the mouth of "common sense," and so no one need defend it who is not prepared to take his conception from the philosophical amateur. But still it is unnecessary to charge all who call themselves "spiritualists" with the formalism of Wolf and the dogmatism of Berkeley. Indeed, the author realizes the true position of present-day spiritualism in what he says of it a page or two later (i, 345). Let us then repudiate with him, but still in the name of spiritualism, such formulas as these: "By the soul-substance is always meant something *behind* the present Thought"; "the spiritualistic formulation says that the brain processes knock the thought, so to speak, out of a Soul which stands there to receive their influence" (i, 345). We do not want a better statement of the claim of modern spiritualism than he himself gives us in i, 346-47.

But more positively, let us see what kind of a substance we are able to gather from Professor James' determinations in reference to the present Thought. To sum them up, the present Thought is a spiritual (thinking) presence, which is all that preceding pulses were, and it has a selective spontaneity of its own (i, 212). Of the three ordinary requirements of "common sense" substance, being, permanence, and potency (activity); the only one which the author leaves in any doubt is the second, *i.e.*, *permanence*. "The Thought is a perishing . . . thing. Its successors may continuously succeed to it, resemble it, appropriate it, but they *are* not it" (i, 345).

Now admitting that for psychology time is made up of a series of "nows," that the "now" is all I have to guarantee my present being, it is still hard to tell just what the now is

entitled to include. Professor James rejects the association atomistic hypothesis of a series of detached states most emphatically. His doctrine of "transitive thoughts" and fringe militates against the construction of the successive "pulses" in any atomistic way. And "the sensible present has duration." How much of the stream, therefore, does a single pulse mean? The nearest that the author comes to an explicit answer to this question is found in his discussion of the experimental determination of the area (lengthwise or *time-wise*) of consciousness for successive sounds. Here he finds "twelve seconds to be the *maximum filled duration* of which we can be both *distinctly and immediately aware*" (i, 613).<sup>12</sup> This is the "now," the "specious present." But there is no break between this now and the next now; on the contrary, there is a consciousness of the transition from "then" to "now." Even though we artificially mark off the periods, we feel the *relation* of difference between them, and then bind them together by another "now," which inherits them both. So, however the appropriation of the "then" and the "now" by a new "now" may be accounted for, each of these Feelings has had duration. That is, the pulse, the attention, the apperceptive act, by which the then and the now are integrated in a new now, occupies a distinct portion of time. So it seems that for this length of time, at least, the stream of thought is not a stream, but a frozen block. It stands still. If a Thought pulse may legitimately claim as its own, in the sense of absolute ownership or identity of nature, the contents of the stream two seconds back, it is difficult to see why it may not own, by an equally personal right, the "warm" experiences which lie still further back, especially when we remember this additional back-experience was "interfringed," by the same personal ownership, with what is so claimed.<sup>13</sup> If the figures

<sup>12</sup> I have elsewhere criticised the author's figures here: the maximum time is three to four seconds, instead of twelve. See my *Senses and Intellect*, pp. 185-86.

<sup>13</sup> This is rather a difficulty of my own than a well-thought-out criticism of Professor James. Theoretically, his conception seems to me tenable, but I am unable to fit the movements of attention into it.

below represent seconds, and the square links "pulses," the links seem to overlap and guarantee duration to the Thought.

But leaving this, have we not in the doctrine of "appropriation" or "inheritance" of Thought by Thought, all the permanence that a modest spiritualism requires? Confessedly the "then" comes over into the "now": all that my past actually was, my present, is whatever worth it had is available now. To argue for a permanence that does not "tell" in any way upon the phenomenal series, is to waste breath; but if it does so "tell," in any way, this telling is, in Professor James' view, a permanent acquisition. I am now, therefore, all I have been, and more. Certainly, psychology has no right to ask how this can be so; but if she should, the answer would have to be either,—by reason of the brain, or by reason of a spiritual principle. But the former alternative Professor James expressly rejects in his chapter on the "Mind-Stuff Theory."<sup>14</sup>

I do not say that Professor James declares for spiritualism; that would be to say that he deserts the standpoint of his book. But what I claim is that from his conception—when rid of expressions which are unnecessarily hostile to the spiritual hypothesis—his conception of the stream of Thought should bring comfort to spiritualists and confusion to their enemies. And the comfort becomes positive satisfaction when one reads his final chapter on "Necessary Truths and the Effects of Experience." Here he argues trenchantly against the "experience hypothesis," finds race experience also inadequate, and finally puts into his "pulse of Thought" a cargo of rational principles. It is to be hoped that Professor James will some day write us a "Metaphysics."

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<sup>14</sup> The outcome of that chapter should be carefully weighed in the present connection.

## DISCUSSIONS.

### STATE COUNCILS OF EDUCATION.

Councils of education have recently been organized in three or four States, and already the good results are apparent. The New Jersey Council of Education has been particularly successful in securing school legislation in harmony with its recommendations. Its specific ends as stated in its constitution are the following: (1) the investigation and discussion of topics relating to education and the dissemination of information bearing on these topics; (2) the consideration and recommendation of the best means of advancing the educational interests of the State; (3) the consideration of the means by which the educational policy of the State may be modified in view of the progress of educational thought.

Concerning most educational associations, whether local, State, or national, the criticism is valid that they discuss abstract questions of school policy, but fail, as a rule, to get down to the practical work of influencing legislation. Their printed reports have a limited circulation even among teachers, and almost no circulation among those who make the laws. Discussion, to be valuable, must culminate in action. Recommendations should be converted into bills and these should be pushed by shrewd, skillful, and energetic committees, bent on securing the legislation desired. Teachers are altogether too inert to exert any political power. Why should not the great body of teachers in any State make themselves felt politically in matters that affect their own interests? A bricklayers' association or a farmers' league rarely fails to get a proper hearing before a legislative committee, and if its grievances are real, or its demands just, there is usually no trouble in securing the desired relief. Among the teachers of a State are many men and women of the highest intelligence and of commanding influence wherever they make their voices heard. The trouble, however, in most cases, has been that educational associations exhaust themselves in barren discussion, and stop short of the practical means of securing their ends.

Again, associations whose membership is large are inefficient in many directions because of their necessary unwieldiness and infrequent meetings. Hence the field is clear for smaller bodies with more specific and distinctly conceived aims, such as the State Councils of New Jersey, Connecticut, Illinois, and other States. The value of such organizations will depend largely upon the three following considerations:

1. For effective work, upon the character and limit of their membership.
2. Their method of investigating educational questions, whether by committees or by general discussion only.
3. Their ability to secure favorable legislation upon their recommendations.

State Superintendent Andrew S. Draper, of New York, has spoken upon this general topic on several occasions, urging a State Educational Commission to be organized by legislative authority, to meet once, or better twice, each year as an educational congress, to discuss questions of school administration, and so on, and make recommendations to the legislature. Such a commission, having from the start a duly recognized official status, would be a dignified body and would not fail to secure that recognition which would be denied any educational body otherwise created. That such a commission would exert a powerful influence in securing improved school legislation there can be no question.

Still, however, until the State of New York or some other State shall take the initiative and inaugurate such a policy, I would suggest, the formation of unofficial bodies upon the general plan adopted by the New Jersey Council. Membership, by the terms of its constitution, is limited to "persons engaged in actual professional work, educators of recognized standing," and these are selected from all parts of the State, two at least from each congressional district. All the educational interests of the State, public and private, elementary, secondary, and college, are fairly represented. The limit of membership has been fixed at forty-eight, divided into three classes, one-third retiring annually. One-half of the new members are elected by the Council itself, and the other half by the Council after nomination by the State Teachers' Association, at its annual convention. Regular meetings are held twice a year.

The work of the Council is divided up among several com-



mittees, as follows : on pedagogics, school law, school organization and administration, statistics, and hygiene. Special committees are appointed also for more specific investigations or duties. These committees meet as often as may be necessary. Their printed reports are brought before the general body, for full discussion, usually one at each session.

When a report is adopted that involves legislative action, it is put into the hands of a special committee, which is fully empowered to take the necessary measures to secure its legal enactment. Thus far, as has been said, the New Jersey Council has been successful in securing the adoption of its recommendations.

Of the Councils in other States I may mention the Illinois Schoolmasters' Club as an excellent type. Its membership consists of county superintendents, superintendents of city schools, and principals of high schools, and is limited to one hundred and fifty. Its object, as stated to the writer by Superintendent Dougherty of Peoria, is "to make public sentiment in school matters and to look after school legislation." Three meetings are held each year, in October, February, and May. An executive committee of ten members selects topics to be brought before each meeting. Some one is appointed to present the subject in a series of principles or resolutions. These are amended or stand, as the Club may order, and give direction to the discussion.

ADDISON B. POLAND.

JERSEY CITY, N. J.

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#### THE LEGAL DEFINITION OF A SCHOOL.

Has any one ever defined the word "school" in its legal sense? The *Theory of Education as Approved by Leading Educators* of 1874, does not tell what a school is. Prof. Adams' *Contributions to American Educational History* have already covered several States, but I do not find in any of them a definition of a school. Dr. Hough and Professors Hinsdale and Blackmar have gathered for us the constitutional provisions that relate to schools, but none of these prescribe what a school shall be. The famous order of the Massachusetts General Court, in 1647, requires householders to "appoint one within their town to teach all such children as shall resort to him to

write and read; whose wages shall be paid either by the parents or masters of such children, or by the inhabitants in general by way of supply, as the major part of those that order the prudentials of the town shall appoint." The Constitution of Pennsylvania, adopted in 1776, provides that: "A school or schools shall be established in each county, by the legislature, for the convenient instruction of youth, with such salaries to the masters, paid by the public, as may enable them to instruct youth at low price." But these are too vague to be of use. Though the word "university" has abundant definition,—by Sir William Hamilton and by Cardinal Newman, for instance,—when we undertake to find a definition of "school," we are beset with difficulties.

Webster calls a school "an educational establishment"; but after an experience of fifteen years the Rev. Anthony F. Thompson, in his *Thoughts on Private Tuition*, is "persuaded that education, properly so called, can hardly be secured in a school, however well managed." Writing of education in England, Emerson quotes approvingly Bristed's tart definition that a public school is a school which excludes all that could fit a man for standing behind a counter. Some modern critics would like to have our American public school exclude everything else.

Many books have been written to describe the schools of antiquity, and St. Jerome, in Eusebius' *Chronicon*, speaks of Quintilian as the first master of a public school that received a stipend from the emperor. But Staunton, in the preface to his *Great Schools*, tells us that "there is no trace of schools, in the proper sense of the word, till after the introduction of Christianity." I wish that he had paused to tell us what this proper sense of the word is.

In his sketch of Ezekiel Cheever, Barnard reminds us that the names of colonial educational institutions came, with the institutions themselves, from the mother country, and must be interpreted according to usage there. So a "grammar school," in our early records, was "a school for the teaching of Greek and Latin, and for no other gratuitous teaching"; while a "free school" was "a grammar school unrestricted as to a class of children or scholars specified in the instrument by which it was founded, and so supported as not to depend on the fluctuating attendance and tuition of scholars for the maintenance of a master." But Priaulx, in his *National Educa-*

tion (1837), distinguishes as follows: "School education is of two kinds. The one, and the simplest, only provides instruction at a parish or village grammar school, and leaves all the weight of the child's support to the parent. The other takes the child, altogether separates him from his family, and feeds, clothes, and educates him at the public expense or at a public school."

Such material as I have been able to gather is all of this incomplete and contradictory character; and if we are to have a definition, it seems necessary to evolve it out of the depths of one's inner consciousness. So let us see what can be done toward building up a definition of the word "school" in its legal sense.

Etymology (*σχολή*, leisure) gives us one of the essential elements of the definition: the school must be a place where there is leisure to study; in other words, it must be, for the time, the main business of both teacher and scholar. It must, for a considerable part of the year, occupy the best hours of at least five days a week. Evening schools, however well conducted, would not, except as auxiliaries, be the "schools" that our State constitutions provide for.

In the second place, the school must be an institution, an established place for study, "so supported as not to depend on the fluctuating attendance and tuition of scholars for the maintenance of a master." Itinerant lecturers often give a series of lessons on school subjects, but the course does not constitute a school. A Shakespeare or a Browning club may impart a good deal of information to its members, but it is not a school. A clergyman sometimes gives to bright boys in his parish more real education than they get from their teachers; and yet, so far as he instructs them as a clergyman, his classes do not form a school.

Third, the school must be open to the public, even when it is a private school; for, otherwise, it is not a school at all.

Let me illustrate: A boy is graduated from the Syracuse High School, but needs another year of preparation to enter Harvard College. A tutor is hired for him, to whom he recites every day. Manifestly this is not a school. A neighbor has a boy, with the same experience and plans as the one just mentioned, and proposes that both boys recite together and share the expense. Still it is not a school. Perhaps there are a score of boys in the city, who begin to ask whether they may

come in. When the tutor says that anybody may come in who is properly qualified and will share the expense, then his private class becomes, for the time being, a school. He may prescribe the number, the age, the residence; he may fix terms; he may require qualifications; he may reserve the right to reject any one who seems to him morally or socially unfitted, thus restricting its privileges to a certain kind of scholars; but as soon as the class is open, not to certain individuals, but to any of a class of individuals, it becomes a school. It is in this sense that the great private schools of England are known, and properly known, as public schools.

Fourth, the school is a place for instruction, under guidance of a qualified teacher. It is not enough that the scholars meet and study together; that would be a club. Their study must be directed and supplemented by a teacher, proficient in the branches taught. This proficiency is always assumed, and usually must be legally certificated. In some countries this is the case even when the school is a private one or when the instruction is given by a parent.

Fifth, this instruction must be based on the elements of a literary education. Littré defines the school as "an establishment where one learns the elements of letters, of sciences, and of arts."

How far physical and manual and civil and moral and religious education are to be included in the curriculum is a matter for local determination; but all schools, in the legal sense of the term, must provide literary instruction. Dancing and horsemanship are taught in some schools, but a dancing-school or a riding-school is not such a "school" as the laws contemplate.

These five elements seem to me indispensable, and I do not just now think of any other elements that are. So I should construct the definition of a school as follows:

A school is a permanent establishment for instruction under a qualified teacher in the elements of a literary education, open equally to all of the class for which it is maintained, and occupying the principal working-hours of the week for a considerable part of the year.

I am not satisfied with this definition, but it is the best I can make. I am willing to be criticised for it, if my critic will be induced to evolve another that is more satisfactory.

C. W. BARDEEN.

SYRACUSE, N. Y.

## THE MOVEMENT FOR AN EINHEITSSCHULE IN GERMANY.

No state in Germany has such an institution as a common school in the American acceptance of the term: a school free and open to all, offering a primary, intermediate, and secondary education, and leading up to the university. The various kinds of German secondary schools are not built on the sub-structure of the primary and intermediate or grammar school, as a public high school is with us, but most secondary schools have their own elementary or preparatory classes (*Vorschulen*). The high schools are not in organic connection with the elementary schools (*Volksschulen*). Hence, when a child is six years of age it is necessary for the parents to make up their minds whether he is to pursue higher studies, or whether his education is to be limited to an elementary course. Furthermore, they must determine, not later than the ninth year of his age, whether the boy is to pursue a course which will carry him to the university, or to a technical or other professional school. Once fairly started in his career, there is no return possible except at the sacrifice of some years, which he must waste in order to "adjust himself" to the different conditions, should he, or his parents, determine upon a change.

The idea of fusing the different types and classes of schools in Germany was first entertained in the eventful year 1848, in which the violent and unsuccessful attempt was made to unify the then separated German states. Since that time the plan has not been allowed to die out entirely; and when the years 1870-71 brought the much desired political union, the idea of a Union School (*Einheitsschule*), that is, a common school, was agitated in many parts of the empire. But while, during the years of the Revolution, 1848 and 1849, the movement aimed at a school to all intents and purposes similar to the American common school, it was now conceded that the existing distinction between the elementary and the secondary schools was a justifiable one. Therefore, the "people's school" (*Volksschule*) is now preserved even in the plans of most of those who aim at an organic union or fusion of schools. This is not true of such men as Dr. Fr. Dittes, Dr. O. Frick, and a few others who argue that the two types of schools should not be separated. But these men are in a hopeless minority. To-day the word *Einheitsschule* is applied to a school which is intended to combine the different classes of secondary or high

schools only. The *Einheitsschule* is now urged as a substitute for the following kinds of secondary schools :

(1) The *Gymnasium*, or classical high school, which prepares for the university ; (2) the *Realschule*, a modern high school, which substitutes a modern language for Greek, but retains Latin ; (3) the *Real-gymnasium*, a hybrid form, which attempts to perform the functions of both *Gymnasium* and *Realschule*, and is soon to be abolished ; (4) the *Pro-gymnasium*, a *Gymnasium* without junior or senior classes ; (5) the *Realschule* of the second order, an incomplete *Realschule* ; (6) the *Pro-real-gymnasium*, an incomplete *Real-gymnasium* ; (7) the *Höhere Bürgerschule*, a high school with one modern language and no classics ; (8) the *Bürgerschule*, an elementary school for both sexes, with some high school studies ; (9) the *Höhere Mädchenschule*, the higher school for girls, with one modern language ; (10) other schools, called sometimes High schools without Latin, and a variety of technical schools, too numerous to mention.

Some ten years ago a society was founded for the realization of the plan of unifying or fusing these various schools into one national school, called *Einheitsschule* ; and if the objects of the society are not realized, it certainly is not the fault of its members. Conventions were held and public opinion was appealed to ; petitions were circulated and the government was besought ; but very little success crowned these efforts. In a few cities, in which the schools were not completely under government supervision and management, as, for instance, in Baden (Carlsruhe and Mannheim), in the Hansa towns (Hamburg, Lübeck, and Bremen), in some principalities in Thuringia, and in a few cities of Bavaria, under the liberal administration of Minister Lutz,—but nowhere in Prussia,—feeble efforts were made to establish and maintain *Einheitsschulen*. But the predominating influence of Prussia was too powerful to be overcome.

The Minister of Public Instruction, Dr. von Gossler, opposed the movement, and refused his sanction to the establishment of *Einheitsschulen*, whenever the proposition was made by municipal or town authorities. Since in Prussia the state contributes more than three-fifths of the annual expenditure for secondary education, the local authorities were obliged to acquiescence in the Minister's decision.

The plan for an *Einheitsschule* has been brought into

renewed prominence by the discussions regarding the respective merits of the *Gymnasium* and the *Realschule*. It seemed to offer an escape from the charge that the curricula of the secondary schools are too inflexible and too completely subordinated to the demands of certain careers. It was urged, particularly by Dr. Richard Lange and Dr. O. Frick, as the best means of making the secondary school a school for general culture and a preparation for any profession or branch of governmental service. It was hoped that the recent Commission on School Reform would recognize the *Einheitsschule* in some way; but the classical and modern secondary schools are to be kept separate as before, and each is to have its own preparatory classes.

As this movement is an interesting and significant one, and as it will not be crushed out, the chief contributions to the literature of the subject are appended :

SCHRIFTEN DES DEUTSCHEN EINHEITSSCHULVEREINS, von F. Hornemann. These appear in pamphlet form, at irregular intervals, published at Hanover (Carl Meyer).

UEBER DIE SOGENANNT E EINHEITSSCHULE, von C. Boettcher. Düsseldorf, 31 S., 8vo (Schaut). The author advocates a common high school with Latin, Greek, English, and French, which in the upper grades divides its course into two, a classical and a modern.

BETRACHTUNGEN ÜBER UNSER KLASSISCHES SCHULWESEN, von Ambr. Abel. Leipzig, 56 S., 8vo. The author advocates more attention to the humanities and less to the principles of utilitarianism. It is an eloquent appeal, but has found less favor in the eyes of thinking men than the following pamphlet.

DIE EINHEIT DER SCHULE, von O. Frick. Frankfurt, 1884, 44 S., 8vo. Dr. Frick is the superintendent of the famous Francke Stiftungen in Halle, and the most eloquent advocate of a true common school for Germany, such as Americans understand by the term.

DAS GESAMTGYMNASIUM, von P. Otte. Berlin, 1886, 52 S., 8vo. The plan of this author is that of a common school "with trifurcation." One branch to take up classical studies, the second the modern languages, and the third the mathematical and natural sciences.

DIE EINHEITSSCHULE, von Dr. Krumme. In *Zeitung für das höhere Unterrichtswesen*, 1886, No. 40. This writer wishes a common high school of six classes, followed by a three years' course in which studies are optional.

DAS WESEN DER HÖHEREN EINHEITSSCHULE, von Dr. Steinmeyer. In *Programm des Real-gymnasiums in Aschersleben*, 1887, 25 S., 4to. (1) common basis: Christianity with antiquity; (2) increase of modern educational agencies (modern languages and sciences); (3) reform in the manner of teaching.

GYMNASIUM, REALSCHULE, EINHEITSSCHULE, von R. Mahrmholtz.

Leipsic, Eugen Franck, 1887, 12 S., 8vo. Wishes to see the Gymnasium and Realschule preserved, but proposes to merge all other schools into one kind of school which will prepare for practical life.

DIE DEUTSCHE LEBENSCHULE, von H. Göring. Beilage zu No. 8 der deutschen Blätter für erziehenden Unterricht, 1887, 8 S., 4to.

DIE QUELLE DES GEDANKENS EINER DEUTSCHEN SCHULE, von H. Göring. Beilage No. 13 der deutschen Blätter für erziehenden Unterricht, 1889, 8 S., 4to.

DIE NEUE DEUTSCHE SCHULE, von H. Göring. Monatsschrift, Berlin, Hoffman & Co., 1889, 8vo. Dr. Göring is one of the strongest advocates in Germany of the idea of liberating the secondary schools from the fetters of scholasticism. He was a member of the Commission on School Reform.

EINIGES ÜBER EINHEITSSCHULWESEN, by Uhlig. Verhandlungen der 39. Versammlung deutscher Philologen in Zürich, 1887. Uhlig discriminates sharply between a revolutionary and reformatory Einheitschule. He observed that in Scandinavia the fusion of different high schools annihilated the humanities, hence he advises caution.

L. R. KLEMM.

WASHINGTON, D. C.

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#### THE DEPARTMENT OF SUPERINTENDENCE. .

The United States is perhaps the only country in the civilized world in which those who are professionally engaged in educational administration have no direct voice in educational legislation. The pedagogues may propose, but other people will dispose. This reflection is prompted by running one's mind back over the proceedings of the Department of Superintendence of the National Educational Association, which held its annual meeting at Philadelphia during the last week in February. Here were gathered the men who are, or who should be, the leaders of educational thought. Here were discussed questions of the highest concern to the people of this country. Here was discovered the fact that upon most of these questions—certainly upon the most important of them—there is practical unanimity of opinion among those who presumably, at least, have given them the most careful consideration. Yet, though opinions were crystallized in the form of reports and resolutions, though the Department spoke with no uncertain sound on many of the vital issues of the day, yet there is absolutely no way of putting in practice the theories elaborated, except through the slow process of persuading State Legislatures and Boards of Education that what is right ought to be done. The light reflected from the brightest pro-



professional mind must often be refracted and distorted by passing through a denser medium before it is permitted to cast its radiance on the path of the living child.

While, however, professional educators have not that voice in educational legislation which the best interests of the people demand that they should have, it does not follow that such meetings as that at Philadelphia are devoid of good results. The deliberately expressed opinions of such a body of men as are the state and city superintendents of this country, cannot fail to have a beneficial effect upon educational legislation and discussion; while the free interchange of views, and the opportunities of learning what is done or attempted in various places, are in themselves a stimulus to growth and an effective counter-irritant to the narrowing tendencies of educational work.

Among the important questions discussed was compulsory education. It was presented in two papers,—one, by Mr. N. C. Dougherty, of Peoria, Ill., giving an account of the great good that has been accomplished in Illinois and Wisconsin by the compulsory education laws, that were practically swept out of existence at the last popular election; the other, by Mr. Martin, of Massachusetts, describing the growth and beneficial effects of compulsory education in that commonwealth. The discussion turned mainly upon the questions raised in the West. Upon these questions there was practical unanimity of opinion. The right of the state, not merely in self-defense, but as a duty it owes to the whole people, to compel every citizen to give his child at least a minimum of education, and to insist that that education shall be through the medium of the English language, was firmly and judiciously expressed. There has been no more hopeful sign of a reaction in public sentiment against the opposition to the Bennett law, than the futile efforts made by one or two gentlemen, who had benefited by the "tidal wave" in Wisconsin, to convince their brethren that the desire on the part of foreign-born communities to perpetuate in this country alien languages and alien customs, was not one of the chief causes of the popular uprising. Mr. Seaver, of Boston, raised the pregnant question of what shall be done in the case of those children who are detained from school by abject poverty. The problem was not solved. Mr. Seaver hoped that the solution would come through the exercise of private, rather than of public, charity. But how? Is there anywhere the

necessary machinery, organized by private citizens, capable of coping with the evil? May it not be that our large cities will have to do what Paris has been doing for some time—provide food and clothing, when necessary, as well as books and education? Would it be possible to organize the great mass of children of well-to-do families into charitable bands to relieve the necessities of their less fortunate brothers and sisters, and thus teach practically the lessons of self-denial and helpfulness?

Superintendents have at last realized that the problem of how to secure scholarly and well-trained teachers is the most important of all in educational administration. This is evidenced by the fact that no less than three papers were devoted to the subject, and that they elicited unusual vitality in the discussion. Mr. Anderson, of Milwaukee, treated the subject from the standpoint of the city superintendent; Mr. Sabin of Iowa, from the standpoint of the state superintendent; while Mr. George William Curtis discoursed eloquently, as is his wont, upon "The Public School and Civil Service Reform." That the applicant for a teacher's license should have at least a high school education and normal training for not less than one year, was not questioned by any; but few were to be found who indorsed Mr. Curtis' opinion that teachers should be appointed by competitive examination. Nor was there any definite pronouncement upon the vexed questions as to what professional training should consist of, as to whether graduation from a high school should be sufficient evidence of scholarship, and as to how teachers should be appointed. Indeed, the discussion was quite as remarkable for the diversity of opinion on some points which it implied, as for the unanimity of sentiment on others which it disclosed.

Commissioner Harris, with characteristic philosophic insight, made a strong plea for greater specialization of work at the meetings of the National Association. His argument found favor with all who desire to see the beneficial influence of that great convention of teachers increased.

Mr. Cooper, of Galveston, read a paper on "Universities and Schools," in which he attempted to give President Eliot a Roland for his Oliver, by criticising the universities for their alleged lack of interest in elementary education and for doing so little in the way of teaching the science of education. The paper was remarkable chiefly because it became the basis of the most memorable discussion of the meeting—a discussion

participated in by President Webster of Union, Professor Williams of Cornell, Professor Butler of Columbia, and President Hall of Clark University. The question under discussion was how to bridge the chasm that undoubtedly exists between the secondary school and the university or college. It is somewhat strange that only one of the speakers referred to what President Eliot has shown to be one of the chief causes of the "chasm"—what he calls the waste of time and energy in the grammar school. Nor was any attempt made to get at the cause of this waste. I would venture to suggest that it may be found in the lack of specialization in the teacher's work. Up to a certain point in a child's life, it is perhaps well that he should receive instruction from one teacher in all subjects. After that point, it is generally conceded, that each subject should be taught by a specialist. Custom has fixed the end of the grammar school course, or the end of the fifteenth year, as the point at which specialization in teaching, or the high school, as distinguished from the grammar school method, should begin. In other countries the pupil is placed in the hands of the specialist as early as twelve. Can there be a doubt that this lack of specialization in instruction is the real cause of the waste of time and energy in the grammar school? Can it be otherwise while every teacher is compelled to teach all subjects—those for which he has ability as well as those for which he has none?

A paper that attracted much attention was that by Mr. MacAlister, of Philadelphia, on "Art Education in the Public Schools"; but, as it appears in another part of this number of the REVIEW, comment is unnecessary.

State Superintendent Draper of New York presided, and showed characteristic force in expression and promptitude in his decisions. Mr. Henry Sabin of Iowa was elected president for the ensuing year, and Brooklyn, N. Y., was selected as the next place of meeting.

WILLIAM H. MAXWELL.

BROOKLYN, N. Y.

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#### THE BROOKLYN INSTITUTE GEOGRAPHICAL EXHIBIT.

The Geographical Department of the Brooklyn Institute has opened to the public a display of geographical material unrivaled in extent, variety, and value. It comprises exam-

ples from the principal publishing houses in Europe and this country, of wall maps,—physical, political, ethnological, etc.; text-books and school atlases, reference and library atlases, teacher's hand-books, reliefs, globes, tellurions, and other apparatus; works on commercial geography; explorations and travels; guide-books, geographical and historical pictures, and, in short, nearly every kind of information and appliance relating to geographical study. There are, in all, more than one thousand examples—the wall maps alone reaching nearly three hundred. Of these last, the best for general physical geography are Kiepert's (German), while for delicacy of finish and artistic taste the French are unrivaled. Geo. Philips & Son and Ruddiman Johnston, of London, contribute a large number of maps of great excellence. Of the thirty or forty library and reference atlases, nearly all are English or German. Philips' Imperial Atlas of the World is the most expensive and among the finest. Others that are standard are A. K. Johnston's Royal Atlas and the Handy Royal Atlas of Modern Geography, Bartholomew's (Macmillans), Longman's New Atlas, Sohr-Berghaus' Hand Atlas, Kiepert's much admired Hand Atlas, and Andree's Allgemeine Hand Atlas—said by British critics to be the very best cheap library atlas extant. The Scribner-Black Atlas compares favorably with others occupying the same field. Scholars and men of literary taste will find in these and in the reference books from Hachette & Cie., Paris, much to admire. The special value of the exhibit will, we judge, be found in the superior wall maps and other material intended for practical use in the school-room, and in the enlarged scope and improved methods of geographic study which they suggest. To many teachers it will open a new world of thought and inspire higher notions of the value of this study, and release them in some degree from the bondage of conventional methods that have been irksome in their use and unfruitful in results. Not only should more attention than is usual be given to physical and commercial geography, climate, products, and the conditions that produce them, but the consideration of the physical features and conditions of the continents, and of smaller areas, should be first established; and this will not only simplify the classification and arrangement of details, but by easy and natural transition lead to intelligent notions of the industries, commercial relations, conditions of society, and the other economic facts that

are year by year bringing into closer relationship of amity and mutual helpfulness all the people of the globe.

The exhibition has been visited by hundreds of teachers and throngs of other citizens. The former will not be content without putting into practice some of the lessons they will have learned, and the latter will, even from a casual inspection, carry away with them some notion of the scope and meaning of all this wealth of information, and of the vastness and variety of the resources at the command of the industry and intelligence which our schools seek to foster.

Aside from its value to teachers and older pupils and to the general public, this exhibit will justify the labor and expense bestowed upon it, if it shall inspire among American publishers a laudable desire to produce, especially in wall maps and library atlases, something that will compare more favorably with the foreign publications than any that have yet appeared on this side of the Atlantic.

JAMES CRUIKSHANK.

BROOKLYN, N. Y.

## EDITORIAL.

A readjustment of the relations between our institutions for secondary and superior instruction seems imminent. The great waste of time and effort that characterizes secondary education, and the very confused condition of our colleges and universities, make such readjustment necessary. Of nominal universities we have several score; of real ones less than half a dozen. The former must part with the name they have wrongfully assumed, and set themselves to the task of providing a thorough disciplinary training of the highest grade. This is something that is much needed, and this these colleges—for that is the best name to use for institutions of this sort—can give. Their men and means are adequate to such a task. The universities would then be set free to perform their proper service, which is the training of specialists in the several departments of learning, and the extension of the bounds of human knowledge. If nine universities are enough for Prussia, an equal number will be sufficient in America for some time to come.

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That such a reorganization of our higher education must come has been apparent for some time, and Mr. Andrew D. White is quite right in thinking that it is and will be delayed principally by the false pride of those most interested as professors and alumni in the numerous colleges and universities that the practical man of commerce would denominate "misfits." In our judgment, however, the inevitable reorganization has been considerably expedited by the recent developments at some of the real universities. The changes at Columbia and Harvard, and the very existence of Johns Hopkins and Clark, point very clearly to the proper function of the college proper. By organizing "graduate instruction," the college is simply injuring its students and diverting its funds from their proper application. Almost every newly-elected college president seems to find it necessary to introduce "original investigation," "seminary methods," or something else, that is as

much out of keeping with a real college as with a kindergarten, as an evidence that he is progressive. As a matter of fact he is not progressive, but reactionary. He is wasting educational force as well as money. A wiser view of our educational condition and the relation of his own college to it, would bring him to a recognition of this fact.

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The country is to be sincerely congratulated that the contest of the Fayerweather will has been settled so satisfactorily and with so little friction. No such wise and generous gift as that of Mr. Fayerweather has ever been made to the higher education, and now that there is no longer any possibility of the money being diverted from the purposes for which the testator intended it, the bequests may be spoken of as accomplished facts.

If the figures as published in the daily press are correct, about four and a quarter millions of dollars go to more than a score of colleges and universities. With one or two exceptions the choice has been most wisely made, and as the gifts are practically without restrictions or directions, the maximum of benefit will result. In one case at least—that of Barnard College, in New York—an institution is put upon a safe and permanent foundation. In many others, pressing wants of long standing will be supplied. There is a peculiar propriety in the large bequest made to Yale University. Perhaps no institution in the country has done so much on so inadequate an endowment as Yale, and there will be general rejoicing at its present good fortune.

The most encouraging feature of the Fayerweather bequests is the fact that they bring no new institution into existence for which buildings must be erected and an administrative staff provided. Existing agencies are assisted and stimulated, not duplicated. A vainglorious pride has too often reversed this policy in the past, and Mr. Fayerweather's judicious action is all the more notable on that account. Certain zealots to the contrary notwithstanding, the country has enough colleges. The next twenty years should be spent in strengthening and developing those that already exist.

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It used to be thought that a little learning is a dangerous thing. It remains to be seen whether the university exten-

sion movement is to defy or to deny the proverb. In one aspect, no more hopeful movement has arisen in this generation; in another, it is demoralizing and even dangerous. The hopefulness rests in the colleges and universities assuming their obligations to the common schools and to the general public. They will hold the lamp of learning higher than heretofore and illuminate a wider field. They will come more closely in touch with popular needs, and be strengthened by the contact.

The demoralization and danger lie in the thoughtless utterance of sentiments like these: "There is a large class of people who either do not have the opportunity to get a university education or who have neglected that opportunity. It is to furnish these with the means and facility of supplying the lack that the university extension movement has been started." If this means anything, it means that the university extension movement can replace a university education. Whether so intended or not, this impression is abroad. That it is foolish, is apparent; that it is baseless, is demonstrable. If encouraged in the least, its only result can be to lower the popular estimate of higher education and to debase that education itself.

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The very important and powerful organization known as the University and School Extension will, it is believed, guard against this danger. Its officers and administrators have already given evidence that they comprehend the fallacies and illusions that cluster around such a movement. President Dwight happily expressed their point of view, in a recent public meeting, in these words: "We would extend the university, not in the peculiar life and gifts which must belong only within itself, but in the influence which may go forth from it for true learning and culture." With this aim and by methods appropriate to it, the movement deserves and will achieve great success. If it turns but a fraction of those that it reaches, toward the intellectual life, it will have done a grand work. If it binds the various educational institutions more closely together, it will leave a permanent mark in the history of American education.

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Should public school-houses be used for purposes other than the instruction of children? The question is being asked today in many places. The natural answer would be, that it



depends upon the character of the purpose proposed. Were it sought to convert these structures, when not occupied by school children and teachers, into bowling alleys or billiard rooms, or lounging places for the indolent, or sleeping apartments for outcasts, public opinion would at once revolt against the proposition as absolutely alien to the purpose for which school-houses are erected and schools are maintained. But if it be proposed to open them in the evenings as libraries, as places where all who desire to read may come and find books and magazines and comfortable seats, and quiet for study, it will be at once felt that the purpose is entirely in harmony with the functions of a school-house. For what should a school-house be but a center from which radiate knowledge and intelligence and inspiration as beams of light from the sun? Paris utilizes her public school buildings as local libraries, and the extent to which these libraries are patronized, particularly by the artisan classes, is enormous. Indeed, the cost of maintaining these libraries is returned a hundred-fold in the art education they afford to French workmen. America may learn a lesson in this respect, as in many other ways, from French schools.

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That there will be strong opposition to a serious effort to establish evening libraries and reading-rooms in public school buildings, may be safely predicted. Timid souls will be in terror lest the "sacred precincts" of the school be "profaned." Doctrinaire economists will seize upon the proposal as a text from which to preach dreary sermons against a nebulous monstrosity they call "paternal government." So-called Jeffersonians will exclaim against using the public money for any educational purpose except to teach reading, writing, and arithmetic; as if Thomas Jefferson had not been one of the staunchest advocates of higher education at the expense of the state. Such opposition the advocates of public school libraries must expect to meet. It presents a bold front at every step in educational reform.

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Such being the case, it behooves the advocates of the movement to act cautiously and not to attempt too much at first. An experiment might be made in every large city by opening one school-house to the school children for purposes of study

during certain hours in the evening. There is no city that has not some district in which such an opportunity would be a veritable godsend. In localities where families of six or seven live cooped up in two or three rooms, in homes where there is nothing to read and no opportunity for reading, the convenience, the warmth, the comfort that the school-house would afford, would surely be more than welcome. Parents would gradually follow their children. They would find papers and magazines and books. They would enjoy facilities for intellectual pleasure and improvement of which they had scarcely ventured to dream. They would not merely educate themselves; they would learn to appreciate the education of their children, and to demand that that education should be of the best kind. If a trial were made, under favorable conditions, of one evening school library and reading-room in each of our large cities, there is scarcely a doubt that enough libraries would soon be organized to accommodate all who desire to use them. Of course, the selection of books should be made with the greatest care, and every precaution should be taken to preserve perfect order and decorum. But these are matters of detail, that would in time take care of themselves. The thing to be kept in view is this: to provide comfortable reading-rooms and suitable reading matter for those children and their parents who are unable to have in their own homes these necessities of a pleasant and healthful existence. The use of public school buildings for such a purpose is to be justified on the ground that they are primarily intended for the education of citizens; and in no better way can this object be promoted.

REVIEWS.

**Education and The Higher Life.** By Rt. Rev. J. L. SPALDING, Bishop of Peoria. Chicago : A. C. McClurg & Co., 1890, pp. 210.

To have written this little book one must have possessed a large heart and broad culture, must have felt deeply the difficulties of conviction and have wrestled powerfully with the obstacles in the way of "higher life." Whether they believe it or not, there is much need, on the part of an increasing class, of turning attention to things emphasized in this volume. In eight most interesting and eloquent lectures the plea is made, that an ideal moral and religious culture should go hand in hand with intellectual development. "If from the midst of this paradise of utility, materialism, and business, a voice is raised to plead for culture, for intelligence, for beauty, for philosophy, poetry, and art, why need any one take alarm?" (p. 64). To stimulate and lead to greatness of soul, not to erudition, is the true aim of all education. "A man educates himself; and the best work teachers can do is to inspire the love of mental exercise and a living faith in the power of labor to develop faculty, to open worlds of use and delight which are infinite, and which each individual must rediscover for himself" (p. 75).

The educational and professional spirit of the times is sharply and ably handled. Those who make education a business are apt to degenerate into repeaters of facts and retailers of doctrines. "They repress; they overawe; they are dictatorial; they prescribe rules and methods for minds which can gain strength and wisdom only by following the bent given by their endowments" (p. 74). Natural inclination and the true individual spirit are subdued. Idealism of life is quenched, and thus "in the professions, the lawyer tends to become [merely] an advocate, the physician [merely] an empiric, the theologian [merely] a dogmatist." Under such tendencies, the nobler minds suffer the worst. The more of native energy and talent, the more certain is such a type of education to fail in doing what should be its unflinching mission. The best are

blighted during the blossoming time, or possibly, through very unusual endowments of energy, reach ripeness of fruitage in spite of unfavorable conditions. How rarely is it perceived that "to grow is to outgrow"; that the pupil should not be taught to be or to think as his teacher. "We must be ourselves in our thinking and writing, as in our living, or be insignificant" (p. 62). Only in this way can one realize his potentiality; and in so far as one fails to do this, he falls short of his true life. Progress is the greatest law of life. "Not to grow is not to live."

Both toward individual and national excellence, the finest appeals are made and the sharpest criticisms ventured. "The whole social network, in whose meshes we are all caught, cripples and paralyzes individuality" (p. 130). We are too indifferent to the highest worth, too much inclined to the material, too easily satisfied with imitating and following others. We must not be content with English methods, English language, English literature. There is no science by which to create a literature, yet "it is not to be believed that this great, intelligent, yearning American world will content itself with the trick and mannerism of foreign accent and style" (p. 62). Love, beauty, excellence of mind and soul,—are finely treated. "To live is also to admire, to love, to lose one's self in the contemplation of the splendor with which nature is clothed. Human life is the marriage of souls with the things of light. Its basis, aim, and end is love, and love makes its object beautiful. Man may not even consent to eat, except with decency and grace; he must have light and flowers and the rippling music of kindly speech, that, as far as possible, he may forget that his act is merely animal and useful. He will lose sight of the fact that clothing is intended for protection and comfort, rather than not dress to make himself beautiful" (p. 65). "Beauty is nobly useful. It illumines the mind, raises the imagination, and warms the heart. It is not an added quality, but grows from the inner nature of things; it is the thought of God working outward. Only from drunken eyes can you with paint and tinsel hide inward deformity. The beauty of the hills and waves, of flowers and clouds, of children at play, of reapers at work, of heroes in battle, of poets inspired, of saints rapt in adoration,—rises from central depths of being, and is concealed from frivolous minds. Even in the presence of death, the hallow-

ing spirit of beauty is found" (p. 66). Education is at fault when it does not create and stimulate this insight.

The book can scarcely be called pedagogical, and yet that pedagogy is incomplete and narrow which does not aim at such heights. Nor is it a work of systematic form. It is full of oracular and spiritual utterances, emanating from a most liberal and intelligent piety. One is reminded of Emerson's *Essays*, though the point of view is less lofty and less sustained. The traditional theological tone pervading the work will doubtless mar its value for some. It would have appealed to the feelings of a much larger class, could the facts have been presented apart from the theological setting which the author gives them. Such books are so much needed that detailed criticism would be pedantic and absurd.

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**Rudimentary Psychology for Schools and Colleges.** By GEORGE M. STEELE, LL.D., Principal of Wesleyan Academy, Wilbraham, Mass. Boston: Leach, Shewell & Sanborn, 1890, pp. xxiv, 264.

This work, "designed for students in academies, high schools, and collegiate institutions," is characteristically a text-book, and bears evidence upon almost every page that, whatever may be the final judgment concerning the book as a treatise on psychology, it has grown out of the exercises of the class-room, and has been put into shape with the wants of students in mind. There is an evident purpose to make a book that shall present "the main facts of psychology" in simple language, while studiously avoiding "affected juvenility of expression." In mechanical execution the book is admirable. The press-work is clear and the page attractive. Wise paragraphing, frequent subheads and divisions, bold-faced catch-words and phrases, italicized definitions and summaries, abundant and helpful marginal notes, and short chapters, facilitate the use of the text in teaching.

It is in no sense a compendium of facts, even of "rudimentary psychology"; but it gives, as it was doubtless meant to do, a fairly complete, integral view of the main classes of mental phenomena, and so justifies its title. As a school text, it will be found easily handled by any teacher with a fair knowledge of his subject, whatever authorities he may have studied or have used for reference.

There are frequent illustrations, generally well chosen, and often strikingly applied. The pages of literature and history, as well as of standard works on psychology, are drawn upon freely for examples of typical human experience; but the author betrays little acquaintance with recent works, or the contributions of current investigation. The interpretation of phenomena, the point of view of the author's philosophy, has been adapted—almost adopted—from Dr. Mark Hopkins. Indeed, it is difficult to see or to define, for the most part, wherein the original has been either greatly simplified or improved upon. While better arranged, and so more available as a text, it is neither improved in phraseology nor put more briefly or compactly.

The work includes interesting chapters or paragraphs on Acquired Perceptions, Association, Conception, and Concepts, and, having a special significance for teachers, the Cultivation of Memory and Imagination. The facts are abundant, plainly put into form, and well illustrated. These chapters, perhaps, comprise the best of the author's work, and justify the spirit of his attempt to adapt the study of psychology to the needs and conditions of high school training.

Among the least satisfactory parts of the 170 pages on the intellect, are those devoted to the Judgment and Reasoning. Here the phraseology is more technical—needlessly so, it would seem—and the discussion spiritless. In the course of the treatment, besides the four forms of judgments as to quantity and two forms as to quality, there are named, and formally defined, judgments as categorical and hypothetical; conditional, disjunctive, and dilemmatic; problematical, assertory, and apodictic,—all given in four pages, and making a classification that is about as significant and helpful to the average class in a secondary school as pages of the same words shuffled and set off into lists. The discussion of the judgment, in short, is all too brief for a logic, and yet it assumes to give the matter a logical dress; and at the same time too technical and undeveloped for the use of beginners. The like strictures may be passed upon the treatment of Reasoning and Inference. Opposition and conversion of judgments; categorical and hypothetical syllogisms, and their sub-classes cover ten pages that neither make clear the nature of inference nor the conditions involved in common acts of reasoning.

Again there is room for question as to the advisability of

introducing into such text a consideration of the metaphysics of the "Regulative Faculty," concerning which the author admits that "philosophers are not at all agreed as to the name of this faculty," and quotes his favorite author, Dr. Hopkins, as denying that it is a faculty at all. If this study is to be given but one term, of perhaps fourteen weeks, by boys and girls seventeen to twenty years of age, it may well be asked whether the time may not be more profitably spent than in memorizing the speculations of philosophers, whose larger views still bring them to disagreements.

The book includes a treatment of the sensibilities also, of fifty-seven pages, and the will, thirty pages; both showing a wise selection of matter and an attractive presentation. Indeed, the author might well have elaborated these parts at the expense of the first division, and improved his book.

Upon the whole it may be said, however, that if the work is to be adjusted to secondary schools, Dr. Steele's book reveals no advantage over most recent elementary texts, either as to subject matter or presentation. Indeed, a half dozen books might be named that, published within five years, would be preferable for use in either true academies or high schools. If designed for colleges, it need only be said the work is neither comprehensive enough to cover the ground, modern enough to meet the requirements of the contemporary college, nor fitted to class room or library methods.

The book is most interesting as a not unsuccessful attempt to popularize, and draw public and professional attention to a most fruitful and helpful study, and one that promises rich returns even in the training of children. The last ten years have multiplied the literature of this subject in the field of elementary texts,—some almost worthless as school manuals others badly graded (like the first elementary grammars—mere abridgments, with all the explanations omitted), but all suggestive to the educator of better things in the evolution of a rational curriculum, subordinating both the selection of materials and the construction of texts to the various needs of the growing mind.

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**Lessons in Psychology.** By J. P. GORDY, Ph.D. Columbus, O.: Hann & Adair, 1890, pp. 349.

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The book has yet to be written that will render it possible for teachers to do by private study what can be accomplished only by a regular course of pedagogic instruction. This is especially true of educational psychology. The power to study psychology appreciatively is a growth. A book worthy of life-long study is likely to prove at first unintelligible. A book that is intelligible from the start, soon proves inadequate. Hence arises the need of an introduction, by a teacher, if possible—by a book, if necessary.

Professor Gordy has attempted to introduce teachers to the appreciative study of educational psychology by publishing a course of lessons by correspondence which he gave during the past year to a class of teachers. His book is one of the best of its kind. It will be found a valuable aid to those teachers who are forced to attempt the study of psychology without a teacher, and who find it, as given in the current text-books, either too difficult to be intelligible or too dilute to be nourishing.

While this book has all the advantages of being written in conversational style and adapted to the comprehension of beginners, it has also very decidedly the faults of its virtues. Clearness is too often sought by reiteration and simplicity in verbiage, so that one loses the stimulus of a concise style. But, as has been said, there are already books enough that give to beginners the stimulus without the psychology.

The author has shown excellent judgment in the selection of what to omit from these lessons. He has nowhere sacrificed utility to the demands of completeness. The psychology of the intellect, treated in thirty-five lessons, closes with three chapters on the primary intellectual functions. There is a decided gain in this arrangement, for the purposes of the author. The four chapters on development, which follow, are the most original and valuable portion of the book, and are well worth careful study.

The last chapter is devoted to the study of children, and contains the directions and questions which the New York College for the Training of Teachers, following the "Worcester plan," has placed in the hands of its students.

It is to be regretted that the questions at the close of each lesson do not possess greater pedagogic merit or practical



utility. The substitution, in a subsequent edition, of questions as searching, as stimulating, and as pedagogically excellent as those in Mr. Fiske's *Civil Government* would greatly increase the worth and the effectiveness of this excellent book, and render it more likely to lead its readers to further study, not only in their own minds and in those of their pupils, but in the works of Harris, Sully, and James.

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**A Literary Manual of Foreign Quotations.** Compiled by JOHN DEVOE BELTON. New York and London : G. P. Putnam's Sons, 1891, pp. vi, 249.

The compiler of this volume has confined himself to those quotations which have "a distinctly literary flavor." He has selected them with excellent judgment, and he shows himself possessed of accurate scholarship and wide reading.

The quotations are confined to the Latin, French, Italian, and German languages. There is none from the Greek; and this is the more to be regretted because in a very few years after leaving college, most men—even highly educated men—find their attainments in that language not much greater than those which Ben Jonson ascribes to Shakespeare. It would be indeed an interesting and valuable contribution to literary history were some one, possessed of the requisite knowledge and skill, to trace the influence of Greek thought and language upon modern English literature. The omission of Greek quotations in the present volume is the more remarkable when it is remembered that the last ten years have witnessed a popular manifestation of interest in the Homeric poems and in the philosophy of Plato, albeit in translations, such as was perhaps never known before.

Of the quotations given there are nearly four times as many Latin as French, nearly twice as many French as German, and about three times as many German as Italian. These ratios are not surprising when it is remembered that an amount of time and labor, altogether out of proportion to its value, is given in education to the Latin language. It is interesting, too, to note that our old friend Horace distances all competitors in the number of quotations given from a single author; that Voltaire takes the lead in French, Goethe and Schiller in German, and, of course, Dante in Italian. A couple of hundred

additional quotations from French and German authors would have greatly enriched the book.

The quotations (in the original tongue) are printed in bold type and arranged in alphabetical order. Each quotation is followed by a well executed translation, by an account of its origin when such seems necessary, and by extracts from modern English or American authors in which it is used. The compiler tells us that he has chosen the illustrative extracts "from a great variety of sources." The statement will not be doubted when it is stated that in these democratic pages De Quincey, Matthew Arnold, and Emerson, rub elbows with such commonplace writers as William Henry Hurlbert, David Christie Murray, and Senator Ingalls.

An index to authors' names would render the book much more convenient for reference; but even as it is, it will be found exceedingly useful as well by the scholar who has not the time, as by the general reader who has not the requisite knowledge, to go to original sources.

W. H. M.

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**Matthew Arnold's *Sohrab and Rustum*.** Edited by LOUISE MANNING HODGKINS, Professor of English Literature in Wellesley College. Boston and New York: Leach, Shewell & Sanborn, 1890, pp. 69.

This little volume, one of the "Students' Series of English Classics," seems designed primarily for the use of pupils in preparation for the English requirement at the New England colleges, but it is well adapted to serve a broader purpose. Inasmuch as its editor is a professor of English, we may naturally hope to learn from her treatment of the poem in what sort of a setting college instructors would like to have such gems mounted when students present them at the college door. For several reasons this poem is an admirable selection for the purpose indicated. Though a fragment, it is sufficiently complete in itself, for it is "a little epic in a great one," containing, as Miss Hodgkins points out in detail, "all the elements of epical power." Furthermore, it is the best of the longer poems of an author whose work in general illustrates most forcibly the value of ancient culture to the modern scholar and poet. Left to himself, the pupil acquainted with the *Iliad* would not fail to trace the Homeric feeling diffused through these verses, but with Miss Hodgkins for a guide he

may also read between the lines what the poet has caught from the Hebrew and the Latin, not to speak of Spenser, Shakespeare, and Milton. Thus he may easily learn how all the past contributes to a scholar's present.

Turning now from the poem to the work of the editor, we shall find much to praise, together with a very little from which we must withhold commendation. To devote forty pages to the elucidation of some thirty pages of text, and that a text not at all obscure, at first seems unwise, but by one who reads all in course the end is found to justify the means. For the effect of the whole is to enwrap the student's mind in a protecting atmosphere like that which Venus threw about Æneas on his approach to Carthage, and to shut out or render powerless all distractions, while the reader's own vision becomes the clearer. The introductory matter which performs this service is quite varied, including a biographical sketch of Mr. Arnold, an account of the "Shah Nameh," the Persian Iliad, and of its unfortunate author, Firdausi; also some mention of the particular myth on which "Sohrab and Rustum" is founded. Then follow a brief critique of Mr. Arnold's version of the theme and a most appropriate sonnet by Edith M. Thomas. The notes are not numerous, but effective. They leave much to the teacher and more to the pupil, as is right. Of verbal criticism I observe but two instances, "dight" and "minion," both of which might have been left to the dictionary. Geographical allusions are fully explained, but a good sketch map of the scene of the story, bearing the ancient names, would be worth them all. On the other hand, the historical notes are genuine helps. The strength of the annotator has been spent on what may be termed comparative literature. There is an abundance of citation and reference by which authors, ancient and modern, religious and secular, are summoned to illustrate the literary qualities of the poem. And in all, the aim has been to suggest rather than to supply. The student is stimulated and directed, but is not crammed. This certainly is good pedagogics.

In conclusion, I may call attention to a common and reprehensible omission in the editing of works of fiction for school use, namely, the neglect to give a table showing the correct pronunciation of proper names. With respect to names of persons, unless they are historical, the reader has no guide unless he can learn the author's own conception of the sounds

of the words. To whom shall we look in order to obtain this conception, if not to the editor?

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**Elementary Geology.** By CHARLES BIRD, B.A., F.G.S., Headmaster of the Rochester Mathematical School. London and New York: Longmans, Green & Co., 1890, pp. 248.

Geology possesses many claims to an early place in an educational curriculum. The extent to which it may be made an object or an incident of out-of-door rambles is well calculated to arouse youthful interest and enthusiasm, and these, in the hands of a skillful teacher, with the wealth of practical illustration which almost every locality affords, may be made to cultivate the observation, judgment, and reasoning faculty, even in pupils who are still quite young. On the other hand, the complexity of the phenomena renders all success with youthful students in geology entirely dependent on its manner of presentation. The variety of possible explanations for many common facts, while capable of valuable results if properly employed, may lead to a feeling of uncertainty and vagueness, with which the subject at once becomes wearisome.

The little book before us contains a clear and concise statement of the fundamental and best established truths of geology, which is well deserving of the success which its author says it has attained in actual practice. Its twenty-four short chapters are equally divided between general principles and what is known as historical geology. After a preliminary statement of the meaning and object of geology and a description of the commonest structures of rock masses, the minerals and rocks themselves are dealt with. To this succeeds a number of chapters on the agents of rock disintegration, transportation, and redeposition, which are followed by a brief account of those changes in the earth's external configuration, supposed to be due to its heated interior. The sequence of formations is traced from the Archæan upward, and the character of each is emphasized by large cuts of its commonest life forms, such as any one with enough interest in the subject could collect by visiting the best British localities, or study in the museums. Each chapter is closed by a summary of its contents in the shape of clearly formulated questions.

While making no claim to originality, the author has been successful in the selection, arrangement, and illustration of his material; and yet the very point which renders his book best adapted to his own scholars, makes it unsuited for general use—at least on this side of the Atlantic. This is its local character. The author has wisely selected his illustrations, particularly his sections, from near home, since no requisite of success in teaching geology to beginners is more important than accessible examples of general phenomena. The book may prove practically useful throughout England, but to American teachers its greatest value is as a pattern. Several similar works, illustrated from different portions of this continent, would do much to encourage an interest in geology among our young people, and also to demonstrate the value of this science in early education.

The colored geological map of Great Britain is a valuable addition. The cuts in the main are good, although the figure of quartz crystals, on p. 26, is not calculated to impress one with the importance of the law of constant interfacial angles.

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**Q. Curti Rufi Historiarum Libri III et IV.** The First Two Extant Books of Quintus Curtius. For Sight Reading. Edited by HAROLD N. FOWLER. With an Introduction on Reading at Sight, by JAMES B. GREENOUGH. Boston: Ginn & Co., 1891, pp. xiii, 96.

Most teachers of Latin will probably smile on finding Professor Greenough, in his introduction to this useful little book, defending the practice of reading Latin at sight in school and college work against the charge that it is "a patent application for dispensing with labor,—an idea which has attracted many ignorant and lazy pupils and perhaps teachers." The number of ignorant and lazy pupils who cherish this delusion must be microscopically small, for as a rule nothing is more dreaded and disliked by such young persons, than an exercise that strips their ignorance of all its disguises and brings them down to their scanty stock of real knowledge. Hence, voluntary classes for sight reading both of Latin and Greek, in college at least, are popular only with those who love genuine and honest work. Professor Greenough aptly defines in a few words the essential advantages of sight reading, and indicates clearly the method in which it should be pursued,—first, by ridding the

student of the notion that he must "think the English into the Latin"; and second, by teaching him to think along the lines of the original, if possible, without translating at all. The true process is admirably indicated by a practical application to the first six sentences of the present text.

Dr. Fowler has followed the text of Vogel without alteration, and gives, at the foot of each page an explanation or translation of such words and idioms as will probably be unfamiliar to those who have studied Latin for only three or four years. It is doubtful, however, whether he is wise in translating such words as *conducere* (to hire), *purpurati* (courtiers), *multum* (very), and others of which the derived meaning is so readily deduced from the application of the literal meaning to the context. One of the most stimulating features of sight reading is the addition to the student's vocabulary that he makes for himself simply by setting his own wits to work; and what he gains in this way is doubly apt to be retained.

The print of the little volume is clear and plain, and is free from the typographical errors that disfigure Dr. Fowler's recent edition of the *Menaechmi*.

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**School and Family Atlas of the World; Descriptive, Historical and Statistical.** By JAMES MONTEITH. New York: A. S. Barnes & Co., 1890, pp. 193.

This book is quite out of the usual style of school geographies. It is a large and attractive work of nearly two hundred pages, profusely and admirably illustrated. The maps are strikingly clear and the illustrations have a freshness and artistic finish that at once enlist the interest of the reader. Not only are countries and divisions of countries represented by accurate maps, but cities and their environs, war districts, and other places are depicted. The book abounds in devices to impress upon the pupil at a glance important facts of history, geography, and commerce, as well as of social and political life. It would seem that no desirable thing in a work of this kind has escaped the attention of the veteran author. The correct pronunciation of names, apt to be mispronounced, is indicated, and unfamiliar words are carefully defined in foot-notes. It would have been as well to omit definitions of such simple words as intercept, unwary, taper, reversed, merchant, average, etc. Among the many instructive features of the work are

bird's-eye views of continents, river-basins, great plains, and mountain districts. The author's method of associating with the geography of a country the leading facts of its history, is undoubtedly the true one. If the "Historical Notes" were expanded to several times their length, as here given, the book would be improved by it.

By a large use of the comparative method in the presentation of facts, the pupil's power of association is brought helpfully into play in the acquirement of facts. The book will prove as useful and helpful in the home as in the school, for it is a veritable encyclopædia of facts, attractively arranged and presented.

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**Psychologie und Logik, zur Einführung in die Philosophie.** Von Dr. Th. Elsenhans. Stuttgart: G. J. Göschen'sche Verlagshandlung, 1890, pp. 135.

The art of writing a compact and accurate primer on a great domain of science is very difficult of attainment. It involves the fullest knowledge, a well developed sense of proportion, good judgment, and the power of condensation. The task which Dr. Elsenhans has set himself has been attempted scores of times, but rarely with success. Certainly, the English language contains no primer of psychology and logic that combines the four characteristics just noted. Perhaps Dr. Elsenhans' monograph would not read so well if translated, but in German, and from the German point of view, it is satisfactory in an unusual degree. The author's standpoint is modern and his judgment is sane—a combination woefully lacking in writers on philosophy. A somewhat careful reading of his book has discovered no important omission, and no flagrant errors. On questions where there is a permissible difference of opinion, he stands with Lotze, Höffding, and, usually, with Sigwart.

N. M. B.

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**The Adonais of Shelley.** Edited, with Introduction and Notes, by WILLIAM MICHAEL ROSSETTI. New York: Macmillan & Co., 1891, 12mo, pp. viii, 154.

Shelley's poetry, like the writings of St. Paul, is often "hard to be understood." Whoever furnishes a clew that will enable the uncritical reader to penetrate the labyrinth of phantasy evolved from the genius of the poet, renders a great service to the human kind. This Mr. Rossetti has done in the case of

Adonais. At first blush, one is disposed to resent what appears to be an overburdening of the text with commentary. It would seem as if it were not necessary to write a book of 150 pages to expound a poem of only fifty-five Spencerian stanzas. But more mature reflection shows that there is nothing in this book that can be dispensed with by any one who desires to make a careful study of Adonais. A knowledge of the tragic lives both of Shelley and of Keats, whose elegy he sings; of Shelley's theories, not only of the poetic art but of the subtlest problems of the soul; of the sources whence he imbibed his inspiration and drew his materials,—a knowledge of all these things is necessary to a proper understanding of the poem. And admirably does Mr. Rossetti supply it. His style is clear and elegant. He is impartial. He never tries to defend Shelley's vagaries, either in life or in literature. He is thorough in his treatment of every point considered. One feels that, when he has concluded, there is but little, if anything more, to be said. As two instances, out of many, may be mentioned the discussions of the effect upon Keats of the *Quarterly* and *Blackwood* criticisms, and of Shelley's views on the immortality of the soul. His conclusion that the Urania of the poem is to be identified with Aphrodite Urania, rather than with the Muse Urania, is not quite so satisfactory.

The annotations are full and explicit. Almost the only omission I have noticed is the failure to trace the *so dear a head* in the third line of Adonais to its evident prototype in the *tam cari capitis* of Horace.

If criticism be the great literary duty of the present age, as Mr. Matthew Arnold maintained, Mr. Rossetti has made a notable addition to its literature. He has given to an English classic a setting equal to any that has been lavished on Homer or on Horace.

W. H. M.

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**First Steps in Geography: Brooks and Brook Basins.** By ALEXANDER E. FRYE, LL.B. Hyde Park, Mass.: Bay State Publishing Company, 1891, pp. vii, 119.

This little book, from the pen of one who has attained a national reputation as the author of *Child and Nature*, marks a distinct change of method as applied to the teaching of elementary geography.



The aim of this book is twofold : First, "to inspire children with a love of nature"; and second, "to suggest to teachers the subject matter of primary geography which should precede the use of a text-book." It is intended to be used as a supplementary reader, and consists of twelve chapters, which present in a fairly logical sequence some of the most obvious and interesting phenomena of nature. Beginning with "How the Rain-drops set out on their Journey," an attempt is made in story form to teach the formation of brooks and brook basins, soil making, forms of water, atmospheric phenomena, plants, animal life, etc. Taking his cue, perhaps, from the fascinating tales of Uncle Remus, the brook, the squirrel, the rabbit, the robin, etc., are made to tell what they have observed, in their respective haunts, of the curious facts and forces of nature.

This attempt to present the facts of elementary science in the form of a fairy story is not novel by any means, yet we do not recall any one who has done it much better. The stories are interspersed with many appropriate poetical selections and numerous full page illustrations. We cannot commend the plan of the book too strongly, but no story, however well it may be told, can fill the place of actual observation and study of the real forms of land and water, plants and animals. Mr. Frye is fully aware of this fact and only claims for his *Brooks and Brook Basins* that, if properly used, it will supply the interest and inspiration prerequisite to intelligent observation.

If this kind of book is to find a market, one great danger must be avoided by all authors who seek to cultivate this field,—namely, that of losing sight of the science end or of confusing it by the attempt to do pretty writing. Had we the disposition to criticise Mr. Frye's work unfavorably, we should find fault with his opening chapters as being altogether too flowery. Children like simplicity of statement rather than high flown imagery, which mystifies and repels. But as soon as Mr. Frye gets accustomed to the paces of his new found Pegasus, he reins him down to a very even and satisfactory gait.

It will certainly pay all who are interested in this new departure in geography teaching to keep a good lookout for any future work by the same author. He promises well.

A. B. P.

**Notes on Recent Pedagogical Literature.**

CONGRESO NACIONAL PEDAGÓGICO: Resumen de las Discusiones, Actas i Memorias presentadas al Primer Congreso Pedagógico celebrado en Santiago de Chile en Setiembre de 1889. Santiago de Chile: Imprenta Nacional, 1890, pp. 271.

This report is of considerable significance and no little practical value to American students of education. Preparations for the Congress were carefully made, and more than two weeks were devoted to the discussions and the formulation of conclusions. The latter had reference to practical methods of introducing manual training into elementary schools, better methods of teaching reading and writing, physical training, music in primary schools, instruction in hygiene, evening schools for adults, and the better professional preparation of teachers. The several discussions, as here reported, were conducted on a high plane and with full knowledge of the progress being made in other parts of the world. Another Congress will be held in 1892.

HANDBOK I PEDAGOGISK SNICKERISLÖJD, till tjänst för Lärare och vid Själfstudium. Utarbetad af OTTO SALOMON, CARL NORDENDAHL, ALFRED JOHANSSON. Stockholm: F. & G. Beijers, 1890, pp. 201.

Sloyd is much talked of, commended, and criticised, but little understood, in the United States. Few Americans have studied it carefully in its home at Nääs, and the teachers who have come here from Sweden have not always been happy or successful in their presentation of the principles involved in this subject of school instruction. This very clear and well arranged manual of the subject, with its admirable illustrations, is the best substitute for a visit to Nääs that has been devised. The theory and practice of the system are concisely and logically described. The points of contact with history and natural science are made apparent. The most notable omission is any attempt to co-ordinate Sloyd with drawing and form study. In America this has been found to be a serious defect in the system, but one which it is not impossible, nor perhaps even difficult, to remedy.

UNO CYGNAEUS, "Finska Folkskolans Fader." Tecknad af GUSTAF F. LÖNNBECK. Helsingfors: 1890, pp. 132.

Uno Cygnaeus is one of the heroes of popular education. He is rightly called the "father of the common schools of Finland." His influence was very marked also in Russia and in the Scandinavian countries. His career, as outlined by the author, is a very interesting, and in some respects a romantic

one. His aim was high, his methods practical, and his energy very great. Cygnaeus died in 1885.

PÄDAGOGIK IM GRUNDRISS. Von Prof. Dr. W. REIN, Direktor des Pädagogischen Seminars an der Universität Jena. Stuttgart: G. J. Göschen'sche Verlagshandlung, 1890, pp. 141.

This little volume is of far more value than many others ten times its size. It is a syllabus rather than a treatise or even a monograph. In the clearest language a conspectus is given of pedagogics as that science is to-day studied in Germany. Dr. Rein divides pedagogics into systematic and historical, and systematic pedagogics is subdivided into practical and theoretical. Under practical pedagogics he ranges the forms of education (the several kinds of institutions, their aims and methods) and school administration, under which head the preparation of teachers is included. Theoretical pedagogics deals with the concept of education and its ends, and with methodology, which includes both didactics and discipline. Admirable bibliographies increase the value of the book. In discussing the Gymnasium, Dr. Rein states very clearly the respective positions of the various German pedagogic leaders toward this institution. To those persons who profess themselves unable to understand what instruction or information is included under the head of pedagogics, Dr. Rein's little volume is respectfully commended.

RELIGIOUS INSTRUCTION IN STATE SCHOOLS. By GEORGE P. BROWN, Editor of the *Public School Journal*. Bloomington, Ill.: Public School Publishing Co., 1891, pp. 8.

Mr. Brown's vigorous address at the last meeting of the Illinois State Teachers' Association is here reprinted in pamphlet form. The author understands perfectly that religious instruction is essential to a complete education, but he holds that for reasons of greatest weight this instruction cannot be undertaken or subsidized by the state in its system of common schools. He regards favorably the suggestion which has been made by Dr. W. T. Harris and others, that the state school, in its several localities, should arrange with the church to excuse from the school for a portion of each week those children whose parents desire it for special religious instruction by the church.

LE SURMENAGE MENTAL dans la Civilisation Moderne. Par Marie Manacéine—Traduit du russe par E. Jaubert. Paris: G. Masson, 1890, pp. 286.

Mme. Manacéine's book is a very powerful and direct treatment of a subject of increasing importance. It is not peda-

gogic in language, nor perhaps in conception. But nothing has been written on this topic that is more worthy of the attention of those charged with the duty of preparing and administering school programs and courses of study, or that commands more respect by its learning and its sober reflection. Professor Richet, in his introduction to this translation of Mme. Manacéine's book, says truly: "If the coefficient of happiness be represented by 100, good health must be credited with 95. Fortune and fame together can only add 5." For some years past complaints have been growing louder and more frequent that there is overpressure in the schools, and that ill-health and enfeebled constitutions are the result. Dr. Crichton Browne has called attention to the investigations of Hertel in Denmark on this point, and the German Emperor did not omit to mention it in his recent indictment of the secondary schools of his own land. We have already been rendered anæmic and abnormally excitable from overwork, says Mme. Manacéine; and her array of physiological and medical evidence in support of her assertion is startling. It is modern life itself, however, against which her charges lie, and they only touch the school as it has succumbed to the influences by which it is surrounded. That this process has gone so far that the school is itself now contributing positively to the overpressure, is in a measure true. The remedy ought to follow closely upon so clear a conviction as to the causes of overpressure, and their bodily and mental effects, as may be obtained from this work.

PÉDAGOGIE HISTORIQUE D'APRÈS LES PRINCIPAUX PÉDAGOGUES, PHILOSOPHES ET MORALISTES. Par Paul Rousselot, Inspecteur Honoraire d'Académie. Paris : Ch. Delagrave, 1891, pp. 288.

M. Rousselot has put together, with infinite pains and very good judgment, a great collection of sayings on education. His book has too much the character of a dictionary to be interesting reading, but it is valuable for reference and illustration. It is divided into five parts, dealing respectively with the science of education, physical education, intellectual training, methods of instruction, and moral discipline.

N. M. B.

## FOREIGN CORRESPONDENCE.

### CONTEMPORARY EDUCATIONAL THOUGHT IN GREAT BRITAIN.

The prominent subject of educational controversy in England during the last two or three months has been the compulsory study of Greek as a requirement for a degree in Arts at Oxford and Cambridge. The head masters of what are called in England the "Public Schools," that is to say, the schools of which Eton, Harrow, and Rugby are the types, and which prepare their scholars for entrance direct to the universities at about the age of eighteen or nineteen, have, during the last few years, held annual or biennial conferences for the discussion of topics in which the members are presumed to have a common interest. At the recent Head Masters' Conference, held in December last at Oxford, orthodox and conservative teachers were startled by the boldness of a proposal by Mr. Welldon, the head master of Harrow, to the effect "that in the opinion of this conference it would be a gain to education, if Greek were not a compulsory subject in the Universities of Oxford and Cambridge."

An animated debate ensued; the proposition was supported by the head masters of Marlborough, Rugby, and Clifton, and ultimately defeated by a majority of two (31 nays against 29 ayes). The whole subject has since been further discussed, partly in a somewhat feeble and ineffective article in the *Quarterly Review*, and partly in vigorous letters to the *Times*, by Professor Freeman, the historian, in opposition to the proposal, and by Dr. Percival and J. S. Blackie, the Professor of Greek in Edinburgh University, and others, in its defense.

The defeat of the resolution by so small a majority in a body of men, all of whom are Greek scholars, and some of whom are Greek scholars of great eminence, is a very significant fact in the history of higher education in England, and is rendered all the more significant when it is considered that the voters are, as a rule, men of highly conservative instincts in regard to academic questions, and under the strongest temptations *stare super vias antiquas*, and to resist innovation. Their own

academic distinctions have for the most part been gained by proficiency in classical learning and literature, and their chief ambition as school-masters is to secure for their pupils the largest number of the scholarships at Balliol or Trinity; and the greatest success in competition for those prizes which, at the ancient seats of learning, are still practically reserved for Latin and Greek scholarships. The *Zeitgeist*, however, proves to be potent even in those academic circles which were wont to be regarded as the chosen homes of antiquated prejudice; and the resolution, so nearly successful at the end of 1890, is confidently expected by its supporters to achieve success at the next conference.

Meanwhile, it may be well to look at the arguments advanced on both sides. At present, no degree in Arts can be obtained at Oxford, Cambridge, or London, unless the candidate passes one or more examinations, *inter alia*, in the Greek language. The amount of Greek grammar and translation required of all candidates at the "previous" and "general" examinations at Cambridge, at "Responsions" and "Moderations" at Oxford, or at the intermediate and past examinations at London, is not, however, very formidable, and although it includes a certain amount of translation, re-translation, and grammar, can hardly be deemed to represent much of Greek intellectual culture or any extensive acquaintance with Greek literature. Professor Freeman, and others, who desire to maintain these conditions as indispensable requisites for an ordinary degree in Arts, as distinguished from a degree in "Honors," argue that even this modicum of classical lore has a very real and disciplinal value. No doubt, they argue, there is a sense in which every branch of knowledge that can be encouraged by lawful means ought to be encouraged by the university. But it does not follow that every such branch should be offered as an alternative to all students who desire the degree of B.A. The examination for this degree, it is urged, should be mainly concerned with subjects which train the mind and prepare it for the pursuit of other subjects. No other instrument of intellectual discipline has been found equal in value to the Greek language. Some knowledge of it is indispensable to the right understanding of English, and even to the true interpretation of our vernacular literature. In old days, says Mr. Freeman, a student of history was obliged to begin with Thucydides and the Ethics of Aristotle. He is now tempted

to read about the civil wars, and the French revolution, without learning Greek at all. This, in the judgment of the eminent historian, is a distinct loss. On the other hand, Dr. Percival, the distinguished successor of Arnold at Rugby, says, that the opponents of the change have not recognized the marvelous expansion of studies which is characteristic of our time, nor learned how to adapt their educational theories to the circumstances and the true intellectual needs of the nineteenth century. Relatively to those needs, and to the claims of other branches of knowledge, especially of science, which, if properly studied have a formative and educational value of their own, Greek and Latin do not hold and cannot hope to hold the same position of supremacy which was assigned to them in the middle ages, and which they have retained in the universities. Mr. Blackie, the outspoken Professor of Greek at Edinburgh, does not hesitate to go farther than this, and to terrify the academic authorities on the south of the Tweed, by saying that neither Latin nor Greek ought to be prescribed as a *sine qua non* for the full participation in the privilege of academic education in this country. The plea that those languages afford the only genuine instruments of mental discipline, he scornfully rejects. Cicero and Cæsar, he says, learned Greek, not because it was an intellectual discipline, but because it was, in their day, practically a living language, the general currency of scholars both in the East and in the West. An Englishman or a Scot in the latter end of the nineteenth century, and 300 years after Shakespeare, has no need to go to dead languages for the sake of the culture which belongs to a well-educated gentleman. The range of knowledge has become wide, the forms which a generous and liberal education may assume have increased in number. The exclusive study of Latin and Greek as the subjects, *par excellence*, which constitute a liberal education, and without which no man has a right to be called a scholar, may have been a necessity, though a somewhat anomalous necessity, in the Middle Ages. It has now become an absurd anachronism and a scholastic tradition. "I do not wish," the Professor adds, "to banish Greek. But I object to compulsory ordinances by which it is endeavored to give it a prolonged artificial existence, or rather show of existence. What I respect is a real Greek, not a sham Greek,—Greek as a living spring of moral and intellectual nutriment, not as a barren formalism and a

curiously dissected skeleton." He goes on to argue in favor of choosing one language other than the student's own, and making him learn it thoroughly and to good practical purpose. As a practical proposal he suggests that the older universities, instead of permitting a man to pass from the B.A. to the M.A. degree by mere length of standing and payment of fees, should insist on higher requirements for the superior degree, *e.g.*, should demand a knowledge of one language at the Bachelor's and two at the Master's degree.

There can be but one end to a controversy of this kind, although the end is not yet. If the question at issue was the value of Greek as a key to the best thought of both the ancient and modern world, as an instrument of intellectual gymnastics, and as a conspicuous and honored element in the scheme of education, which it is the duty of a great university to maintain, there could be little doubt of the answer it would receive. Tradition and common sense would be at one in favor of encouraging, by every legitimate means, the continued and thorough study of the Greek language at Oxford and Cambridge, and indeed in every place consecrated to the cultivation of the higher learning. But the questions which practically demand an answer are these: What is the worth of that minimum of Greek study which is now enforced on the rank and file of students who are not intending to take Honors, or whose bent of mind is toward science, modern languages, or the study of law, medicine, history, or philosophy? Are we not paying too high a price, in the time and labor of students, for a very poor result, for a fragment of knowledge got up reluctantly for the sake of examination, not carried to a point at which it becomes interesting or affects vitally the thoughts or taste of the student, and not intended, even by himself, to be carried farther when the examination is past? There can be little doubt that the principle of what are called in America "elective studies,"—a principle already applied in the later stages of a student's career at the Cambridge Tripos or the Oxford Honor list,—will ere long be seen to be applicable at earlier stages of graduation; and that a degree in Arts will be attainable by a student who may not wish to be examined in both of the ancient languages, but is prepared to offer to the university what her wisest authorities may, after due deliberation, be willing to accept as an intellectual equivalent for one of those languages.



An important change has recently been made in the regulations of the English Education Department, concerning the training of elementary teachers. It is perhaps not generally known in America that in this country no person is recognized as the head of any elementary school which receives aid from the Parliamentary grant, unless he or she has obtained a certificate of competency. This certificate has always been granted on examination by the authorities of the Department; candidates, whether proceeding from training colleges, or whether they have served two years satisfactorily as assistants, being all subjected to the same examinations, the one at the end of the first and the other at the end of the second year, either of training or of service. The new Syllabus of Studies, just issued by the Department, divides the requirements of the certificate examination into two parts. Part I includes the distinctly professional subjects,—school management; the history, *art*, and theory of education; reading, elocution, and practical work in schools. This part of the examination the Department purposes in all cases to keep in its own hands. Part II, however, includes the more general and academic portions of the certificate examination,—the history, mathematics, science, literature, and language,—which are common to all courses of liberal education alike. A new and special provision is now made to the effect that any student who passes a university examination, approved by the Department, may be released from the necessity of passing the government examination in this second part. This is a very significant concession; and one which, in view of recent improvements in general collegiate education in England, may have important consequences. Of late years, several of the great towns have established colleges of a new type and of very high promise. At Manchester, Leeds, Liverpool, Birmingham, Cardiff, Bristol, Nottingham, Bangor, and Sheffield, provincial colleges have been set up at great expense, and supplied with professors of the highest academic rank. The three first named of these colleges have already been incorporated with a charter from the Crown empowering them, under the name of the Victoria University, to confer degrees. Nearly all these colleges have expressed a willingness to add to their establishment a Normal Department, for the express purpose of training teachers and of meeting the requirements of the government. They purpose to employ a normal master for

the supervision of the pedagogic studies of the candidates, and to secure for those candidates the special professional experience required in practicing schools. But the general education of the normal students is to be obtained in the ordinary professorial classes; and in common with students who are not intending to be teachers, but are destined to other professions. The acceptance by the Education Department of a satisfactory college examination as a substitute for its own, will greatly facilitate this arrangement. The existing residential training colleges will not in any way be disturbed. Experience has shown that the best of the elementary teachers are those who have enjoyed the advantage of residence in those seminaries; and that the system of normal training has enormously increased the efficiency of the elementary teachers. But the existing colleges do not supply more than half of the annual demand for fresh teachers; the remaining half being at present drawn from the ranks of assistant teachers, who, though they pass *haud passibus æquis* the same examination, have not received regular collegiate preparation for their work as teachers. It is hoped that by opening out new means of training, and in particular, by encouraging the co-operation of the universities of the modern provincial colleges in the work of normal training, the present proportion of untrained teachers in the profession may be gradually and substantially reduced. The whole experiment is new and is being watched with much interest by the best friends of popular education in England. Incidentally, it may have the effect of introducing into the ranks of the elementary teachers men and women whose preparation has not been wholly gained in special professional seminaries, and directed exclusively to the subjects required for the government diploma, but who have enjoyed opportunities of association with the aspirants to other professions, and so have had their own studies broadened and liberalized.

It is too early at present to estimate the results of the important change in the policy of the Education Department initiated in the Code of Regulations for last year—1890. It may suffice to say that under the provisions of that Code the rules heretofore in force respecting the conditions on which the Parliamentary grant are assessed, have been much simplified. Payments from the National treasury to the managers of elementary schools are still to be proportioned to the efficiency of the

several schools as tested by examination and inspection ; but the method of determining the " results " for this purpose has been rendered more elastic ; the computation of individual " passes " in reading, writing, and arithmetic no longer forms an element in the award of the grant ; the estimate of efficiency to be made by the official inspector is to be rather qualitative than quantitative, and greater freedom of classification is permitted to the teachers. These changes in the procedure of the Department are in the main in harmony with the recommendations of a royal commission which has recently reported on the whole subject, and with the general wishes of the teachers. In putting forth on behalf of the Department the new regulations, the Lord President says in a public letter of instructions to the Inspectors :

" Many of the changes contemplated in this year's Code will materially lighten your routine work and that of your assistants. Others will impose upon you new responsibilities. You will now be able to make more frequent visits without notice ; and in this and other ways to devote increased attention to the intelligence and vigor with which a school is conducted, and to any facts which bear upon its efficiency as a public elementary school. The position and experience of Her Majesty's Inspectors afford exceptional opportunities for aiding and encouraging the efforts of teachers, and for informing them, from time to time, of any plans or devices which may have been seen in beneficial use in other places. It will be largely owing to your influence if all who are concerned with the management of schools habitually regard the officers of this Department not merely as critics and examiners, but as helpers and advisers in the performance of an important public work. It will be especially in your power to keep a high standard of excellence in constant view of the managers, and to secure that measures designed by My Lords to give larger freedom shall not encourage a lax or superficial style of teaching ; and that the liberal grant now offered to comparatively humble schools shall serve as an aid and stimulus to improvement and not as a pretext for remaining content with a low standard of duty." How far these hopes and aspirations will be fulfilled in consequence of the new regulations remains yet to be seen.

J. G. FITCH.

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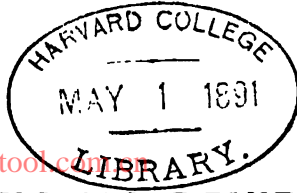
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# EDUCATIONAL REVIEW

*MAY, 1891.*

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## I.

### MY PEDAGOGIC AUTOBIOGRAPHY.

[The following unfinished paper was the last manuscript upon which Mr. Quick was at work at the time of his sudden death on March 9. It is written in his best and most attractive manner, and every teacher who has derived inspiration and instruction from his writings will read with profound interest this account, though partial only, of Mr. Quick's recollections of his own education and early teaching experience. The manuscript is printed without any alteration or omission, and it breaks off at the point where the author left it to undertake his last journey to Cambridge.—ED. EDUCATIONAL REVIEW.]

My friend the Editor has asked me to contribute to the new EDUCATIONAL REVIEW, of which the first number has just reached me. I cannot but be gratified by an invitation to join such a body of workers in the educational field, men whom I know,—personally or by name,—as leaders of the best educational thought we have. But there is a slight difficulty in the way. I am in the habit of protesting, in season and out of season, against the amount of time spent on periodicals. I have just written for the press (for a periodical, to tell the whole truth) an assertion that we are in great danger from the increasing number and, indeed from the increasing excellence of our magazines. There is a constantly swelling stream of literature that demands our attention, with the alternative, "Read now or never!" It is so good that we dare not say "Never," and so all our time goes in reading what is and is meant to be, fugitive. And fugitive let it be! Woe to the man who in the days of his youth and ignorance tries to keep and ever bind up a periodical! Unless he is the most methodical of men, he is always hunting for back numbers. And



apart from this difficulty he finds the tide always rising. Before long he has to get another book-shelf; then he wants another room, and at last another house. I once tried the experiment of keeping only condensed periodicals, so to speak. From the current magazines I cut out the articles of special merit and threw the rest away: but even this would not do. To be used, the collected papers had to be bound up and indexed, and then a general index made of all the volumes; and this index kept making fresh demands on one's time. "The librarian who reads is lost," says Mark Pattison; and there is a good deal of truth in this. Certainly, with periodical literature you must make your choice. Read and let the stream flow on, or try to dam the stream up, and you will cause an inundation in which you are likely to "go under."

Meditating on the waste involved in periodicals, I once devised a scheme which I propounded to a friendly editor, and he only scoffed at it. Still, I am so impressed with the importance of a permanent element in our reading that I will not keep my invention a secret, but will give other editors farther from home a chance of using it. I suggested that the magazine should have two parts,—one fugitive, the other permanent. For the permanent part I would arrange a cycle of papers, original or selected, in which the main truths bearing on certain special subjects should be put in such a way as to make the statement deserve to live like the truths themselves. This cycle should revolve in three years. In this way all readers would get something specially good. Careful readers would hail an old friend, and the careless would find at the end of three years the charm of novelty.

I fear some of my readers will begin to suspect that I am going to attempt a specimen of a permanent article, especially when I say I am about to write on a subject which no one can handle as well as I can. I, however, intend to keep strictly to the fugitive, most fugitive, portion of the REVIEW, and leave the permanent to those who discuss subjects of permanent interest. I think I may safely say that no one can handle the subject I have selected as well as I, for, in point of fact, nobody else can

handle it at all. Whether it be worth handling or not, I have my doubts; but when I thought over what I could write about, I remembered a lecture I once gave on my own school experiences. It was, I think, a very hot night. This, or possibly some other cause, reduced my audience to seven or eight, and some years later I published the lecture in a school newspaper, without any one, as far as I know, finding out, or wishing to find out, who the lecturer was. I might seem quite safe in assuming that nobody remembers this old lecture, but I think I have experimentally hit upon a law which it would be difficult to base on *à priori* grounds—at least, I know no *à priori* argument for it. The law is this: that whenever you take for granted that everybody has forgotten an old article or lecture or even sermon, there is invariably one person, neither more nor less, who remembers it. In this case, where the one person may be, I, of course, have no notion; but I have no doubt of his existence, and if this article should chance to meet his eye, I should be glad to hear from him, especially if he knows the connection (not a very close one) of what I say now with what I said before.

The celebrated question put to the needy knife-grinder by the friend of humanity, "Tell me, knife-grinder, how came ye to grind knives?" is a question that seldom admits of a simple answer. Few knife-grinders can say: "To grind knives was my ambition from infancy." No; a variety of circumstances determines us, and if choice has little to do with the matter, the knives may be none the worse ground on that account. In my own case, there was perhaps more choice than usual. I wanted a change from the work I was doing, the work of a curate in a large London parish; and I felt attracted by work which a clergyman can always turn to without deserting his profession, the work of a schoolmaster. It did not seem to me or to any one else that for this work preparation was needed. To teach in an English elementary school (a school under government) a young man or young woman has to pass a special examination; but for no other school is this needed. In the days I am speaking of (more than thirty years

ago) training of masters for secondary schools was as little thought of, as it is practiced now. Except in the case of the unfortunate ushers, a university degree was of course necessary. The leading public schools secured, straight from Oxford or Cambridge, men with "good degrees," *i.e.*, men who had obtained a first class in classics, or for mathematical teaching, in mathematics. Men with ordinary degrees who wished to teach had to take a berth either in a private school or in one of the numerous grammar schools, where the salary obtainable (with board and in some cases lodging) varied from £70 (\$350) to £100 (\$500) a year. This £100 would only be a fourth or a fifth of the pay given to the man with a good degree when he first became assistant master in one of the greater "public schools." But the only requisite in either case was (and *is*) an Oxford or Cambridge degree, the "good degree" being valued at four or five times the rate of the ordinary degree. After thirty years experience of this state of things, I must say I am completely bewildered by it. In this country the assistant masters are appointed by the head master, who has himself been chosen by the body of governors. In the great public schools not only is the head master paid from £2000 to £4000 (\$10,000 to \$20,000) a year, but he also has tremendous powers intrusted to him. The consequence is that in the case of the first half dozen schools, or thereabouts, the governors seldom fail to secure a man of first rate ability, and he has every motive for getting the best possible assistants; but as yet no one believes in training, and even experience is not so highly valued as a good degree. In some instances the head master owes his own position to distinction at the university, without any previous experience in teaching. This was amusingly turned to account in a speech made by the present head master of Harrow, when he had just been appointed. Dr. Butler, his predecessor, had proposed his health, and pointed out his various qualifications for his new post. In reply, the present head master said that there was one qualification which Dr. Butler had omitted. He, the successor, was older when appointed than those who had

gone before him. He had turned thirty, and Dr. Butler had been appointed at twenty-eight, and Dr. Vaughan, the previous head master, at twenty-nine! So it would seem that in this country the highest eminence in the scholastic world is often obtained *per saltum*; and when a young man is made head master, he naturally chooses young men to vacant places among the assistant masters. It is no doubt a great matter to secure vigor, and young men with a good degree are pretty sure to have great powers of concentration, and to be accustomed to work quickly and well. This is most important in a large school, where things would get chaotic if the masters could not get through a great deal of work. I see all this, and yet I am astounded that masters, even with the highest degrees, but without other preparation of any kind, are ever allowed to take charge of a class, especially of a class at the bottom of the school. The result is sometimes just what we should expect if a brilliant pianist who had never taught were selected to instruct beginners, or a man who had, say, a perfect mastery of French had suddenly to attempt to teach French to those who had not begun it.

I have, unfortunately, got on to a subject about which I find it hard to stop, and I have said more than enough. To come to my own experiences, I had the only requisite for a mastership in a grammar school—a university degree. But before I went to school work I spent a winter in a family in Leipzig. My attraction to Germany was due rather to study of Carlyle than to any craving for “Pädagogik,” but by learning German I got access to much that I could not have got at through English.

When I undertook school work I not only was totally ignorant of my want of preparation, but, I felt confident, could teach much better than I had been taught. After all, this conviction does not prove that I was very conceited. As a schoolboy I had never been idle, and if I learnt little I learnt as much as anybody tried to teach me. Most of my school-days were spent in a small private school kept by a man who was then (would he be now?) an ordinary private schoolmaster.

On the subject of education I should say that the mind of my old friend must have been a perfect blank, and that he knew no more about it, and cared no more about it, than about electricity.

But school keeping and educating have no necessary connection. The schoolmaster, or to speak more accurately, the school proprietor—was a highly respectable and a truly kind-hearted man, but the interest he took in the “young gentlemen,” as we were called, was just about the interest of the owner of livery stables in the horses put up with him. In his stables we had plenty of food for the body, though not for the mind, and we were taken out for just enough air and exercise to keep us in health. Of course you can't expect the owner of the livery stables to attend to the horses himself—for that he has stableman or horse-keeper—and my school-owner had his usher. There were some sixteen of us boys, and we were in charge of the usher from half past six in the morning till half past eight at night. We were “at lessons,” *i.e.*, we had to sit quiet, for eight hours out of the twenty-four, and during these the proprietor, who never saw us out of school except at dinner, used to look in and stay just as long as his convenience or his fancy suited. When in school he set copies, practiced his one pedagogic art—the art of mending pens (quill pens in those days)—and heard “lessons,” *i.e.*, pieces we had to learn by heart in school epitomes of history and geography. As far as I know, there was not a map of any kind in the house. I forgot to say that the proprietor also took the arithmetic; but this consisted in providing us—at our parents' expense—with books from which, when we wanted something to do, we might copy sums and see if we could get out an answer like the book. If we could not do this, we took our slate up to the master's desk and he did it for us. This is how I did not learn arithmetic.

It is pretty clear that my school proprietor was no teacher. Some one has said that the art of the school proprietor lies in the management, not of boys, but of parents, and this was certainly the art which my old friend practiced with great

success; but in managing boys he was, as far as discipline went, by no means a failure. He kept us at a distance by a dry, official manner; but although we were somewhat afraid of him, there was not the slightest trace of unkind feeling between us. It is sometimes assumed that every one with two manners is of necessity a humbug. This I deny most emphatically. Within the last fifty years I have come across a few people, I should say half a dozen at the most, whose manner, whether a good manner or a bad, was the same to all. But how very, very rare this uniformity is! I am quite conscious that my own manner is not the same to everybody, and I would ask the reader to put it to himself whether he is equally gracious, or may be ungracious, to every one he addresses. So I am far, indeed, from accusing my old friend of being a humbug when I remember his short, dry manner with us, and his manner, which was not short or dry, if he addressed a parent. Years after leaving I went to call upon my old friend, and I had the greatest difficulty in keeping my countenance when I found myself treated to the parents' manner.

But if I learned nothing from the school proprietor, I did learn something (not much, it is true) from the usher, or rather from the series of ushers, for not unnaturally we had a fresh usher every year, sometimes oftener. I still think with amazement of those ushers. Skilled teachers they were not, but they were much better than might have been expected, and when I think of their confinement for fourteen hours a day (sometimes for a treat they were let off with twelve!), they seem to me to have shown almost heroic endurance. But obviously their great effort must have been to support existence, and they could not have troubled themselves much about our learning. No one thought about our powers, whether of mind or body, and no kind of power was likely to be developed by the dull routine of our daily life, by our regular walks, two and two, with the usher behind us, or by our "lessons," the chief object of which was to keep us quiet.

So, perhaps, my notion that I could teach better than I had been taught, was not altogether unreasonable. My experience

was not, indeed, confined to this school, and elsewhere the ushers were not quite so badly treated. At one school where I was for a very short time there were two ushers, and they gave me a lesson for life on the importance of manner. One of these ushers has always lived in my memory as an object of horror, the other of love. I don't fancy there was anything like so much difference between them in reality, but the first always spoke to us in a sharp, drill-sergeant's sort of manner, the other always spoke kindly to us; and what a difference this seemed to us small boys, a difference which is very fresh in the memory of one of them after an interval of fifty years.

Perhaps I can now give a partial answer to the question, How came you to grind knives? Boys have a much juster appreciation of the way they are taught than we usually suppose. I do not know whether I was more "viewy" than boys in general, but I certainly felt that much of the "teaching" I had to undergo was all wrong, and that if I were a master I could teach a great deal better. This boyish conviction to a great extent determined my future life, for my old impressions returned when I felt dissatisfied with parish work, and I resolved to see what I could do as a master. And to schoolmastering I turned with hopes of doing great things.

What has been the result? Whether or no I have taught better than I was taught, I can hardly by any possibility have taught worse; but, on the other hand, I must frankly confess that I have not succeeded in bringing about results at all answering to my early dreams. Some of my projected improvements I have never been able to carry out; others, which I have carried out, have not made the difference I expected. I ran against many unforeseen difficulties, some of which might have been avoided had I been properly prepared for my work, but some inherent in the work itself. Without having learnt to swim, I plunged into deep water by taking a mastership in a provincial grammar school. If I rightly remember, I was to be paid at the rate of £70 (\$350) a year, besides my dinner, but not lodging or my other meals. This school, like most of our grammar

schools, had only a very small endowment. In consequence of the endowment, ~~the towns-people~~ might send their sons at a low charge as day boys, but the head master drew his income from the boarders, for whose benefit all the arrangements of the school were made. The head master had laid out a good deal of money on the buildings, and the school was practically his private speculation.

In the last thirty years I have worked with a great variety of men, and I cannot say that I have retained the same feelings of respect for all ; but there is only one man for whom I feel no respect whatever, and this man was the first head master under whom I started teaching. If I went by the rule *De mortuis nil nisi bonum* I should have to preserve a strict silence about this gentleman.

ROBERT HEBERT QUICK.

REDHILL, SURREY, ENGLAND.



## II.

### THE LIMITATIONS OF STATE UNIVERSITIES.

The limitations of the State universities which I have been invited to sketch, arise mainly from their peculiar relations to the State government. By State universities I mean those institutions for furnishing higher education to the young which are founded and maintained by the State. Usually they are supported by funds derived principally from public taxation, and they are governed by a board of public officers responsible to the authorities of the State. Many of those institutions have affiliated professional schools, and in a few rare cases these schools are aided by State funds; but my inquiry will be confined in such cases to the academic department, because the professional schools are almost always supported by their own funds.

Such institutions, called universities, have been established in nearly all the Northwestern and the Pacific States, consisting often of nothing but an academic department. Many of them are still feeble beginnings, but some are well known among the leading universities of the country. The peculiarity of their foundation and endowment by the State seems to have given them a bias, which is common to the whole class, and is quite marked in those which have risen to distinction; my object will be to inquire into the character and direction of this bias.

When a private individual or a religious denomination organizes a college, the founder may set the limits of the field it is to occupy. He may say it shall be a college of letters, a theological seminary, or a technological institute; he may require religious instruction or banish it; he may insist that the professors shall accept certain tenets of faith,—shall be Roman Catholics, Baptists, or Hebrews,—or he may ignore such considerations and forbid sectarian lines. The endowment is his

own, and he can impose any conditions he pleases upon its carrying out. [www.libtool.com.cn](http://www.libtool.com.cn)

Not so with the State university. The creature of the State and dependent upon its bounty, it is subjected to the same limitations which hedge in all public institutions supported by taxation. In this regard it becomes a part of the State system of education, and its affinities are with the public school rather than with the denominational college; or even with the unsectarian university under private control: and to this extent we must seek rules for its guidance in the management of the public schools. Like the school, first, it must be open to all citizens capable of receiving its benefits; second, it must be conducted on a secular basis, without sectarian bias; third, it must be governed by a board of public officers, the source of whose authority is the State government, and who are responsible to it for the proper management of their trust; fourth, it must demonstrate its utility in such a way as to command the confidence of the people and justify the expenditure of their funds.

I have assumed that these universities are supported from the public treasury. In point of fact there are usually three or four sources of support. First, the land grants made by the United States government, in 1862, for the maintenance of colleges where the leading object shall be, "to teach such branches of learning as are related to agriculture and the mechanic arts, including military tactics, and without excluding other scientific and classical studies." In many States, especially the older ones, this fund has been applied to the support of a college devoted solely to agriculture and the mechanic arts; but in most of the new States it is incorporated with the endowment of the State university. The second source of income is State taxation; in some States this money is given by annual appropriations; in other cases by a permanent tax and a continuing appropriation. Third, in many States the university is largely maintained by tuition fees of students; though in others instruction is entirely free. The fourth source of income is private endowment. Up to

the present time wealthy individuals have not shown the same liberal spirit toward State colleges as toward private institutions. Perhaps as the numbers and the wealth of their graduates increase this may change, but so far there seems to be a feeling that the graduate of the private institution has a kind of proprietary interest in his Alma Mater, while the State institution belongs to the public, and when a man pays his taxes he has done all he is required to do; and rich men do not seem to have much more inclination to immortalize themselves by erecting fine buildings and endowing professorships for the State university than they do to build fine houses for the public schools, or endow the Board of Education.

The statement remains then substantially correct, that these colleges as a whole are supported mainly by taxation, and are subject to the limitations imposed by that condition. They form really an integral part of the system of public instruction, and should be conducted for the benefit of the State and not to suit the notions of any private individual or class of men. This theory alone will justify their maintenance.

They must be open to all citizens, male or female, black or white, capable of profiting by the instruction offered, for the women pay taxes for the support of the college and have a claim on its benefits; and if the right of the college to exist is defended on the ground that it helps to make good citizens, the mothers and school-mistresses need assistance for the training of young voters far more than the men of the community. In the newer States these conditions cause no friction; both sexes and all colors attend the classes freely, and the republic of letters ostracises only the incompetent and the perverse. In the South, where race distinctions exist, and in the East, where coeducation is distrusted, these prejudices would make duplicate colleges necessary in order to provide for all citizens, but the experience of the Northwest seems to show that this course is unnecessary there. The young women already form from a third to a quarter of the students in the Northwestern State colleges, and the proportion will, I think, increase. There are more girls than boys in the high schools,

and I can see no reason why the same relation should not extend upward into the college.

The next condition is that these colleges should be placed on an entirely secular basis; that all sectarian religious teaching should be eliminated. Theology must be omitted, but moral philosophy may be taught, and may include such general principles of religion as all men agree upon. Ethics are retained, as underlying the duties of the citizen; and certainly, though party politics may not be taught, the student should be instructed in the duties of a good citizen as well as in the history of his country. Returning to religious instruction, all of the State colleges have branches of the Young Men's Christian Association and other religious societies, which are generally favored by the faculties, but the membership is voluntary. In some State colleges there are no religious exercises, while others maintain a service of worship every day; but the attendance of the student is in most, if not in all, cases voluntary.

The government of State universities is necessarily vested in a board of public officers, usually called regents. In some States the regents are elected by the people; in others by the Legislature; in others again they are appointed by the governor and confirmed by the Legislature, but neither of these methods of choice is likely to insure the selection of the best men to manage so complex and delicate an organism as a university. Political considerations and personal preferences are sure to prevail to some extent in place of academic fitness, and although these boards are usually made up of honest and upright men, they include many without any knowledge or experience in academic matters, and consequently unfit to guide the course of a university. I do not think that political considerations have interfered directly to any great extent with the internal workings of these boards, although there have been such cases; but in the appointment of the governing board, politics have often been paramount, and thus their usefulness has been seriously curtailed by incompetent management, though with honest intentions. And I may

remark, in passing, that these boards are often too large and unwieldy for good work. Nobody has to shoulder the responsibility, and consequently the work is neglected, especially where the board is largely made up of non-graduates, men wholly without academic experience. This lack of a sense of personal responsibility leads to the practice of lobbying with individual members for places on the teaching staff, and tends directly to reduce its dignity and its efficiency.

Another serious weakness of the State university is the practice in some States of holding open sessions of the governing board. Very delicate subjects come up for consideration, matters of personal confidence, which cannot be properly discussed in public, and sometimes the university is compelled to have its weakness and its seamy side pitilessly exposed in the newspapers. This is neither dignified nor wise.

As these institutions grow older, and their graduates become more numerous and wealthy, they will seek to control the management. In one State already I believe the graduates elect from their own number a third of the regents; but it would be contrary to all precedent if this rule should prevail as long as the State supports the college. If the people pay the bills they will want to control the mode of expenditure. Perhaps in the future, when graduates become more disposed to make liberal gifts to their Alma Mater, the time will come when they may claim a right to a share in the management in acknowledgment of their public spirit, and the State may surrender control, somewhat as Massachusetts has given Harvard over to the management of her graduates, a change which has been vastly to the interest of the venerable old college.

But far more important than all matters of management is the crucial question that will inevitably be raised, "What good does the college do?" Can it show any practical results to justify such an expenditure of money? A public institution of no practical use should not be maintained, and unless the Legislature can be convinced of its usefulness, they will starve it to death or sweep it away like that venerable old fossil at

Washington, the Keeper of the Crypt. This feeling that the university is the servant of the public, and that it may be called on for any kind of work, extends not only over the domain of education, which we generally conceive to be the limit of the university's functions, but it shows itself in many amusing ways. In the new States the professors are expected not only to supervise the higher instruction in the schools, but to analyze soil for farmers and give advice for its treatment, to examine well water and mineral springs, to test ores, give the tensile strength of materials, the crushing point of building stone; and on one occasion a party of picknickers resisted ejection from a college inclosure on the ground that it was public property maintained for the good of the citizens.

Now the general public have little respect for the higher education; they complain of the extra taxes imposed by high schools, and in California actually succeeded in inserting a clause in the Constitution of 1879, preventing them from receiving any share of the State school fund; *a fortiori*, the public have little sympathy with a university, and no conception of the value of the education obtained there.

Besides the threatened opposition coming from these sources, the university is constantly undermined by sectarian influences. The advocates of parochial schools are the enemies of the public schools. The supporter of the denominational college has no good will toward the State college, for whose benefit he is taxed, much against his will. We justify the common school against such attacks, on political grounds: that we must educate the citizen to fit him for the intelligent exercise of the franchise and other political duties, and we proudly hold up to view the low percentage of illiteracy to show the influence of the school. It is more difficult to demonstrate the utility of the university, for its direct power is exerted only on a few, who form the intellectual aristocracy of the land; its influence is subtle and pervasive, and it is difficult to prove by statistics its exact benefit to the State, though we know that the standard of general intelligence among a people is proportioned to the rank maintained

by its best educational institutions. But these things, I say, are subtle and hard to prove by figures, and the governing boards of State universities are very eager in search of utility in education ; they want to justify their administration by showing practical results, that is, tangible results ; something that can be counted in numbers or reckoned by dollars, rather than estimated by intellectual force, and so they always lean to the "practical" side of the college,—that is, to the scientific rather than the literary side.

This disposition is strengthened by the terms of the gifts made by the Federal governments to the State colleges. The statute declares it is the intention of the endowment to assist education in agriculture and the mechanic arts, not excluding other scientific and classical studies, in order to promote the liberal and practical education of the industrial classes. The bias of the gifts is plainly toward practical education, though it does not exclude instruction in letters.

And this same tendency is fortified again by the modern leaning toward technical education of all kinds, as shown in the technological institutes, the manual training schools, the sewing classes and cooking classes in the public schools. And it is the same in the Old World ; everywhere there is a movement in favor of practical science, though in Europe it does not form part of university instruction, but is organized in separate institutions.

All these causes stimulate the scientific side of the State colleges and dwarf the instruction in letters, which in the common estimation of the public is of less utility. And unfortunately the scientific education is vastly more expensive. The "plant" is costly ; the laboratories, material, and instruments are expensive. More room is required, and on the other hand, the classes are necessarily smaller, on account of the personal supervision of each student which is required. I think it may safely be said that the cost of the bare instruction in an ordinary scientific course is double that of a literary student ; at all events actual examinations of the annual expenditures have shown it to be so in the University of California ; and count-

ing the interest on the cost of buildings and other "plant," and their wear and tear. I believe it would be nearer three times as large. But it is a significant fact that in spite of all the fostering of science, the literary side of the college I have named has twice as many students as the scientific side. The knowledge of men will always attract more votaries than the knowledge of things.

Now let us turn to the relation of the university to the public school. They have no organic connection, because they have been derived from different sources. The university came to us from the Old World, but the public school is an institution of American origin. While they are both State institutions, they have separate governing boards, but the pressure of necessity has brought them together, and every year they come nearer and nearer to forming a co-ordinated system of education. This has been done by harmonious action between the teachers on both sides. The governing boards have no connection with each other, but the teachers feel their mutual inter-dependence, and are anxious that the courses of study in the high schools should be so directed as to lead the scholars straight to the doors of the university; while the latter is necessarily restrained from lifting its curriculum so high as to leave a gap between it and the schools.

The effect of this is seen in the system of "accredited schools," first introduced by the University of Michigan, under which the university professors examine in person the high schools, and if they are satisfied with their efficiency, the diploma of graduation from the school, accompanied by a recommendation from the principal, is accepted by the college in lieu of entrance examinations. The spirit of harmony between the university and the public school, which has its origin with the teaching force of the university and not with the regents, is steadily increasing in power. The schools are anxious for the indorsement of the university, and the university professors are equally desirous of the increased number of students and the powerful backing which they gain from the support of the school teachers. The union helps both sides materially.



But it acts somewhat as a limitation at the same time. It compels the university to keep its curriculum within reach of the school, and to maintain such entrance requirements as will be deemed useful studies by the Boards of Education. These relations are a matter of constant adjustment between the teachers on both sides, and I do not think it is fully understood how much influence this connection has upon the university, an influence which must of necessity constantly increase.

Another sphere of usefulness which is coming to be very generally recognized as a prime duty of the university is the preparation of teachers for the better class of schools; this cannot be properly done by the normal schools, and it necessitates a department of pedagogy, or the science and art of teaching, to be maintained in the university. This again will require a close connection with the normal schools, like the connection with the high schools which I have been describing, so that the normal graduate can step into college on her diploma, and there receive the necessary training for the higher positions. Whenever trained teachers with more or less university discipline and influence shall fill all the better positions in the public schools, it will greatly increase their efficiency and will elevate their standards.

Now it is plain from what I have said that the State university is expected to occupy a much broader field than the denominational college, or the undergraduate department of the university of forty years ago. It is a college of letters, combined with a college of science giving technical instruction in various branches of practical science, such as agriculture, mining, etc., and to this it adds a training school for teachers. All which means a great spreading out of the funds of the college and sometimes spreading it very thin, for I am sorry to say the salaries in these institutions are generally very meager, sometimes absurdly so, and the tendency is to man the practical side, so called, the scientific department, much more thoroughly than the department of letters. Especially it seems to me there is a disposition to neglect the classics;

though the modern languages and English literature fare a little better. Perhaps this is a natural reaction from the unreasonable prominence given to Latin and Greek in the days of our fathers, but it is melancholy to see so many even of our professional men ignorant of these noble old languages and literatures. Men may make their bread and butter without Latin and Greek, but they are not finished scholars without classical training.

The popular character of the State universities, as part of the provision for public education, finds another expression in the encouragement of students pursuing special and limited courses, and in the establishment of new degrees for those taking four-year courses but without the classics. If a student can pursue with profit any portion of the courses offered, the disposition is to encourage him to do so. If he cannot stay more than a year or two, let him come, and drop out when occasion compels him to, just as the child does in the public schools, and if he finishes his course give him such a degree as he is entitled to. All this is in the line of modern liberality of election, and in decided contrast to the custom of olden time, when boys did not enter college unless they proposed to spend four years there, and when all alike took the same cast-iron curriculum and received the same degree. I am well aware that these features are not peculiar to the State colleges, but certainly they are more characteristic of them than of the others. In some State colleges not over one-third of those entering the academic department ever graduate; and of those who do, a very small proportion obtain the A.B. degree. Of the students who leave before graduation a large proportion enter with that intention, well knowing that their circumstances will not permit them to remain over one or two years. Some of this irregularity is due to sickness, some to the poor preparation incident to a new country, some to narrow circumstances, which by and by may find some relief in the charitable funds that naturally accumulate around a seat of learning. For the graduates who do not win the A.B., various degrees have been devised according to their

attainments, Bachelor of Science, of Letters, of Philosophy, etc. This departure from the ancient custom has been led by the State universities, and is in obedience to the popular demand for an opportunity to give boys something different from the old classical education, which should entitle them to a diploma corresponding thereto.

Now it is possible that some of these difficulties and limitations to which I have alluded, spring from the crude conditions of the new States, and may be alleviated in a more settled condition of the community and a higher intellectual plane of society. For example, where the university is hampered and kept down by a low level of instruction in the public schools, this difficulty is likely to be gradually cured. Perhaps some of the religious objections may eventually be met by the founding of independent professorships, or the endowment of separate schools on the borders of the university, independent of the State college but working in harmony and conjunction with it; for instance, the State university would gladly accept an endowment to support the study of Sanskrit alone, why not the study of Hebrew; a fund to encourage the study of classical literature would always be acceptable, why not a similar fund for the study of Old Testament or New Testament literature, these studies of course being elective, but being allowed to count toward the attainment of some degree. By some such process as this, the religious limitation might possibly be overcome without infringing upon the principle that forbids the expenditure of State funds for sectarian purposes. Or again, suppose that the theological school or denominational college, instead of wasting its substance by duplicating the machinery of the State university, should settle on its borders, let its students take such courses at the State university as were desirable, and itself provide only such instruction as should be necessary to supplement that provided by the State; an arrangement in some respects similar to the plan of those great English universities, where the instruction is provided partly by the university but mainly by the affiliated colleges. It might even be that the courses and instructions of the affiliated

colleges could count for a university degree, just as the diploma of the accredited schools counts for entrance. I can see in this plan some relief from the objections made on the score of religion to the State colleges, and some relief also from the multiplication of inferior colleges on the plea of religious deficiencies.

Such are the natural limitations of the State universities, arising mainly from their dependence on the State for support. Those defects that spring from the condition of society in newly settled communities, and other temporary causes, will pass away, but those which result from the character of their endowment will, I believe, become more conspicuous as time goes on. They are inherent in the nature of the institution, and I feel quite sure that the future development of these colleges will be in quite different lines from the old universities. They will continue to lean toward science rather than letters; they will develop more in the direction of visible utility, less in the line of brilliant scholarship; more in the direction of general education, and less in the line of specialized learning; more toward quantity than quality.

It would have been a more pleasant task to have recounted the achievements of these universities, for with all their limitations they have done a noble work. They have established centers of refinement and learning far away in the wilderness; as population increased they have maintained a high grade of intellectual culture in the new States; their standard of education has been almost always above the private and denominational colleges around them. I believe the scholarship in all the new States is a whole generation ahead of what it would have been without the State Universities.

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### HISTORY IN ELEMENTARY SCHOOLS.

The appearance in 1883 of a translation of Dr. Diesterweg's *Instruction in History*, supplemented by a discussion of methods by eminent American college professors, was a noteworthy event in educational science. It was not only the first serious discussion in this country of a long-neglected subject, but it was the forerunner of what has become a large and important class of works treating of the same topic. A study of this literature shows four things: (1) a growing interest in the study of history; (2) a recognition of the advantages of comparing different methods of instruction; (3) the predominant influence of German ideas; (4) an apparently disproportionate consideration of history as taught in higher institutions in comparison with such instruction in the elementary schools.

An explanation of these facts it is not difficult to find. It was not until we became conscious of our existence as a nation that we became interested in our own national development or cared to face many parts of our past: When consciousness and courage came at the close of the civil war, and a broader knowledge of European affairs as a result of the completion of the first century of our independent existence; there followed naturally a quickened impulse to historical study. The rapid growth in material prosperity that came at the same time, made it possible for large numbers of American students to continue their studies abroad, while the results of the Franco-Prussian war turned the attention of all to the superiority of the German educational system. The educational influence, therefore, that has come to America from Europe, has come from Germany through college professors and graduate students, whose special interest in a pedagogical way has been the investigation of German university methods of research. The result of these studies has naturally been seen first in the improved methods of instruction adopted in our

higher institutions. That a corresponding influence has not as yet been felt in all the lower departments of instruction is not surprising. All reform movements work from the top downward, and not until the pressure from the university and the college makes itself felt on the grade below will a change come. This pressure has already affected the teaching of history in academies and high schools. It is to these that the college graduate goes as instructor, and it is from them that the college and university looks for its clientèle. This double association is every year growing stronger by virtue of the steps taken in various localities, looking toward a partial state and sectional unification of our educational system. The colleges as a body are demanding for entrance better preparation in the study of history, while every year the secondary schools are proving themselves better able and more willing to meet the demand.

But while the past twenty-five years have brought many changes for the better in university and college instruction in history, and while this has reacted on high school and academy, the study of history in the elementary schools has received little attention. This has been due to four things: (1) The awakened interest in the study of history in higher institutions has not had time to act on these schools, and history has not, therefore, as yet received the same attention as have other branches longer made a part of the school curriculum. (2) The great majority of the teachers in our elementary schools are those whose meager salaries will not permit travel and opportunities for higher education. (3) There is a lack of interest on the part of the state in the studies taught, and this causes a neglect of history not found in other countries where its importance as a practical study is more fully realized. (4) Certain pernicious theories have long prevailed regarding the educational value of history, and these are found in the works on the theory of education most frequently read by the teachers in our elementary schools.<sup>1</sup>

<sup>1</sup> "The fact that history presents no difficulty to minds of ordinary education and experience, and is, moreover, an interesting form of literature, is a sufficient

The result of this apathy in the elementary schools is seen in the reports of State superintendents of education, and in the courses of study adopted in the leading cities of this country. An examination of these programs shows but a small proportion of public schools where history is taught below the two upper grammar grades, while the number is infinitesimal in which instruction is given in any history except that of the United States. In a few schools, supplementary readers, used in connection with language work, afford the only opportunity for instruction in the subject. The general attitude of most instructors is apparently to consider history of some value on the information-giving side of education, but to deny it utility as a disciplinary study.

If we turn to the schools of Germany and France we find a marked contrast to our own system. Martin Luther left as a legacy to the German people a partiality for history and historians,<sup>2</sup> and this interest the Germans have always retained.

In the Volksschule, history is begun in the third year and is continued for two years.<sup>3</sup>

reason for not spending much time upon it in the curriculum of school or college. When there is any doubt, we may settle the matter by leaving it out."—Alexander Bain, *Education as a Science*, pp. 286-287.

"The only history that is of practical value, is what may be called Descriptive Sociology. And the highest office which the historian can discharge, is of so narrating the lives of nations as to furnish materials for a Comparative Sociology."—Herbert Spencer, *Education*, pp. 69-70. Mr. Spencer's tendency throughout his discussion of the subject is to treat history as a subdivision of biology.

Mr. Buckle has also passed judgment on the value of histories written previous to *The History of Civilisation in England*. "Any author who from indolence of thought, or from natural incapacity, is unfit to deal with the highest branches of knowledge, has only to pass some years in reading a certain number of books and then he is qualified to be an historian; he is able to write the history of a great people, and his work becomes an authority on the subject which it professes to treat."—H. T. Buckle, Vol. I, p. 3.

<sup>2</sup> In many places this preference for history is shown, "Especially should (children have) chronicles and histories in whatever language they can be procured. For these are of great value in apprehending and controlling the course of events and also in contemplating the wondrous works of the Creator." "From a study of history also (children) become wise and sagacious, learning what things should be sought and what avoided in this external life, and also in consequence how to advise and control others." Cited, with similar passages, by A. Richter in *Geschichte der Methodik des Unterrichts in den Realien*.

<sup>3</sup> Dr. Rein, *Theorie und Praxis des Volksschulunterrichts; Allgemeine Bestimmungen des Königlich Preussischen Ministers der Geistlichen, Unterrichts- und Medicinal Angelegenheiten betreffend das Volksschule-, Präparanden- und Seminar-Wesen*.

In the Realschule, history and geography are begun in the first year, and three or four hours per week are given to these subjects throughout the course, while in the Gymnasium about the same time is allotted to them.<sup>4</sup> Thus no child, of whatever station in life, leaves school without some knowledge of history and training in methods of studying it, while those who enter the universities have had two or three distinct surveys of the entire field of history.

In France, also, special attention is given to history in the elementary schools. The child begins history with anecdotes and pictures during his first year at school, and instruction in the subject is continued for at least one hour each week throughout the entire course from his fifth to his thirteenth year.<sup>5</sup> This interest in France may also have an historical foundation, and be a reaction from the indifference to history shown by the Jesuits, who so long exercised a controlling influence in educational affairs.<sup>6</sup>

In England and Scotland the teaching of history in the elementary schools is still very defective, and their experience is probably of little value in a discussion of the subject.<sup>7</sup>

But not only do Germany and France give more instruction in history in their elementary schools than America gives—they also give a different kind of instruction. It is in the Gymna-

<sup>4</sup> In the course of instruction of the Gymnasium and Realschule at Thorn, but three subjects, German, Latin, and mathematics, receive more time throughout the course than history. In the Realschule, history is given three hours each week for two years, four hours each week for two years, and one hour a week for one year. In the Gymnasium, history is studied four hours each week for two years, and three hours each week for nine years. The course of instruction of the girls' school at Gnesen and at Thorn shows that similar importance is shown the subject. These illustrations are taken at random from a limited number at command. See also *Notes on the German School*, by J. B. Hall, Ph.D.

<sup>5</sup> *Organisation pédagogique et plan d'études des écoles primaires élémentaires, annuaire de la jeunesse pour l'année, 1890.*

<sup>6</sup> G. Compayré, *History of Pedagogy*, pp. 144-145, 148-149, 342.

<sup>7</sup> H. Staunton, *The Great Schools of England*, pp. 27, 74, 264. Mr. Justin Winsor, in *The Nation*, November 27, 1890. "History teaching in the elementary schools is unsatisfactory. This is partly due to the Old Code, in which no encouragement was given to the teaching of English. For the first time a syllabus has been given in the New Code for history teaching to children." "By the New English Code much greater liberty is allowed in dealing with history than under the Old Code."—*Private Letters*.



sium that the educational theories of the Germans are best carried out. Here there is no occasion to sacrifice the ideal system to practical necessities as in the Volksschule. From the earliest years, throughout the course, history is taught. Not only is the history of Germany studied, but "Hinter dem Berge sind auch Leute" and the famous stories of classical times, as well as the biographies of eminent men in different nations, form the introduction to historical study and research. Prometheus, Romulus, and Cæsar lead up to Odin, Siegfried, and Charlemagne. In the Volksschule, where the great mass of German children are educated, the shortness of time prevents more than a brief survey of German history, but even here a basis for comparison is laid in the attention given to sacred history. In France, also, the instruction in the elementary schools includes general notions of universal history, with special reference to the relation of the history of other countries to that of France.

That the example of Germany and France should be followed, and greater attention given in our elementary schools to the study of history, will be conceded by most persons when it is remembered that only a small percentage of the children in our public schools ever reach the high school.<sup>8</sup> Whatever is learned, therefore, in a systematic way, concerning our own institutions and our own national past, must be learned in the elementary schools. No remark is more trite than that democratic institutions can be successful only among an educated people, yet the majority of our voters have had little or no training in the subject that should do most to fit them for intelligent citizenship.<sup>9</sup>

But aside from this practical consideration, the study of

<sup>8</sup> It was estimated in 1886 that eighty per cent. of the pupils in the public schools never reach the high school.—F. N. Thorpe in *The Study of History in American Colleges*, pp. 232-233.

In 1888 it was stated, that of the three hundred and fifty thousand pupils in Wisconsin only eight thousand entered the high school.—*Report of Commissioner of Education, 1887-1888*, p. 458.

<sup>9</sup> The Commissioner of Common Schools in Ohio, in 1884, estimated that less than ten per cent. of the pupils in the common schools in that State studied United States history.

history demands greater attention. With clearer ideas in regard to the proper place of the memory in historical study, we shall come to realize the importance of the subject in an educational way. We must believe with Kant that the memory by itself is of little value. "It is like a pack-horse, fit to carry materials while others build. Understanding is the knowledge of the universal; judgment is the application of the general to the particular. Some things can only be learned by memory. History is not one of them. The main use of it is to practice the understanding in pronouncing judgments."

History, too, is susceptible of far greater variety of treatment than most subjects, and thus various faculties can be trained. The hand and the eye as well as the mind can be disciplined through its study, and thus it can be studied continuously by the child without fatigue. History, again, can be used to stimulate a healthy appetite for knowledge and to cultivate a taste for good reading. This taste for reading may often, indeed, be the most tangible product of education remaining in after life.

But in our crowded courses of study, with new subjects constantly knocking for admission and old subjects refusing to give place to others, the practical question may well be raised: How can more time be given to history? The problem is, indeed, a perplexing one, but it is not insoluble.

In the first place, time can be gained by concentration of ideas and subjects. In an educational way mind may rise superior to matter and achieve the task, abandoned by physics, of making two things occupy the same place at the same time. One secret of the success of the German methods is in the application of this principle of concentration. The work begun in theory by Herbart, and put in practice by Ziller, has been carried on under Dr. Rein and other followers of Herbart, until it is estimated that in one-third of the schools in Germany the principles of this school have been adopted. These are expressed by Herbart when he says: "Instruction

must be carried out first with energy, in order that interest may be awakened; second, with breadth, in order that interest may be many-sided; and lastly, with unity of purpose, in order that intelligence may not be distracted." It is the last principle, unity of purpose, that specially characterizes the school. It may not be possible or wise to carry out the theory to the extent advocated by a true disciple of Herbart, and make all the subjects during the entire course turn about Robinson Crusoe, Grimm's Tales, and Bible stories, but there must be the application of the principle in some form or other, from the earliest grades, if there is to be true education. The child by nature thinks in concrete details and does not see relations. One chief aim in his education, therefore, must be to teach him to find these relations. History is better adapted than any other subject to bind together the different parts of a child's knowledge. This is perhaps most clearly seen in the relation that history and geography bear to each other. In nearly all grades they can be taught almost as one subject, as is admirably illustrated in the work of Dr. Rein.<sup>10</sup> This is specially true since any mechanical work interests a child, and map-drawing can be made the strongest of allies in teaching history. A series of maps made by a child, showing the development of the Roman Empire as a result of conquest, will be an excel-

<sup>10</sup> A single illustration may be taken from *Das dritte Schuljahr*, p. 171 :

<i>School Year.</i>	<i>History.</i>	<i>Geography.</i>
3.	Thuringian Legends.	Thuringia (Middle Germany).
4.	Nibelungen.	Region of the Rhine and the Danube (West and South Germany).
5.	German History : Karl the Great —Otto the Great.	Franconia, Saxony, and Slavonia (North and East Germany).
6.	German History : Otto the Great —Rudolph of Hapsburg.	Countries about the Mediterranean. Italy. Region of the Alps. Austrian Kingdom.
7.	Voyages of Discovery. German History to the Thirty Years' War.	Mathematical Geography. Foreign Countries. America, Scandinavia, etc.
	German History to the present time.	England, Russia. Political Geography of Germany and Europe. Colonies.

lent preparation for a series, in a later part of his course, showing the changes in territory resulting from diplomatic victories. It may have been an unconscious policy that led Rome to consolidate her territory in Italy and on the Mediterranean as a result of her Samnite and Carthaginian wars, but it was not the development of an unconscious policy when France, as a result of diplomacy at Westphalia, Nimwegen, Presburg, Tilsit, and Schönbrunn, by a series of exchanges, consolidated her territory and presented an advancing boundary line on the northeast. The changes in territory that come from simple conquest are easily grasped, and their representation is the best preparation for a clear understanding of the more subtle results of diplomacy.

On the boundary lines of all of our States hangs many an interesting historic tale. The graphic representation of the territorial development of the United States will teach the historical facts concerning the great eighteenth century duel between France and England. At the time of a presidential election the union of geography with contemporaneous history, in a map showing the electoral vote of each State, will teach some valuable political lessons; a representation of the great railroad routes will show something of our commercial history; while colored crayons, indicating the sections where coal, iron, and gold have been found, and the cotton, wheat, and timber-producing states, will indicate our commercial possibilities.

This union of history and geography has taught the child (1) certain valuable lessons concerning territorial, political, and commercial history; (2) accuracy and skill in representing graphically the ideas gained from books; (3) and the most important thing, the association of different subjects and the knowledge that they are but diverse parts of one whole.

The connection between history and literature is quite as intimate, while even history and arithmetic may become confederates. The Great Pyramid, the Coliseum, Bunker Hill monument, and a score of historical objects, the growth of population, the purchase of territory, and a large class of similar facts furnish the foundation for simple problems in the rule

of three. How successfully all these subjects can be made to fit into each other can be understood only by a study of the works of Dr. Rein.<sup>11</sup>

But not only can time and mental strength be saved to the child by concentration of purpose—the same end can be gained by a definite understanding of the starting point as well as of the objective point in teaching elementary history.

The starting point is the child at six years of age, with a mental equipment consisting of a vivid imagination, a good “carrying memory,” and keen powers of observation as yet latent. The objective point is the child at fourteen with the imagination under control, a memory that acts by association, powers of observation developed, and the reasoning faculty partially cultivated. What can history do to bridge the distance between these two points?

Advanced work in history does not mean “studying larger books and more of them.” There is in history, as in other branches, a natural cleavage, both as regards subject-matter and method of treatment. The lines of division in the one are narrative and institutional history and the history of civilization, while in the other they are the processes of accumulation, comparison, and investigation. At the starting point, therefore, there must be the elimination of those forms of history and of those methods of treatment that properly belong to the higher grades. A suggestion of what can be considered the natural order of development is gained from history itself as it has grown from the genealogies and annals of an early period to the complex studies of to-day. With the child, as with the race, narrative history and the accumulation of facts come first, while the philosophy of history and original investigation of historical materials are the results of mature study.

The child, like the nation, demands at first stories, and stories of heroes. His imagination is vivid, often distorted—it cannot create, and therefore can deal only with that of

<sup>11</sup> *Theorie und Praxis des Volksschulunterrichts nach Herbartischen Grundsätzen.* Bearbeitet von Dr. W. Rein, A. Pickel, und E. Scheller.

which it has already conceived. The individual has come within his horizon and interest, centers in him. He has no knowledge of the state as an organization, and therefore his imagination—his chief mental tool—has here no scope. It is the human and the personal that appeals to him, and that which is most remote that attracts. It was not without a deep basis of truth that the Greeks represented their early heroes as of superhuman size. The same thought was afterward embodied in the truth, "A prophet is not without honor save in his own country," and again, in the more modern form, "No man is a hero to his valet." The best literature for children from their seventh to their fourteenth year, says Rosenkranz, "consists always of that which is honored by nations and the world at large." It was with this thought that Fénelon wrote his *Dialogues of the Dead*, and that Rousseau urged that the child's first book should be *Robinson Crusoe*. Thus Homer and Plutarch, *Don Quixote* and *Gulliver*, *Robinson Crusoe* and the *Arabian Nights* never grow old, since they are the reproduction of types universally recognized. Again, it is only through biography that the child's reasoning powers can at first be developed, for "ideas without individual views of them are void"; and he can have no individual views of abstract ideas—for such to him are all political and social institutions. There is indeed danger in the study of biography that the individual will absorb attention to the exclusion of the great questions of the period; that the illustration will overshadow the thing to be illustrated; that gossip and anecdote will exclude the consideration of those traits that make for righteousness in the nation. These dangers are, however, by no means inevitable, as is proved by several excellent histories treating of the subject from the biographical point of view.<sup>13</sup>

<sup>13</sup> An admirable book is *A First Book in American History, with Special Reference to the Lives and Deeds of Great Americans*, by Edward Eggleston.

A valuable and suggestive work for more advanced pupils is *Weltgeschichte in Biographien von Dr. M. Spiess und Prof. Verlet*. It aims to give the history of the world "in drei konzentrisch sich erweiternden Kursen," and its success in Germany is attested by the fact that in 1885 it had passed through thirteen editions.

The first step, therefore, must be to awaken the interest of the child through biography—to train his imagination and reasoning powers through the study of individual characters representing general or national types. The next must be to present a general outline of historical events in which the lives of the individuals who have come within his knowledge may find their proper place.

The practical question arises here as to whether this outline should be the history of one's own country or the history of the world. The answer, unfortunately, must often be given from the standpoint of necessity rather than of theory. If the child can have the ideal training, many considerations are on the side of beginning with general history.

No person—no child—can be said to have learned anything of history if he has studied only the history of his own country. It is as true here as in science that "there can be no correct idea of a part without a correct idea of the correlative whole." Comparison and judgment, which ought to be trained from the earliest years, cannot be brought into use unless a basis for comparison is given in the study of different nations. The interest of the child is stimulated, as well as his reason developed, as he notes the points of similarity between England and Rome, the Greeks and the Americans, and compares the amusements and general mode of life of Greeks and Romans. Educational provincialism is always to be deprecated, but it is inevitable if the child has no standard of measurement.

It has sometimes been urged that the child should begin not only with the history of his own country, but also with local history, on the principle that whatever is nearest to us is most easily understood. But the principle is not of universal application and its advantage in history may at least be questioned. It took the world six thousand years by Bishop Usher's chronology to discover the laws of gravitation, and electricity has been a curiosity of the physicist until the present century, while the secret of life has as yet eluded the biologist's microscope. The child does not understand the geological structure

of the ground on which he stands, while the contour of the mountain comes within his mental range. The novice sweeps the entire heaven; the astronomer studies the configuration of the moon, the spots on the sun, and the measurement of double stars. The subtle organism of society and of the political life in the midst of which the child lives cannot be understood by him, nor can he look at long range at the events occurring about him, and thus see them in their correct proportions. Local history in our own country is very largely institutional history, while, in the natural order of development, narrative history must precede the study of institutions.

Another consideration may also be urged on the theoretical side, in favor of beginning with general history in the case of children in our own country. It is the picturesque, the imaginative, that most appeals to the child, and this element is peculiarly lacking in American history and must therefore be supplied from other sources. There are indeed many of these features in the stories of Columbus and De Soto, Cartier and La Salle, but these are rather figures in European history—in no sense to be considered our national ancestors. We attempt to make good the deficiency by stories of the mound-builders and the Indians, but these people have come into our history as a result of accident, not by reason of birth or inheritance, and can still less be considered our national forefathers. The historical roots of America are in Europe. The times of Arthur and Alfred, Harold and de Montfort, Coligny and William the Silent, Luther and Loyola, belong to us, and our own history cannot be understood without a knowledge of our European as well as of our American past.

But while one must, for many reasons, urge the beginning of historical study with the general outline, the practical consideration must often turn the scale in favor of American history. Our democratic ideas do not permit the division of children in school into those classes who are to be educated for the professions and those who are to enter business life. An unusual element of uncertainty enters into the life of the average American boy and girl, and their education must be a



draft payable at sight. Just as long as the problem is presented of combining in the same school instruction for those going through college and for those leaving before entering the high school, just so long our system must be a compromise between the ideal and stern necessity. In our public schools we must teach the history of America, but this history can be as cosmopolitan as the people who have made it.

It does not seem possible in the elementary schools to do more than to give a brief outline in the form of biography, and a sketch of general or American history. Interest, however, can be stimulated, and therefore time saved by a judicious and moderate use even in the lowest grades of original material. "*History must be seen*," and contemporaneous literature is the Kodak which the instructor must use if he is to convey a vivid as well as a correct impression of the past. The use of the original sources enables the child to go behind the scenes and discover how authors work. The desire, almost universal, that leads the boy or girl to take to pieces the clock or the sewing-machine to see how it is made, can be utilized in the school-room in studying the anatomy of a text-book. The training in scientific methods of study cannot be begun too early, nor can it be urged that the original sources are of necessity more difficult to understand than the histories of to-day. What child will not be interested in many parts of Captain John Smith's *Settlement of Virginia*, Governor Bradford's *History of Plymouth Plantation*, Plutarch and Froissart, and the stories of the Crusades as told by those who took part in them? It has, indeed, often been difficult to obtain this material. Text-books in history have often been works intended for older persons condensed, rather than simplified. They have been sometimes the machine-made article, the identity of whose author has been lost in that of the publisher. They have contained illustrations of Columbus' first glimpse of San Salvador, of Sir Francis Drake when he saw the Pacific from a treetop, and of all the famous and obscure battles of the Revolution, probably taken "by telegraph," as have been certain recent illustrations of similar events. We have not as yet the

*Quellenbuch* of the Germans,<sup>13</sup> but it is possible to put into the hands of American children and their instructors a considerable amount of excellent material of this nature,<sup>14</sup> and also to give them text-books written by eminent scholars and teachers.

These are but suggestions as to means of reaching the objective point in the child's education. What should he have gained from the study of history by the time he reaches the high school?

1. He should have received very definite general impressions of the progress of historical events, either in his own country or in the larger world of which his own nation is a part.

2. He should have learned a considerable number of definite historical facts, not necessarily for immediate use, but to serve as a point of resistance for gaining other such facts in future years. Facts are not wisdom, but they are the raw material out of which wisdom under proper conditions is produced.

3. He should have made some progress in learning how to use the material he has acquired. Mental dyspepsia is incurred at an early age if the child is allowed to be a mere passive recipient of all that comes from books or instructor. The physical appetite of the child is omnivorous because of constant bodily exercise—healthy mental growth can come from the study of history, only when the facts learned are assimilated through the exercise of reason and judgment.

4. He should have developed keenness of observation in regard to the political and social conditions in which he finds himself. These conditions of themselves are seldom of interest to him—it is physical rather than mental activity that

<sup>13</sup> Two excellent collections, that may prove of service to teachers, are *Quellenbuch*, Max Schilling, Berlin, 1884; *Quellenbuch*, A. Richter, Leipzig, 1885. The former is for modern history; the latter covers the whole period of German history.

<sup>14</sup> A series of *Historical Classic Readings*, containing several selections from original sources, is published by Effingham, Maynard & Co., New York. The *Old South Leaflets*, published by the Directors of Old South Studies, Boston, are invaluable. The *Cassell National Library* contains many excellent things. Mrs. Mary Sheldon Barnes' *Studies in History* and *Studies in American History* (the latter soon to be published) contain invaluable material for the use of the teacher. The former work is intended for advanced classes, the latter will be more elementary.

appeals to him. But the story of the Gracchi should lead to a knowledge of what the state to-day does for its dependent classes; the study of the colonists' resistance to taxation that fires the boy's heart should lead to an interest in the principles of taxation carried out in his own community; every concrete illustration of the past should find its parallel or its abstract application in the present.

It is, indeed, often urged that the history of peoples, of industries, of inventions, of society itself should be substituted even in the lowest grades for narrative political history, but such studies are most complex in their nature, and, moreover, awaken no enthusiasm in a child. Every boy's pulse beats faster as he hears the story of Leonidas and Regulus, but he shows scarcely a passing interest in Arkwright and Watt, Fulton and Edison. He sees in one class of individuals characteristics that he believes may exist within himself, their conditions he may assimilate to his own experience. His keenest intellectual pleasure is the discovery that his ideas resemble those of others. The creative desire comes later in life, and not until it has been aroused can there be an abiding interest in creative processes and their agents.

All roads lead to Rome. More instruction in history in the elementary schools, means larger opportunities for education for the great mass of instructors in such schools; salaries above the wages of day laborers that instructors may avail themselves of opportunities offered; greater inducements for college men and women to teach in the elementary schools; more technical instruction in our colleges and universities in the history, science, and philosophy of education.

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IV.

THE HERBARTIAN SYSTEM OF PEDAGOGICS (III).

THE COURSE OF INSTRUCTION.

In his *Allgemeine Pädagogik* Herbart distinguishes three methods of procedure: viz. (1), the merely presentative, (2) the analytic, and (3) the synthetic. Only that can be strictly presented according to the first method, which is sufficiently similar to that which the pupil has already observed; as, for instance, pictures of strange cities, lands, and costumes, with the pictures of other well-known objects; historical descriptions reminding of the present. A mere explication loses in clearness and penetration the further it is removed from the experience of the child. Its rule is, "so to describe that the pupil will imagine he has a direct sense-perception."

Analytic instruction, however, resting on its own strength, has to do more with that which may be separated, that which has reached some degree of universality. That which is simultaneously present can be separated into its parts, and the parts into characteristics. The masses of representations which course through the mind may be separated, in order to bring clearness to them. Events may also in similar way be separated or analyzed. In all this one comes upon that which *cannot* be separated, which is law-giving for the speculative intellect, and upon that which *should* or *should not* be separated, which is based upon æsthetic relations, the taste. In analytic instruction we make an analysis of that which the child knows in a general way, in order that he may become conscious of that which is really implied in his knowledge, but not consciously perceived; thus, if we analyze the line, "Art is long, and time is fleeting," which the student understands well enough in a certain way, we shall discover a wealth of implied meaning not at first seen. We may find that "art" means any kind of human activity in which there is produc-

tivity—useful arts and fine arts; that “long” refers to the past and to the future; that the present status of any art (painting, weaving) is the product of all recorded progress in the past; that if one would advance in art, he must master its past to start with, and manage to get his advance embodied in some tangible form (a dynamo, for instance); that, indeed, all machines are the records of arts that are so “long” that they may extend over centuries, and that what we call institutions are the spiritual machines of the race; finally, that all education is the process of making the individual master of these “long” arts. But the advantages of analytical instruction are restricted by the limitations of that which can be given only in experience. Analysis must take its material as it finds it.

Synthetic instruction, however, “which builds out of its own stones,” reaches much further. It cannot, indeed, be richer than the science and literature of the world, but it is incomparably richer than the individual environment of the child. Within its territory lies all mathematics, together with that which precedes and follows it, and the whole advance of mankind through the steps of culture from the old to the new. Synthesis has two functions—to give the elements, and to contrive their union. To complete the synthesis is impossible, for this is an unending process.

Herbart now applies the analytic and the synthetic methods of instruction to each of the chief classes of interest. The group of interests arising out of *knowledge* is developed from such subjects as mathematics and natural science, while that arising from human association (*Theilnahme*) comes out of those subjects which relate to man, such as history, literature, and religion. We cannot at present follow him through these applications, though they are highly suggestive to the teacher.

In view of subsequent developments in the Herbartian school, it will be interesting to note Herbart's attitude toward religion. He says, “The youth is likely to lose himself in opinions. His character must guard him from ever thinking it desirable to have no religion; his taste must be too pure

ever to find the discord bearable, which necessarily arises in a world without moral order, that is to say, which arises out of a world of realities without the reality of a God." He thinks the religious feeling of childhood should be cherished, for it is impossible suddenly to restore a lost religious sensibility through speculative conviction. "But positive religion does not belong to the educator as such, but to the church and to the parents." The followers of Herbart, seizing upon the fact that Germany is a unit in demanding the teaching of religion in the schools, have made this the pivot about which everything turns and to which everything is related. This I regard as purely accidental, and by no means necessary to a thorough application of the Herbartian principles.

#### THE SCHOOL PROGRAM.

This subject, not minutely treated by Herbart, receives a much more thorough handling by his successors. It will suffice here to present some of the important principles which have been more fully developed by them.

Instruction should take only so much time as shall leave to pupils their natural elasticity of body and mind. This is necessary, not only for health, but for the very end and aim of education, the creation of interest and the consequent reinforced attention. Discipline may, indeed, compel attention, but it does so at great expense. There must, therefore, be appropriate resting periods between the hours, with a moderate number of hours at school, and moderate home work. Herbart would be a thoroughgoing opponent of the modern American no-recess notion, were he now alive. Forced gymnastic exercises do not furnish adequate relaxation. Instruction must be concentrated. To give one or two hours a week to a subject he declares to be a deep-rooted absurdity, under which no continuous teaching can thrive. He therefore favors the American plan of daily lessons in a subject, and opposes the German plan of giving fewer hours a week and longer periods of time to the various branches of school work. He declares that the German method breaks up continuity of representations, and

hence is detrimental to interest. Taste and participation demand a chronological progress from the old to the new. In language, therefore, boys should begin with Greek, continue later with Latin, and close with modern languages in riper years. In this thought, it may again be remarked, is the root of the *Cultur-Historischen Stufen*, already referred to.

#### GOVERNMENT AND TRAINING.

In instruction the teacher works upon the mind of the pupil through a neutral third, the matter to be learned. That part of education which works directly upon the pupil stands over against instruction, and is generally conceived as a unity. Herbart, however, divides it into Government (*Regierung*) and Training (*Zucht*), for he believes that these two elements really exist, and that a consciousness of them will help to avoid mistakes likely to occur through ignoring or overlooking them.

By government he means the immediate maintenance of outward order, the holding in check of youthful perversity, partly that education may succeed, partly to secure the safety of the child in many kinds of danger, partly to protect society against childish love of destruction and mischief. This youthful impetuosity and boisterousness must be controlled, ultimately, by force.

Training (*Zucht*) is the moral education itself, in so far as it works directly upon the mind. It seeks to build the will, whereas government attempts only to hold it temporarily in restraint. Training is here related and united to instruction, and together with it comprises the whole of education. Government works for the present, training for the future. It is the business of government to hold youthful impulses in check until training has time to form a will which shall be able to control them. Great harm ensues when the teacher always governs but never trains; when he imagines that older and shrewder pupils need only shrewder government. Although in the earlier stages of education, training and government use similar regulations, yet they must never be confounded. One

sees here an application of Herbart's assumption as to the acquired nature of **moral character.** The child has no original inborn faculty of morality. In early youth he cannot see beyond his youthful impulses to destruction and mischief, which must be restrained. There is in the child no ready-made will capable of deciding; there is present no feeling and idea of the moral. If this is true, nothing can be more welcome than Herbart's government, which merely paves the way for the culture of the desired will.

These childish offenses arise out of desires having a bodily or a mental origin, and the wise teacher seeks to remove their cause. For example, if disturbance arise from bodily restlessness, this is an indication that seats are uncomfortable, or that the air is bad, or the temperature too high or too low, or that the recitation periods are too long. Disturbances arising from mental conditions must likewise be traced to their source, that the disturbing cause may be removed. The impulse to mental activity is one of the strongest in the child. If school-work is not properly planned, some children will receive no food for mental activity from the teacher, and will, of course, supply their own. It follows naturally, when the teacher has been able to excite only indirect interest, such as follows from discipline or unworthy incentives to study, that disturbances arising from mental dissatisfaction are always imminent. In such cases the disturbing cause is the teacher.

The watchful attention of the teacher is a means of government to prevent disorder. Again, the teacher may demand obedience to his directions. If the obedience is to follow as a result of the teacher's directions, without inquiry into the reasons of the same, then any means taken to secure obedience belong to the department of government. The obedience that follows the directions of the teacher because the pupil, in consequence of reflection, has agreed to their correctness, falls, not under government, but under training. The means of enforcing commands are warnings, threats, and finally punishments, of which there is a long ascending scale, at the top of which stands corporal chastisement.



It is the office of training to unite with instruction to form character. But character-building is will-building. To understand, therefore, how training is to affect the will, we must make a summary of Herbart's doctrine of the formation of the will. Will arises out of desire when coupled with a conviction of the possibility of its attainment. *The representation in its strength and completion is will.* But along with every action of the will there is present in consciousness a mass of representations concerning motives, duties, considerations, etc., all of which together form a "picture" of the will-action. When the will a second time has occasion to make a similar decision, this "picture" of the former action at once rises into consciousness. If the second decision coincides with the first, the total representation is much strengthened and vivified. Later repetitions continue to deepen the impression. If now, upon a later occasion, a desire arises which contradicts and opposes the decisions already made, there at once begins a mental strife or struggle between the opposing representations, the old and established group, which has been made strong and vivid by repeated actions of the will, on the one side, and the new and opposing desire on the other. If the later representation falls in with the former the hindrance is removed, union takes place, and mental peace and comfort follow. If, on the contrary, the decision is opposed to previous right ones, the opposition remains, and a mental discomfort ensues, the highest degree of which is called remorse. Out of single acts of will, then, grows the more general will. Every new similar action strengthens the tendency already at hand. The memory of the will, or reproduction of the will—"pictures," becomes important in this consideration. If the reproduction is to be rapid and clear, the representations of which these "pictures" are composed must be intimately and strongly united. This would be the case, for example, when a will-action arises from energetic and thoroughgoing reflection. The latest series of representations, then, are examined by the apperception, or synthesizing power of the mind, to see if they can be harmonized and united to the former. The result is a judgment on the

matter, out of which rises a command or prohibition. When such a judgment is extended so as to include not merely a single case, but a whole class of similar cases, we call it a practical principle of conduct, or maxim. "If these maxims are to hold good for life, they must arise through and out of life; true maxims are always the expression of a portion of the life history of an individual. Maxims which have their origin in the thinking reflection, as, for example, in instruction, must be practiced in life to become real maxims."<sup>1</sup> It is the business of training to see that all classes of will-action are brought under the dominion of moral maxims, in order that a "symmetrical passion for good" may be created. "Character is, in general, uniformity and fixedness of the whole of will."

Children have at first no real moral character. It arises gradually, and begins when here and there single moral volitions arise from the union of similar acts of will. These more general determinations of will-action which, through the apperception, begin to accept or reject the new will-actions, form the beginning of the *subjective side*, or subjective foundations of character. Over against this stands the *objective part*, or the single will-act which results from a manifold of desire. The subjective part of character is *that which determines*; the objective part is *that which is determined*. In regard to the subjective side of character, it is the task of instruction, in company with training, to see to it, not that several ruling lines of thought, existing alongside of or after each other, come to validity, "but that there be secured that unity of a ruling habit of thought upon which rests the energy and consistency of will peculiar to character, and through which a limit is set to the rule of passions." With these general remarks about the nature and growth of will, we may turn to the more individual phases of training.

Empty training, the mere playing upon the chords of sensibility, is by all means to be avoided, for it merely deadens sensibility without effecting anything more.

It is the duty of training to care for the deed, through

<sup>1</sup> Volkmann, *Lehrbuch der Psychologie*, ii., 454.

whose courage the will is strengthened ; of course to further the good, to suppress the bad. There are two characteristics of the will-furthering deed: (1) It must have an aim of real, earnest significance, and (2) it must proceed from an earnest desire of the child ; must spring from a direct rather than an indirect interest. It is the business of training not to suppress disorder, but to cultivate that habitual right tone of mind so essential for instruction. It seeks to remove disturbing influences, so that no matters of overpowering temporary interest fill the mind. It seeks to secure a collected state of mind in pupils. It works to the end that the same docility, willingness, and openness be ever present or newly awakened, and if the pupil has reached the point where his self-activity suffices as impelling and guiding force, training seeks to give him the needed quietude. In its direct influence upon the will, training has for its end fixedness or firmness of character.

The factors of its activity are as follows :

1. It limits and enlivens action according to its own sense. In that it limits, it meets the closely related government, but its "accent" is very different,—not short and sharp, but measured ; of slow penetration and gradual withdrawal. It limits harmful action through diverting employment and through punishment. This last, however, belongs to training only when the action is seen to be deliberate, and where new excitations break forth, which, continued, would impress false features upon the mind. It enlivens action where the present tendency of thought gives hope of a correct determination of character.

2. In reference to what has been called the objective side of character, *i.e.*, the volition resulting from a manifold of desire, training must support and determine (*halten und bestimmen*). By the first of these is meant the correct procedure of training in order to effect the memory of the will. This is brought about when the teacher always conducts himself toward the pupil with quiet and fixed certainty, never losing presence of mind, and always answering to the tone of mind in which he has placed his pupils. The teacher must be so won for education

that he himself is largely determined by the pupils, and then, through a natural reflex influence will determine them. The teacher must press the naturally determining feelings so penetratingly upon the pupil that he will early perceive the true relation of things. Here is the place for the punishment which is to train. It is distinguished from the purely police punishment, in that it is not adjusted by any measure of retribution, but must be so measured as always to appear as well-meant warning, which does not excite ill-will toward the teacher. It avoids as much as possible the positive and arbitrary, and limits itself where it can to the natural consequences of human action. Rewards are to be given according to the same principle.

3. In relation to the *subjective*, or *determining* side of character, training should be *regulative* and *supporting*. Here the principles of action which the pupils themselves have, are taken into account. Training lets it be felt that it does not understand an inconsequent action. Furthermore, it calls attention to the crudity of hap-hazard principles of conduct, but it never treats slightly what springs from earnestness of purpose, even though the same may deserve and receive reproof. Training gives support in the struggle of principles to assert themselves, provided, of course, that they deserve support. Here authority and an exact knowledge of the condition of the pupil's mind are important. "For it is precisely the inner authority of the child's own principles of action which must be supplemented and strengthened by an external but exactly similar authority."

This in general is the application of training to the work of education. Herbart adds some important remarks, however, in reference to morality. The memory of the will is not always desirable, for the bad may be remembered as well as the good. Training must seek to put to confusion and shame that which is evil. The estimate of the good will is not always to be determined by the result of the action. In early youth, when instruction and environment invite to the first moral apprehension, Herbart demands the preservation of a quiet,

clear frame of mind, and the preservation of a child-like sense. That is harmful which opposes a natural forgetfulness of self. Just as the healthy body is not felt, so the care-free child should not feel its existence, for it should not make itself the measure of the importance of that which is external to itself. All, then, which continuously and actively calls attention to self is harmful for moral training. These disturbances may arise from pain, pleasure, sickness, and exciting temperature, bad treatment, frequent teasing, neglect of needful care, or from anything which feeds vanity and self-love. Further, in this period the tender feelings of the child must be protected and favored by the removal of everything which can accustom the imagination to the morally hateful. This excessive care would with growing years and moral power be a mistake, for in the moral as in the physical world, long continued tenderness is a poor means of protection against rigor of climate. It is only with the negligent educator that the child takes up and imitates all he sees. The making glad through deserved approval is the fine art of training.

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The foregoing sketch of the Herbartian System of Pedagogics has sought to be merely an exhibition of its outlines, and by no means a critique of the same. If any teacher has been interested in this brief discussion, he will find the study of the recent development of the Herbartian ideas still more suggestive. Limitations of space prevent any present discussion of what is now being done along this line. It is hoped that we shall soon have an English translation of Herbart's *Allgemeine Pädagogik*, and the nucleus of a new school of pedagogy, guided mainly by Herbartian ideas, is gradually forming in this country. From these men, most of whom have enjoyed the best educational advantages both at home and in Germany, we may fairly expect much help in rendering educational thought exact, attractive, and inspiring.

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## DISCUSSIONS.

### RELIGION IN THE COMMON SCHOOLS.

We are accustomed to speak of religion as the organized form of creed and practice in divine things which men hold. It is religion in this sense which, I assert, should not be taught in our public schools. The reasons are, first, that our national constitution forbids it. That constitution expressly declares "Congress shall make no law respecting an establishment of religion or prohibiting the exercise thereof," and our state has adopted the same restriction.

The authorized teaching of religion in our public schools would be a governmental indorsement of a sectional creed. Every principle of that creed would have to be sustained from Protestant, Roman Catholic, Unitarian, Calvinistic, Armenian, Lutheran, or Jewish points of view. This would be the establishment of a religion by the government.

The second reason is that such introduction of religious teaching into our schools would lead to endless strife among the various sects. Each would seek to have its own form of belief recognized, and all the others would assail the successful one. An attempt to have all satisfied would be futile, by reason of their great number, and by reason of the apparatus and appliances of religion that they would naturally and properly demand.

The third reason is that no religion can be properly taught except by a religious person. This would make it necessary for the government, in order to appoint proper teachers, to examine each candidate on religion. One can readily see what a travesty of religion this would be. The government may be represented by very irreligious persons. Imagine such testing the spiritual character and faith of thousands of teachers!

The fourth reason is that the public school was instituted to make citizens, and not religionists. However desirable piety may be in a citizen, it is not a necessity for citizenship, for, if it were, we should have to disfranchise half our population. The public school instruction to make citizens is such as to

enable the pupils to read and understand the history, constitution, and laws of the country, to use letters and numeral figures in conveying their wishes in accordance with their knowledge, and to become well-behaved citizens in their lives. Beyond this, public education is a luxury, such as giving each citizen a house or farm, and is wholly contrary to the genius of our institutions. All this luxury of the higher mathematics, languages, music, classic literature, and science, belongs to private enterprise, as much as theology, medicine, law, or banking. The public school has no more right to teach religion than has the Military Academy or the Coast Survey. To call the one godless on this account, is parallel to calling the other godless.

The fifth reason is that religion is too sacred a thing to be committed for its teaching to the public official. It belongs to the fireside and the church. There, in its appropriate school, it can be deeply and thoroughly taught, and not be mutilated, distorted, and corrupted by a careless, ignorant, or apathetic teacher.

While I thus oppose the teaching of religion in our public schools, I uphold the teaching of morality there. To say that religion and morality are one is an error. To say that religion is the only true basis of morality is true. But this does not prove that morality cannot be taught without teaching religion. We cannot teach a child unless it have senses. The use of the senses is a necessity to the knowledge of arithmetic. But the teacher of arithmetic has not to provide the child with senses. There is a religious instinct in every soul. That religious instinct ought to be cultivated in the home and church. The morality that should be taught in the public school presupposes this basis. That lying, stealing, uncleanness, and violence are wicked can be taught on the presupposition of this basis. These teachings belong to the category of things necessary for right citizenship, for the whole world recognizes these principles of morality as necessary for the safety of the state. Whether any book should be used as a text-book on morality might be left to the discretion of the governors of each school. If such a book should be used, it should be one acceptable to all religionists, unless the objection be that more is wanted. The religionist who cannot object to the morals inculcated in the book, but objects to the book's use because he wants more to be taught, is to be con-

sidered as approving the book. In many cases the wise teacher is better than a book.

The only question remaining is, Should this morality be founded on God's will? Certainly. The man who does not recognize God is not to be consulted in the matter. The atheist is no religionist, and we have to do only with religionists. With the atheist we can have no common action in anything. The teacher should always declare it to be God's will that we should not lie and steal. On this basis our public school system would be conformed to our American institutions.

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#### THE FUNCTION OF SUPERVISION.

The attempt to educate the masses has necessitated the organization of school systems directed from certain centers of authority. System is generally an organization through which a superior may exercise his will, though it is often defended as a mode of economizing force by the distribution and subordination of functions. The perfection of system in an army is its readiness to be hurled hither and thither at the instant will of the commander. The same is true of a police force, of a fire department, and, in a modified sense, of a great railroad service.

The idea in such organization is a careful calculation and distribution of definite duties to be performed at the word of command. The correlatives are authority and obedience, the one checked by responsibility, the other solaced by immunity from blame. A somewhat similar organization is necessary in carrying on the education of masses. There must be a distribution of force and a subordination of function. There must be a responsible head, having authority over obedient subordinates. But the analogy does not hold throughout; or if made to do so we create a remorseless and destructive machine. Education involves the doing of certain things in certain sequence. The educator may determine what ought to be done in schools; he may even calculate how much can be done within a given time. He may unwisely order it done. He will be obeyed, at least so far as the letter of his instructions is concerned. But it is the letter that killeth;



the spirit only maketh alive. He will be obeyed with an alacrity that is simply fearful to contemplate. If he indicates what must be done it will be done, regardless of what a wrench the children or the teachers themselves may receive in the doing of it. If the educator is unwise enough to want implicit obedience, he will get it; but he will get a juggernaut car rolling over the necks of children and teachers. Supervision finds a closer analogy in the current administration of justice. Law is a rule of conduct laid down by the superior power in a state, commanding what is right and prohibiting what is wrong. But law is based upon a calculation of average conditions, and its operation in special cases might prove peculiarly distressing. Equity, therefore, steps in as a special means of relief wherein the law by reason of its universality is deficient. The educator is at his best when he is acting as his own court of equity, easing the distresses which he knows to be inseparable from his own legislation. It is his function to construct a framework for the administration of teaching force; but it is his higher function to see that the very framework he creates does not pinch its subjects at any points. His function is to give the word to move; but his higher function is to cry a halt in season. Having started a great educational machine, he observes its operation, as it were, with fear and trembling. He is at his best in easing up its action, in checking evil tendencies. Only occasionally is it his function to apply the spur or whip to a laggard. There is a tendency in all school systems to make teaching synonymous with instruction, and to give instruction hurriedly. Where teaching is made synonymous with instruction, the laws of physical, intellectual, and moral health are likely to be ignored. Where instruction is given hurriedly there is a tendency either to over-taxation or to superficial work. Whatever the evil tendency, it is the highest function of supervision to detect it, and to nip the evil in the bud.

In the absence of supervision there are tendencies in a system of schools to many forms of deterioration. There is a tendency to admit the inroads of selfishness and incompetency; and there is a tendency to hum-drum routine. This state of things is bad enough; but it is only exchanged for a worse condition when an autocrat fixes his arbitrary standards and issues the word of command. It is the function of supervision to breathe upon a school system the breath of life, to

infuse into it a generous purpose, and to direct it toward beneficent ends. This presupposes educational ideas, and an expert knowledge of the necessary machinery of schools. It is not enough that a merely intelligent man, equipped only with empirical notions, should assume the responsible duties of supervision. Intelligence and executive ability are forceful qualities everywhere ; but they alone do not equip the physician or the lawyer ; neither do they equip the educator. To the necessary basis of common sense must be superadded the science or philosophy of education. The educator must be deeply and fruitfully read in the literature and philosophy of his profession. When he comes to the battle royal with his subordinates and his official superiors, he needs to be fortified with principles that are as universal as nature and as eternal as truth itself. His battle royal is the battle for needed supremacy. His contract may vest him with legal authority ; but that is worth little or nothing to him. He needs to be a leader ; and he will not be recognized as such until he has been put to the supreme test, and has fairly won his spurs. He never can become a leader where any think contemptuously either of his personal attainments or of his intellectual acumen. These must be such as to create a bias in his favor, if he would have any hope of having his philosophy received into hospitable minds. He must rule by an imperial, not by an imperious personality. There are battles royal in which the vanquished are crushed ; but such is not the battle royal of supervision. Having established his supremacy, the superintendent needs to leave all about him as brave and self-centered as ever. Intellectual cowardice in his subordinates would be as disastrous as moral timidity. Instead of fear he needs to inspire those who have once crossed swords with him with

Such joy as generous warriors feel  
In foemen worthy of their steel.

His supremacy is a domination. He must dominate all who have to do with his schools. But his domination is without any suggestion of domineering. He has simply won a hearing. He can now diagnose and characterize existing evils to some purpose ; and he can point out with persuasive influence the pathway of improvement. Much dissatisfaction with schools arises from the fact that superintendents so frequently do not measure up to this standard. The fault is

charged up to the system, whereas it is the fault of the superintendent. The dissatisfied patrons begin casting about for a new system, when they should be casting about for a new man. Where the supervision is up to the standard the schools do give satisfaction. Efficient schools always give satisfaction.

There is a tendency in all but the broadest minds to confound means with ends. A supervising officer is necessary to prevent the worship of a system for itself, to lead the minds of subordinates up to a proper point of view, and to preserve a due perspective in things.

The enlightened superintendent may see occasions for modifying his scheme of work; but a fad finds no favor with him; he never bestrides a hobby.

The superintendent has accomplished much when he has become clear in his own philosophy, definite in his purposes, and victorious in the battle for mental supremacy. Having learned how to dominate men, he has yet to learn how to dominate a system. He has to learn how to project his intelligence, enthusiasm, benevolence, and wisdom to the child farthest removed from his office. He can do this only by taking his teachers into his confidence, as it were, by bringing them into intelligent sympathy with his ideals. He can do this, not by making the teachers feel the weight of his authority, but by causing them to forget that he has any authority. He must have frequent teachers' meetings, and those must be conferences in the best sense of the term. Where his teachers are too numerous to be brought directly under his voice, or into immediate contact with his thoughts, then must he plan to inspire them by proxy. He must so indoctrinate his principals that they will be able and willing to inspire their several bodies of subordinates.

But it must not be inferred that he can do all his work by proxy. General doctrine alone passed down through given channels will not meet the needs of the situation. It is not enough that the superintendent shall be able to talk well about schools; it is necessary that he shall be able to talk well about the particular schools over which he presides. He must know by personal inspection the exact point of evolution to which his schools have reached, and he must know the tendencies, good and bad, which have been started within the past week. While full of doctrine, he needs to be the very antipodes of a doctrinaire. He needs to be an expert in the practical admin-

istration of affairs. He needs to see quickly, to diagnose instantly, and to be ready to do not only the right thing, but to do that right thing at the right time.

The function of supervision is one of the most interesting departments of educational philosophy. Only a strong personality can succeed anywhere. Still, a strong personality is not an absolute guarantee of success. A strong personality misdirected is only an instance of failure on a mighty scale. The ideal superintendent must be a strong and forceful man, thoroughly imbued with the most enlightened views of the special function of supervision.

JOHN KENNEDY.

SUPERINTENDENT OF SCHOOLS,  
BATAVIA, N. Y.

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#### SCHOOLS EAST AND WEST.

According to Mr. Bryce, "the West is the most American part of America." In the matter of schools the keen English scholar and statesman is certainly right, for America stands for opportunity and progress, and the schools of the West furnish opportunities to pupils and teachers superior to those of the East. Western schools are progressive or nothing.

A boy or girl in Michigan or Minnesota who is scholarly and ambitious, enjoys the best educational opportunities that his State affords. He is fitted for college in the high school of the village or city in which or near which he lives. He is advised in his choice of studies, and he is encouraged by his teachers, who are usually college graduates, to prepare for college. If the high school graduate determines to enter college he finds that he is enabled to enter "on diploma," without examination; just as he passed from the primary to the grammar grade or from the grammar grade to the high school. He will usually find it necessary to leave home, but there is no tuition to pay, and he may make his college expenses so light that he can pay his way as he goes, by teaching or by work of some other kind. As a result, in both country and city in the West, most of those who complete the work of the grammar grades enter the high school, and a goodly proportion of the high school graduates continue their studies in college. For several years past more than one-half of the graduates of the Minneapolis High School have entered the State University, or other col-

leges. The parents of more than half the students in Michigan University are farmers.

Now contrast the lot of the Michigan or Minnesota boy with that of a resident of the State of New York. In the country and smaller cities, New York has learned from the West, and the situation is improving; but twenty years ago a farmer in western New York found it necessary to move to Michigan and locate near a village high school that his children might be prepared for college while at home. In the large cities of the East, thousands of boys and girls of excellent ability have but the rudiments of an education because their fathers failed to follow Horace Greeley's advice. Much good college material is lost. A pupil in the public schools of Minneapolis or St. Paul has ten chances of getting a liberal education where the Brooklyn or New York boy has one. The chances in the large cities of the East are that, when a boy of ability has run the gauntlet of the grammar school, many excellent opportunities have been lost. His appetite for school and study is anything but whetted by the monotonous grind he has undergone. Much of his instruction has been a positive mis-education. He is usually over fifteen years of age. Two years earlier he should have had an opportunity to begin the study of Latin, and indeed German or French also, if he is to know what President Dwight says a boy should know at the age of eighteen. There is a prevalent opinion in the enlightened cities of the East, shared by not a few teachers as well as parents, that graduation from the grammar school is all that is necessary, certainly for those pupils in the common schools whose parents cannot afford to send them to private institutions.

Commissioner Harris relates that while teaching in the East he was hampered by being expected to work in accordance with the ideas of others who were ready to do his thinking for him. In the West the conditions were changed, and he found himself in a position where he was expected to think for himself, encouraged to think for himself, stimulated to thought and activity by the responsibility imposed upon him. Boards of education in the West have not yet made as many rules and restrictions, nor have they elaborated courses of study with the precision of the Eastern boards. There is not quite so much supervision in the West as in the East. The teacher is more independent in the West than in the East. In the West education and ability count for more than methods of

teaching and long experience. In fact long experience in one position argues **want of energy and "push."** It is held in the West that a teacher of merit should be in general demand, and should frequently better himself by changing his position. There is more competition in the West than in the East, as well as a more enlivening and stimulating condition of affairs for both pupils and teachers.

GEORGE N. CARMAN.

HIGH SCHOOL,  
ST. PAUL, MINN.

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#### POLITICS AND EDUCATION IN SOUTH CAROLINA.

In the EDUCATIONAL REVIEW for March, 1891 (I: 285) there was printed an editorial on "Politics and Education in South Carolina." I assume that the editorial was based on information thought to be trustworthy, and that no injustice was intended. But many of the statements made therein are so very erroneous that a great injustice has, in fact, been done to the State of South Carolina. I therefore deem it proper that such statements should be corrected and the exact facts stated, in order that any wrong done to the people of that State may be righted.

I am at a loss to understand the source of the information on which the editorial note was based. The detailed statement of the departments of the university gives evidence that the informant was familiar with the workings of that institution. The idea, however, of the proposed reorganization of that institution is not fairly stated. The purpose is to transfer the agricultural and mechanical departments from the University to the Clemson Agricultural and Mechanical College, where they more properly belong, to abolish those features not suited to or demanded by our needs, and to establish the institution on a basis that will meet the wants of the people of the State and endear it to their hearts. That the reorganization should meet with the disapproval of some, is quite natural. But disapproval should not warrant a misrepresentation of the purposes for which the reorganization was brought about.

Being, apparently, not included in the criticism of the Superintendents of Education of this State, I may, with propriety, say that it was unjust. To mention their names and give

their terms of office is quite sufficient to remove the imputation cast. Ex-governor Hugh S. Thompson held the office for two terms, from 1876 to 1882; Hon. Asbury Coward for two terms, from 1882 to 1886; and Hon. James H. Rice for two terms, from 1886 to 1890.

The charge that the teachers' institutes that have been held in this State were "not of the most helpful kind" is most unkind. The state institutes were conducted by Dr. F. Louis Soldan of St. Louis, Professor M. A. Newell of Maryland, Professor Henry E. Shepherd of South Carolina, Professor Edward S. Joynes of South Carolina, Professor H. P. Archer of South Carolina, Dr. A. J. Rickoff of New York, and Dr. L. R. Klemm of Ohio, respectively, with competent assistants. Are not these names sufficient to condemn the charge? The State institutes served their purpose in preparing the way for county institutes, and were discontinued in 1886 and the county institutes inaugurated. The statement that "the State institutes were paid for by the trustees of the Peabody Fund" is misleading. The fact is that from 1881 to 1886 there was an annual appropriation of \$1500 by the State and \$1000 by the trustees of the Peabody Fund for that work.

The statements that "the feeling has found expression that the money spent for county institutes was almost entirely wasted" and that "not one dollar appropriated for teachers' institutes" this year are untrue. From 1886 to 1890 county institutes have been held in many of the counties of the State. They have been paid for by county appropriations and appropriations from the Peabody Fund. The largest appropriation for any of these years for this work was \$2050, including amount received from the Peabody Fund. This year the counties have appropriated for institute work \$4400, and \$2000 coming from the Peabody Fund, makes a total of \$6400.

The Winthrop Training School was not "dismissed with a mere pittance." It received all it asked for—its annual appropriation—and could have gotten more had not its own trustees decided not to ask for it, because of the fact that efforts were being made to secure the passage of a resolution looking to the establishment of a "Normal and Industrial College for Women." The resolution passed, a commission has been appointed, and is now at work.

The thrust at the Agricultural and Mechanical College,

which is spoken of as "a mere phantom," misses the mark so far that it is actually painful. The fact is that in 1888 Mr. Clemson died, leaving a will whereby he gave to the State a large landed estate, the old homestead of John C. Calhoun, and some personal property, aggregating in value about \$100,000, for the express purpose of founding an agricultural and mechanical college. The State, by act of the Legislature, accepted the gift, and is proceeding to erect suitable buildings. The trustees have elected the faculty in part, adopted a course of study, and have over two hundred applications for admission. Under the circumstances it would seem to be not improper to reorganize the University and transfer the agricultural and mechanical departments to the Clemson Agricultural and Mechanical College and dispense with such other departments as have proved to be impracticable, unadvisable, or failures. The normal department was one of the latter. It has but four students in it this year (one in the full and three in the shorter course) and had but five last year (one in the full and four in the shorter course). The reorganized institution will be a literary and classical college proper, of the highest grade.

Bearing in mind the foregoing facts, and remembering that the "recent political upheaval" took place last year, "it is difficult to see what motives that are commendable could have led" the informant to stray so far from the path of truth in describing the purposes of these "political leaders."

W. D. MAYFIELD.

STATE SUPERINTENDENT OF EDUCATION,  
COLUMBIA, S. C.



VI.

FOREIGN CORRESPONDENCE.

CONTEMPORARY EDUCATIONAL THOUGHT IN PRUSSIA.

During the past century the school has been the pride of Germany and Prussia. Since the time of Pestalozzi, popular education in Prussia has attained a height universally recognized, though on account of the lower rank of its Eastern provinces, the average is surpassed by Bavaria, Saxony, and Baden. While in 1884, 1.97 per cent. of *Analphabeten* (illiterates) were found in Prussia, Bavaria had only 0.47 per cent.

The foundation of national education is universal compulsory attendance at school, whereby all the inhabitants are forced to send to school children from six to fourteen years old, who are not obtaining instruction elsewhere.

In 1881 the number of children attending school throughout Prussia was 4,815,974, while, on the other hand, the number of children who had reached the age when the law required them to do so was 5,503,970. This remarkable difference is explained by the fact that about one-eighth are removed by attending higher or private institutions, by delicate health, by premature dismissal, and delay in admittance. The children actually attending school formed 17.7 per cent. of the whole population. Throughout Prussia there is now one school-room and one teacher to 446 inhabitants and 78.8 children actually attending school. This shows that there are far too few teachers.

But the government and the cities have recently devoted considerable sums to the establishment of new places for teachers, so that, in the year 1881, there were 10,000 more teachers working in the public schools than in 1873. The salaries of the teachers were also raised. The average payment in the country is 954 marks, in the cities 1430 marks; certainly a very considerable difference. In the country only 14.10 per cent. receive more than a thousand marks, in the cities only 32.69. It is evident that great sacrifices must be made in order to give these toiling people a livelihood more worthy of their deserts. The expense of maintaining the

Prussian national schools amounts annually to about 102,000,000 of marks, 43,000,000 of which are paid by the cities.

One hundred and ten colleges for the training of teachers are now engaged in the education of male and female instructors, with an attendance of 9892 pupils; that is, there is one pupil to every 2758 inhabitants. In the case of the female teachers only, a considerable degree of assistance is rendered by private institutions.

The instruction in the national schools is given according to long tested principles, so that at present it leaves little to be desired.

The intermediary schools established in 1872, and recently converted into the higher citizen schools, form a transition from the national schools to the higher schools. These teach religion, German, French, English, history and geography, arithmetic and mathematics, natural history and physics, writing, drawing, singing, and gymnastics. The course embraces six years without Latin, with the privilege of one year's service in the army instead of three.

Complementary to the national school is the finishing school. There are a large number in Prussia, namely, 1261 with 68,766 pupils; 617 with 10,395 in the country, and 644 with 58,371 in the cities. Of these 644, 342 are obligatory by local statutes, 302 are optional. Since the law of 1878 special care has been devoted to the compulsory education of orphaned children. From 1878 to 1883, 5988 such children have been subjected to compulsory education, and of these 82.8 per cent. in institutions, only 17.2 per cent. in families. In these institutions every effort is made to bestow an education which will develop equally both mind and body.

The preparatory instruction of female teachers leaves much to be desired. After a talented young girl has gone through the higher girls' school, she attends for two or three years a public or private seminary,<sup>1</sup> where she is instructed in all the departments taught in the higher girls' schools. In the brief time allotted, this can be done only very superficially. While the male teacher studies only two to four departments, the future female teacher in the national schools must learn thirteen, for the examination in each is rigid. Of course, real study, that is, thoroughness, is out of the question. In pedagogical education, too, she is inferior to the male teacher of

<sup>1</sup> The name applied in Germany to a college for the training of teachers.

the national schools; the latter is duly trained at the seminary in the methods, can perfect himself between the first and second examination, and usually has more physical as well as more intellectual vigor. Recently there has been a movement among the female teachers to introduce, first, a two-fold examination for lower (national) and higher female teachers, and secondly, the choice of the departments for which they desire to prepare themselves.

For several years annual assemblies of male and female teachers in the higher girls' schools have labored actively for the education of girls. The main object of education is feminine charm and courteous manners; but greater consideration must be paid to the peculiarity of the feminine constitution, which suffers doubly from the injurious influence of school life. Female teachers must therefore be employed more than formerly. For the lower grade eighteen, for the highest twenty-eight hours of instruction should be the largest number required; domestic tasks should be limited as much as possible. Eager discussions concerning the various departments of teaching and the amount of subjects to be learned are encouraged. Berlin has several private institutions for the higher training of male and female teachers: the Humboldt Academy, and the Victoria Lyceum. Scientific lectures are given in both: in the former to ladies and gentlemen, in the latter to ladies only.

By far the most interesting part of the whole school system is found in the higher schools, especially the Gymnasia and the Realgymnasia. The demand made twenty years ago by Weiss: "Public opinion must take possession of the school question," has been fulfilled. The Emperor's words, uttered at the opening of the School Conference on the 4th of December last year, forced even the interest in Koch's discovery into the background. The proceedings of this Conference were followed with the keenest attention, not only by those most closely concerned, the teachers, but by the parents, not only within the boundaries of Prussia, but throughout all Germany, on which Prussian arrangements exert a more or less determinative influence.

It is well known that until the middle of the last century there was but one higher school in Prussia, the Latin monastery school or humanistic gymnasium. It was not until 1706 that the first Realschule was established by Semler, which

was soon followed in 1747 by the Hecker school in Berlin. Gradually a number of other schools which arose from various well authorized needs were added, such as the Oberrealschule, the higher citizen schools, the Realgymnasia, industrial schools, commercial schools, agricultural schools, architectural schools, schools for the training of teachers, and preparatory schools. All of these have their value and their public. But of them all the Realschule, or, as it has been called since 1882, the Realgymnasium has developed more and more into a rival of the humanistic gymnasium. Three decades ago, the Prussian minister of public instruction, von Bethmann-Hollweg, asserted, "The Realschulen will knock at the doors of the university and admittance will not be denied." In fact, in the victorious days of 1870 and 1871 admittance was granted, at first to the philosophical faculty and, when they proved themselves well qualified in it, but too much restricted, an enlargement of their rights was obtained, especially since 1882, when a more scientifically arranged plan of instruction was given to all the higher educational institutions. But a violent conflict between the Humanists and the Realists was kindled. The former considered the latter's claims a trespass upon their privileges, and behaved as though the latter desired to force them wholly out of their places, of which, of course, only a few Hot-spurs thought. The more eagerly the former defended their monopoly, the more they naturally challenged public criticism, and it was undoubtedly these men who weakened the foundations of classical education. Then came the school conference of December 4 to 17, 1890. Of its results the readers of the EDUCATIONAL REVIEW have already been informed (I: 273). The Gymnasium is to be retained, with a slightly modified curriculum.

German will hereafter form the central point of the whole education. As a rule, every man learns but one language thoroughly during his life, his native tongue. But we Germans attribute far too little importance to really learning this. The great assiduity in studying foreign languages, it is true, gives us a partial comprehension of the differences and peculiarities of our own, but it also corrupts style. Latin and French constructions often mar German writings; the grammatical and rhetorical attainments of most educated men are very defective. But above all reading, studying of German authors, practice in verbal discourse and written descriptions, should

form the greater number of all lessons. Thus a thoroughly national education would be fostered; the historical, geographical, and philosophical education would be completed; enthusiasm for the native land, art, and poetry would be awakened.

At this point I may at the same time allude to a widely diffused error, namely, that the influence of the school upon the pupils' development is overestimated. For in the first place they hear and see so many things outside of the school in their parents' homes, in the streets, and in life, that the school by no means solely determines their characters and understanding of life. Secondly, human beings bring their characters, their traits into the world, into the school with them; the latter can therefore, at the utmost, only ennoble, but not wholly transform them. Thirdly, persons will almost always first show their real value in the world outside, after the school-days, through life itself. It is a well-known fact that the boy who seemed dull and idle at school afterward becomes exactly the opposite, as soon as he enters a profession that suits him. Fourthly, it would be of very doubtful value to the government, if the school alone completed the education; for if, when there was a change of ministers, views of German history or governmental arrangements totally opposite to the former ones should be held, there would be cause to fear a continual change in the instruction given in the schools. And what false conclusions result from the axiom: the school alone is responsible for the formation of the character. The infamous assassin Nödel was educated in the national schools—must they be responsible for his deed? No, either he was already base when he entered, or he became so in the outside world.

It is the same with the notion that the schools have to do the major portion of the work of fostering patriotism. We Germans are certainly good patriots; we love our native land, the princes of our country, our Emperor. But patriotism cannot consist in approving every measure of every one who chances to be at the helm of government. Otherwise universal history would be wrong, which teaches us that, in all ages, there have been, and may be, unjust government measures. Moreover, patriotism should in no case be so one-sided as that of the French, who despise and hate everything which is not French. Our nation has

become great for the very reason that, with true cosmopolitan wisdom, it has prized, studied, and appropriated everything good which other nations possess, that it has received foreign colonists, foreign thoughts and creations. Should its prosperity now be suddenly confined within the narrow limits of ancient "Germanism"? Therefore the main source of patriotism is evidently the family. Unfortunately most parents neglect their duty in this respect; nay, very many, without wishing to do so, damp the enthusiasm of young people by critical remarks. But how are teachers to foster patriotism? School festivals of all kinds have long commemorated the national exploits and extolled our native land. Something can probably be purposely effected during the course of education by reading the works of authors, especially German ones, in history and in geography; but tact is requisite in order not to attain a result the very opposite of the one intended. But it cannot be supposed that less has been done in this respect since 1870 than before, because very many of the teachers now giving instruction served in the great war, and will undoubtedly often speak of it enthusiastically to their pupils.

What is true of patriotism applies also to religion. Its native soil, too, is not the school, but the family. If the religious feeling is not revered, awakened, and fostered there, the school can do very little. As a rule the yearning toward God in a child's soul is very slight. A surfeit of religious doctrines, maxims, hymns, forms, ceremonies, prayers, as experience proves, often produces a result precisely opposite to the one intended. Not the school, but the church, has the largest share in fostering the increase of piety. Least of all should the school be pressed into the service of a rigid orthodoxy; it should not forget that the educational point of view must be its standard. Lessons in religion ought not to be hours dedicated to devotion, but give instruction in a grave, cheerful manner. (See my monograph: *Zur Reform des Religionsunterrichts*, Berlin, Habel, 1876.) The school must be content to establish in its pupils genuine religious feeling and sound morality. The means of doing so is on the one hand instruction, and on the other the teacher's example. Hypocritical sanctimoniousness, external attention to church forms, nay, even polemics against those who hold a different faith, will have no good result. In the choice and treatment of subjects the standard must be

genuine religious stimulation, rather than dead knowledge, scholastic erudition, or barren forms.

Let us now pass on to the narrower educational question. The methods of teaching must be corrected that the desired diminution of the school hours may not cause an increase of the study hours at home. The principal labor should rather be transferred to the schools themselves. This demand is at any rate well justified. As a means of fulfilling it, we need a more comprehensive pedagogical preparation of the teacher and a better position of the class of teachers in external circumstances. Many teachers, after attaining a sufficient degree of learning, enter their professions with imperfect pedagogical preparation. Therefore in 1890 the pedagogical trial years were instituted. The course of a higher teacher is this: At the end of a term of four years' study at the university, where he is obliged to attend all sorts of training schools, including a pedagogical one, he prepares himself during one to two years for the government examination, whose scholastic standard has been raised. If he passes it, he reports to the school board of his province for the first year of probation, which is assigned to him in some institution. Here at first he has only to be present at the lessons given by other teachers; not until toward the close of the year are a few lessons assigned to him, which he must give under the oversight of the teacher to whom he is allotted. At the end of the year he receives a certificate upon which, should it be poor, he can be dismissed from the profession of teacher. If he is considered qualified he now begins the second year, in which special pedagogical work, essays, and test lessons are to be done. He now enters another institution, where there is a pedagogical seminary. If he passes this year also successfully, he can be appointed, but it will be a long time before he is. He must remain for several years an assistant teacher, during which period he is paid only for the few lessons intrusted to him. At last (when from thirty to thirty-two years old) he receives a place with usually a salary of 2400 to 3000 marks, which very gradually and accidentally, according to the departure of a colleague from the institution before him, increases to the highest salary of 5100 to 6000 marks, according to the size of the city where he labors. Of course, with the present method of increase, very few obtain this highest salary.

Since outward circumstances are undoubtedly very impor-

tant, both for the teacher's pleasure and efficiency, and the respect of the parents, there is an intention of raising the salaries. It is desired to place the gymnasial teacher on the same footing with the judge as to rank and pay, and to introduce a sensible method of increase, that is, according to time of service. May this expectation become reality! The teacher's calling requires so much ability, character, devotion to the cause, and physical exertion, that it well deserves to be classed with the other learned professions. It is also intended to give to all the older teachers who now have the title of head master, according to a certain percentage (about the same as that of the *Gerichtsrat* to the *Amtsrichter*) that of professor. This certainly will not render a capable head master any more capable, but the external rank has its value.

The relief of the pupils is closely connected with the method of teaching. Complaints of overtaxing young people date from the year 1832, when Dr. Lorinzer first made them. Since that time parents and experienced teachers and physicians have constantly joined in the cry. And undoubtedly, with the growth of departments, the demands on the pupils must increase, as well as the pressure on the higher schools. Departmental teaching has contributed to this. Since teachers, instead of being examined in many branches as formerly, are now tested only in a few, but very thoroughly, they are all more or less specialists. They have studied everything because they desired to be tutors at the university; their aim was erudition, profound knowledge of details; then they enter the schools and, lacking judgment, imagine that they must impart to the stupid lads all their acquired wisdom (comparison of languages, historical grammar, archæology, etc.). In addition to this is the rivalry of individual teachers: each one believes his discipline is the main department; study, knowledge, the principal matter. So the influence of the class teacher (called *ordinarius*) must be increased, in order to check the extravagances of the departmental teachers.

This, however, will not be possible until the claims of the graduating examination are lowered. For every head master must consider it, regulate the lessons of the classes, especially the higher ones, for it, drill and cram with regard to it, no matter how much the brains of the young may be taxed. The question has been discussed whether the "*Reifeprüfung*" might not be wholly abolished. It did not exist prior to 1834,



and those days had quite as good scholars as our own times. In the future, however, the "Reifeprüfung" must be regarded simply as an examination for promotion from the first division of the highest class, that is—as in the other classes the respective departmental teachers, under the direction of the head master, decide on the basis of the class performances and the test tasks whether or not a pupil is qualified—the same method shall be pursued in the first division of the highest class. If this idea is consistently executed, its results must be very beneficial. Then the mechanical training of the young will be changed to a thorough absorption in the beautiful themes of the highest class, for they will not need to get a huge ballast of learning for an examination day.

The relief of pupils must also be afforded by setting a higher value on gymnastic exercises and by the solicitude of the class teachers for the physical and mental advancement of the pupils according to the claims of school hygiene, in which all teachers should be trained. The increase of lessons in gymnastics (alternating them among the scholastic lessons), tournaments, walks, excursions, encouragement to swim and to skate, perhaps also instruction in the strengthening and care of the body, the appointment of school physicians to superintend the necessary hygienic arrangements—all these are admirable innovations, whose execution will certainly be very advantageous to the young. True, much has been accomplished in this direction, but too much good cannot be done. Above all, the number of school and study hours must be lessened, so that the children in the lowest classes will have at the utmost thirty together, those in the highest fifty; that is, respectively twenty to thirty school hours per week. Recesses of from ten to fifteen minutes should interrupt the hours of instruction. There should be no lessons at all in the afternoon. Sunday should be kept wholly free from school-work. During the shorter vacations no tasks should be given. The long vacations should be from the first of August to the middle of September. The largest number of pupils allowed to one class should not exceed thirty. Rivalry should be abolished, and the value set upon extempore exercises should be lessened. At least eight hours weekly should be devoted to physical exercises. The class-rooms should be as light, high, spacious, and well-ventilated as possible. Sensibly constructed desks with forms should be introduced. The paper, printing, ruling, etc., of manuals and

copy-books should be carefully examined from the hygienic standpoint. [www.libtool.com.cn](http://www.libtool.com.cn)

The reproach brought against the higher schools, that by overtaxing pupils they people the insane asylums, has not been proved in Prussia at least. Among 13,365 male inmates of these houses in 1879, only 803 belonged to the learned professions, of whom 38 were gymnasiasts, and 151 were students and candidates. Between the ages of fifteen to twenty there were 14 gymnasiasts and 4 students to 653 non-students of the same age. Overwork could be assigned as the cause of the disease in the case of 1 pupil and 4 non-students.

It is, however, a mistake for the middle classes of the German nation to devote their hard-earned property to making their sons scholars and educated men, instead of having them learn a trade or business.

If we glance back at the close of this necessarily sketchy letter, we shall perceive that throughout the whole sphere of education in Prussia much remains to be done, but also that the tendency to vigorous, beneficial reforms is everywhere discernible.

FRIEDRICH KIRCHNER.

BERLIN, GERMANY.

## EDITORIAL.

A melancholy interest attaches to the articles by Mr. Quick and Dr. Crosby that appear elsewhere in this number of the EDUCATIONAL REVIEW. Mr. Quick died suddenly on March 9, and Dr. Crosby, after a brief illness, on March 29. Neither of them was an old man in any sense of the word, and from both much vigorous thought and forceful expression were hoped for and expected.

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Mr. Quick's name and fame as an author and critic had become very familiar to American teachers. His *Educational Reformers*, particularly in its later form, has illuminated for them the progress of modern educational thought. Rabelais and Mulcaster, Comenius and Pestalozzi, Rousseau and Jacotot live and speak in his lively pages, and his own quaint comments are often as humorous as they are penetrating. Mr. Quick wrote the history, not the annals, of education. He was an educational enthusiast, in the best sense. Of all that was formal, cold-blooded, and money-making in education, he was the inveterate foe. His love for children, and for the study of the growing mind, imparted intense reality to every word that he wrote on educational practice.

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Dr. Howard Crosby was a much more familiar personality, although his contributions to the literature of education were neither numerous nor systematic. He was a man of action, and whether teacher, university chancellor, or clergyman, his influence was always powerfully felt in the public movements in which he was interested. His convictions were intense and his courage undaunted. As Dr. Roswell D. Hitchcock said of him, "He thinks for himself, says what he thinks, and does what he says." He might have added that what Dr. Crosby thought was usually worth saying, and what he said was usually worth doing.

In strictly educational matters Dr. Crosby's interest was very great, and his influence, although indirect, considerable.

Many phases of our present educational practice he did not believe in, and did not hesitate to say so. This independence subjected him, even recently, to the scurrilous attacks of the guerrillas of the educational press, but his convictions were not shaken nor his happiness disturbed by them. So large and so active a personality as Dr. Crosby will be sorely missed, and American education will revere his memory as one who labored earnestly and unselfishly for the highest ideals.

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Reformers are much disturbed, often with reason, about the condition of the educational administration in large cities. From time to time suggestions are made that an overhauling of the law is advisable in order that a more satisfactory state of affairs may be brought about. Not long ago, for example, it was proposed in Massachusetts to appoint a commission, made up of college presidents and others, that should undertake a general examination of the educational administration in the municipalities and propose such reforms as might be found necessary.

The effectiveness of this method of procedure would depend entirely upon the composition of the commission of inquiry. The cool proposition that such a commission in New York City should be made up of representatives of the board of education, of the local or ward trustees, and of the teachers, would, if adopted, deprive the subsequent proceedings of any but a humorous significance. The bodies whose efficiency and legal relations it is proposed to investigate, can hardly be charged with the duty of making the investigation. To probe the defects and abuses of prevailing systems to the bottom and to suggest adequate and practical reforms, a thoroughly disinterested commission of unusual capacity and courage is necessary. Nor should its field of inquiry be limited to any single municipality. Neither New York City nor any other city possesses the power of educational initiative. That rests with the State or commonwealth. For this reason, such a commission, if it is to be constituted, should be empowered to begin at the beginning and investigate the system of educational administration in all the cities of any given State. Its members should be men of practical knowledge and experience in administrative work, who can detect a cumbrous, irresponsible, and defective system, and remedy it effectively. A com-

mission for New York State, for example, should be made up of such men as Abram S. Hewitt, Joseph C. Hendrix of Brooklyn, Frederic R. Coudert, Dr. William T. Harris, the Commissioner of Education; State Superintendent Andrew S. Draper, Regent Charles E. Fitch of Rochester, and President William J. Milne of the State Normal College at Albany.

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In this connection, it is noteworthy that at last there seems a prospect of getting rid of the cumbersome and antiquated system of administration that has impeded for many years the progress of the public schools of Philadelphia. Under this system there is a central board of education appointed by the judges of the Court of Common Pleas. This board has enjoyed an enviable reputation for intelligence, general efficiency, and freedom from political chicanery. But its best efforts to reform and uplift the schools have been largely neutralized by the notorious sectional or local boards, which the press of the city is practically unanimous in denouncing as hot-beds of political intrigue. These local boards appoint the teachers, and their members are nominated by the ward politicians for purely political reasons, and in many quarters of the city without any regard to fitness for the office. Election to the local school board, it is said, is to ascend the lowest round in the ward politician's ladder. Further advancement is earned by converting the sacred office of the teacher into political spoil. Not only is all proper selection of teachers from among applicants prevented by this system; the system is one which discourages applicants of the right kind from coming forward. Men and women of education and proper pride—those who are best fitted for the office of teacher—will not condescend to seek a livelihood by bending the knee before the smallest kind of small politicians.

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Had the licensing of all teachers been in the hands of the superintendent, the opportunities afforded the local boards of making poor appointments would have been much diminished. But unfortunately this has not been the case. So far as the graduates of the high school are concerned—and from their number 90 per cent. of the teachers are selected—they receive licenses to teach from the principal and local committee of the

school. Thus, neither the central board of education nor the superintendent could exercise any but an indirect influence on the work of the schools. All of Superintendent Mac Alister's splendid work was accomplished, not only in the teeth of determined opposition, but without authority adequate to support the responsibility imposed.

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It is now proposed to revolutionize the entire system by act of the State Legislature. The central board, while continuing to be appointed by the judges, is to be reduced in number to twenty-four members. The local boards are to be wiped out of existence. All teachers' certificates are to be issued by the superintendent, who is to be held directly responsible to the central board. Of the propriety of these reforms there can be no question. The public press is almost unanimous in their advocacy. Those who are urging this important measure deserve all success. It is reported that they have secured the approval of the party leaders and that there is little chance of defeat.

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There is a decided difference of opinion in the State of South Carolina as to the wisdom and good intentions of the present administration in reference to the educational interests of the commonwealth. One side of the controversy was presented in the EDUCATIONAL REVIEW two months ago. In the present issue, the State Superintendent of Education makes a reply, and traverses the statements made by the critics of the administration of which he is a member.

The EDUCATIONAL REVIEW has no intention of supporting, in a partisan sense, either faction. It merely called attention to certain occurrences which were alleged to have taken place without adequate reason or justification. The reply of Superintendent Mayfield is both vigorous and specific, and disinterested readers are now in position to form an unbiased opinion as to the questions at issue.

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The following passages from the inaugural address of Governor Tillman, delivered in December last, should be read in connection with Superintendent Mayfield's paper, and the editorial to which he refers. Governor Tillman said :

“The improvement of the free school system, and the wise adjustment of means to ends in the management of our institutions of higher education so as to obtain the best results, demand your best care and prompt action. The patriotism, intelligence, and virtue of the individual citizen is the foundation upon which rests free representative government. The education and proper training of the voters who must choose the public officers to carry on the State’s affairs, is, therefore, a sacred duty which cannot be neglected without injury to the State and to society. No one will dispute this. But, how much is South Carolina doing in this behalf?

“Is our present system a good one? Are we doing all we can to train our youth and fit them for the duties of life? I answer unhesitatingly: No! In our towns and villages, by reason of supplementary taxes and voluntary contributions, the schools are fairly good. Among the farmers in the country, the good school is the exception, while inferior schools, which run three or four months, are the rule. There is just enough effort by the State to paralyze private schools, and there is absolute retrogression in education with corresponding increase of illiteracy. We spend in round numbers for free common schools per annum about five hundred thousand dollars, and for higher education about one hundred thousand. This is fifty-two cents per capita of population, and allows less than two dollars to each child of school age. . . .

“The condition of our higher institutions of learning is equally unsatisfactory, and the State has been making some costly experiments. For five years there has been active and persistent agitation on the subject of what the State can afford to do in this line and what is best for it to do. One side contended for literary and scientific training and the university system, which necessarily costs the student more, and the State more per student educated. The other demanded cheap, practical education, in which the application of knowledge and science to the business of bread-winning and the up-building of our agriculture and the mechanic arts should be the main objects. Both sides were right from their standpoints, but no agreement or compromise has been possible heretofore. The State has lost three valuable years, has wasted some eighty or ninety thousand dollars, and now the whole system must be overhauled and readjusted in accordance with the will of the people as shown at the recent elec-

tion. Let us now exert our energies in trying to start right at last, and endeavor to harmonize conflicting interests and opinions. The people have decided that there is no use for a grand university at Columbia, but they are equally determined that the South Carolina College, as a school of liberal education in the classics, in the theoretical sciences, and in literature, shall be liberally supported.

"After consultation with the president and some of the professors and trustees, I recommend that the university system be abolished, the Experiment Farm at Columbia sold and the proceeds covered into the treasury, the mechanical department with all its belongings transferred to Clemson College, and that a complete reorganization be ordered. A liberal appropriation, and one which will suffice to give the institution stability and character, ought to be made. Thirty thousand dollars for all purposes and tuition fees can be profitably used, in my opinion, and I hope it will receive that amount by perpetual annual grant so as to remove the college altogether from political influences and antagonisms."

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Dr. E. M. Gallaudet, President of the National Deaf-Mute College at Washington, has issued a circular letter announcing the establishment at that institution of six normal fellowships, of the value of \$500 each per annum, tenable for one year, open to college graduates. The Fellows will be required to reside at the college and will receive instruction in both the manual and the oral methods of teaching the deaf. In view of the advantages to inure to the Fellows, they will be expected to perform certain duties in the institution, and will therefore constitute a distinct addition to its teaching force. The importance of this step is apparent, for it points to the elevation of the standard of deaf-mute teaching, and is in line with modern university methods of training teachers.



REVIEWS.

**Verhandlungen über Fragen des Höheren Unterrichts ; Berlin, 4 bis 17 Dezember, 1890.**—Im Auftrage des Ministers der Geistlichen, Unterrichts und Medizinal Angelegenheiten. Berlin : Wilhelm Hertz, 1891, pp. 800.

This great volume is the official report of the proceedings of the late Prussian School Inquiry Commission. It contains all of the documents relating to the appointment, the work, and the conclusions of the Commission, and a stenographic report of all the debates and votes in that body.

It is, and will remain, one of the most important educational publications ever issued. It pictures in detail the conscious reflections and deliberate opinions of carefully selected and distinguished representatives of the Prussian people, concerning their system of higher education. But neither the questions discussed nor the influence of the debaters is confined to Prussia. Helmholtz, Virchow, and Zeller are known the world over; and every student of contemporary education is familiar with the names of Paulsen, Uhlig, and Frick. The value of a humanistic training, the correlation of secondary school and university, the relief of over-pressure, the proper organization of physical training, and the simplification of examinations, are subjects of as much importance in America as in Europe.

Inasmuch as the EDUCATIONAL REVIEW has already published the composition of the Commission (I : 173), the striking address of the German Emperor at its opening session (I : 200), and a careful review of its conclusions (I : 273), it is not necessary to make any further mention of these topics. Some of the votes taken, however, and certain passages in the debates are deserving of comment.

In discussing the relative merits of Gymnasium and Realgymnasium as schools preparatory to the universities, Professor Virchow, while not antagonizing the humanities at all, spoke very sharply about some of the claims made in their behalf. He showed most forcibly the absurdity of the argument that Greek and Latin are absolutely essential to the study of medicine, because they enable the physician to un-

derstand more readily the technical terms of his profession. He said that, with the single exception of Pliny, the only Latin writers worth reading on the history of medicine and natural science are not classical writers at all, but mediæval authors using a corrupt and barbarous style. Moreover, he differed from those who laid great stress upon the importance of the student possessing the ability to trace the etymology of technical terms. For a great host of technical terms there is no etymological history at all. "Better a precise definition," he added, "than a doubtful etymology" (p. 117). On the deficiency of the Gymnasium in respect to sense-training, Professor Virchow was very emphatic. "Every man should learn to test and analyze correctly the objects by which he is continually surrounded. For those of us who are teachers of medicine this is a matter of grave concern, for we find that each generation of students is less able to use the senses properly than its predecessor. For example, the number of students of medicine who can distinguish colors accurately is very small indeed. Of course, I do not refer to the primary colors; but the students cannot distinguish the secondary colors and tints. And just as they cannot see, so they cannot feel, or hear, or smell; in short, they have had no experience in the use of their senses. . . . That natural facility for observation which belongs to man, is actually weakened by the present methods of instruction" (p. 120). This indictment by the great scientist is as well-grounded in America as in Germany. If the well-organized and carefully supervised Gymnasium is not training the senses, what can be expected of our hap-hazard secondary education? Yet every step that leads to the introduction of natural science, drawing, and the study of form and color into the curriculum, is fought as obstinately as if it were a pestilence.

The influence of the Emperor's speech and that of the pedagogic Tories, showed themselves strongly in the vote which was taken as to the abolition of the Realgymnasium. The recommendation to abolish this institution was carried by a vote of 35 to 8. It is very significant that in the minority were the four distinguished Berlin professors, Helmholtz, Paulsen, Tobler, and Virchow. Dr. Matthias of Düsseldorf, who presides over a Gymnasium and Realgymnasium together, voted with the majority. Two directors of Realgymnasias, Dr. Schauenberg of Crefeld, and Dr. Schlee of Altona, together

with a member of the Berlin city school council, Dr. Bertram, and Herr von Schenckendorff of the Prussian House of Deputies, joined the four university professors in the negative. This vote was perhaps the most important one taken by the Commission, and despite the large majority, its outcome is to be deplored. Professor Paulsen's powerful philosophical argument on behalf of the Realgymnasium was not refuted. As he pointed out, the question concerned the very existence of 172 institutions for secondary education, employing about 1700 trained teachers and reaching nearly 35,000 pupils, and some very positive reasons should be given for doing away with all this. The argument that in the Realgymnasium two conflicting tendencies, the humanistic and the realistic, were united, applies, as he showed, only in a less degree, to the Gymnasium itself. The subsequent claim that a Realgymnasium is no better than a Realschule, and hence unnecessary, he denied; for in the Realgymnasium 180 hours are devoted to literary and historical subjects, as compared with seventy-four hours for mathematics and natural science. Its abolition would only lead to the further overcrowding of the Gymnasium, because of the great privileges conferred upon that institution, and would thus be a blow rather than a gain to the study of natural science. Had he been fully informed as to educational matters in this country, Professor Paulsen could have supported his position by our experience.

In America the Realgymnasium course is looked upon with increasing favor, and is continually proving its efficiency. It is represented here by the so-called Latin-scientific courses in the colleges, which ordinarily lead to the absurd degree of bachelor of philosophy. The training given by such a course is essentially liberal, and the proper academic recognition for it is the baccalaureate degree in arts. Indeed, the most competent judges have formally agreed that the study of a single ancient language gives all the classical training that is absolutely necessary for the A.B. degree. What the sentiment in England is, Dr. Fitch showed very clearly last month (*EDUCATIONAL REVIEW*, I: 410).

Another interesting vote was that which determined on what subjects in the Gymnasium curriculum the decreed reduction of time should fall. By a vote of 32 to 11, it was decided that it should not fall entirely on the ancient languages. Here we find Frick, Helmholtz, Paulsen, Uhlig, Virchow, and

Zeller recorded with the majority in the negative, while Tobler and Volkmann, of Schul-Pforta, voted in the affirmative. By a vote of 34 to 9, it was declared that the reduction should be made partly in the time devoted to the classics, and partly in that devoted to other subjects. The now celebrated *Der lateinische Aufsatz kommt als Zielleistung in Wegfall*, was carried by a show of hands, only a few dissenting. The compulsory study of English in the Gymnasium was negatived without a division, but English was subsequently recommended as an optional study.

In a volume so full of interesting things, it is difficult to make a selection for brief mention. The points noted, however, will be found to raise and illustrate many questions of principle and detail with which our college authorities are struggling. If the report were indexed, its treasures would be much more accessible, but even now it is as satisfactory as it is imposing.

N. M. B.

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**An Introduction to Social Philosophy.**—By JOHN S. MACKENZIE, Lecturer on Philosophy in Owen's College, Manchester. New York: Macmillan & Co., 1890, pp. 390.

The plan and scope of this work are admirable. It is an outline of the very comprehensive subject of sociology, and can be best described as embracing the fundamental principles of ethics, politics, and economics. But at the same time it can be truly said also that it contains more, and this is that nameless coloring which recent social and philosophic tendencies have given all discussions pertaining to life and society. There is a marked evidence of the centralizing movement in modern thought pervading the scheme and treatment of the author. This is evinced by his endeavor to bring into close connection the three sciences that have so long been cultivated independently of each other. They are here treated as complementary branches of the larger science, sociology, and I think quite correctly so. For a long time the principle of the division of labor, so effective in industrial operations, has been dividing philosophic investigation into special sciences, and they have gone this way in utter disregard of their mutual relations and helpfulness to each other. But a reaction is setting in, in which comprehensive views are receiving due respect and influence. The present work is a sign of

it. Its tone and style are much more philosophic than usual with such works, which have generally borrowed their tone from the empirical sciences.

Mr. Spencer's sociology is little more than a sort of historical anthropology, and his example, with manifold influences tending in the same direction, has subordinated ethical and economic questions in the treatment of the subject. Professor Mackenzie, however, while availing himself of all new impulses, gives them systematic shape and meaning by treating them under the familiar heads of ethics, politics, and economics, although he speaks of his subject as "social philosophy," heads his chapters by the term "social," and abandons the somewhat petrified and traditional names of the three sciences we have mentioned. But the subject-matter is the same, with a very large intermixture of philosophic thought and principles beyond them introduced to throw light upon their particular problems. The essays constituting the volume originally consisted of a course of lectures delivered under the auspices of the Shaw Fellowship, at the University of Edinburgh, but have been altered to suit the demands of book form. The volume is not exhaustive enough either to clear up its problems or to serve as an authority upon the questions it discusses. Hence the dangers to which lay readers of it are exposed are either that they will not fully understand it, or that they will be too readily satisfied with a mere compendium. If too much is not expected of the author, however, I do not know a better volume to recommend for a broad and trustworthy statement of the vital issues in modern life. It is somewhat of a pioneer in this line of work, but it is to be hoped that it will find favor and receive the attention its importance deserves. If it stimulates to a more thorough and exhaustive treatment of the subject it may well be pardoned for its heaviness of style and incompleteness. But whatever the faults of this kind, the volume is a sign of the right tendency, which is to unite the divided and scattered forces of the special sciences in deeper organic systems of thought. Philosophy may thus recover its reputation and usefulness. But without saying anything in favor of this much neglected study, it is enough to speak encouragingly of works cultivating such general aims, and to express the hope that it will not be the very few who give the volume serious consideration.

J. H. HYSLOP.

COLUMBIA COLLEGE.

**Elementary Psychology, with Practical Applications to Education and the Conduct of Life, including an Outline of Logic.**—By J. H. BAKER, A.M.,  
New York: Effingham Maynard & Co. 1890, pp. 232.

Mr. Baker has written a succinct and, as far as possible, clear condensation of the current Scotch psychology, enriching it, upon occasion, with material from the empiricist writers, especially Bain. The book shows no trace of the influence of German thought, whether from the schools of Kant, of Herbart, or of the modern experimentalists like Fechner and Wundt.

We are informed in the preface that "the importance of physiological psychology is duly regarded," and near the beginning of the book there are six or eight pages devoted to a highly technical description of the nervous system, going into such points as a nerve-fiber "consists of three parts, an extremely thin outer membrane, a white, semi-liquid sheath, and a translucent axis cylinder." The description, however, is not always quite accurate; the account, *e.g.*, of the sympathetic system belongs to the realm of "popular" science rather than to science proper. We are told that the cerebrum is the seat of mind, and that lower centers constitute the "reflex apparatus," by which, among other things, sensation is occasioned. Later on, sensation is taken out of this precarious position and restored to the mind. In spite of this account of nerve physiology, it cannot be said that the modern movement in physiological psychology has affected the standpoint or method of the book. Isolated items from the realm of cerebral physiology are scattered through the book, but are not assimilated in any organic way. They produce the effect of pieces of grit in a Scotch porridge.

When it is said that the book is not influenced in its inner spirit or practical outcome, either by German thought or modern experimental methods, but that it is a simple, well-condensed, and well-arranged exposition of the formulæ, which descend in the line of succession from Reid and Hamilton, vivified somewhat by Bain, the reader is in a fair position to judge the book. The term "faculty" is hardly used in the work, and we are told (p. 45) that the mind "is to be regarded as a unit." But as no attempt is made anywhere to find any fundamental mental function or process, and as perception, memory, phantasy, imagination, and thinking are all strung along one after the other, with no attempt to trace any unity, whether by way of underlying activity or by way of

growth, the mind seems "to be regarded as a unit" for metaphysical rather than for psychological or practical purposes. We are informed, also, at large, that the mind is self-activity, but no attempt to connect the various details of physical life with this principle appears.

The educational applications are judicious and safe summaries of the usual "pedagogy" of teachers' institutes. Some are suggested more directly by the psychological theories themselves, and some have originated rather in the school-room, and then been attached to the psychology. Those who do not regard the Scotch psychology as very true, profound, or suggestive, will naturally prefer the latter to the former. Speaking from within the standpoint of the book itself, I see but one objection likely to arise—perhaps the attempt is made to cover too much ground within the compass of 232 pages. A summary of formal logic is introduced into the chapter on thinking, and there is the usual pocket of the Scotch school, labeled Intuitions, into which are stowed away, as self-evident, all the chief problems which have vexed the world's great reflective philosophers for two thousand years—problems like substance, personality, space, and time. Upon the whole, the book is, in form and in substance, an admirable reflection of the ideas and methods of the vast bulk of our teachers who are earnestly striving, along the lines of the ordinary pedagogy of our normal schools and teachers' institutes, to elevate education. To discuss, therefore, its substance would be to go beyond the limits of a review of this book into the question of the value, scientific and educational, of the current psychology.

JOHN DEWEY.

UNIVERSITY OF MICHIGAN.

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*Der Taubstumme und seine Sprache; Ernente Untersuchungen über das methodologische Fundamentalprincip der Taubstummenbildung.*—Von J. HEIDSIEK. Breslau: Max Woywod, 1890, pp. 320.

This is so remarkable a book that it deserves a more extended notice than our space permits. As is well known, it was a German, Samuel Heinicke, who invented the method of making deaf-mutes speak audibly. Since his world-renowned efforts (he died in 1790), the Germans have entirely abandoned the sign language in deaf-mute schools, and teach these step-

children of Mother Nature to speak. Since the question as to the merits of the two methods or "systems" (as they are called here, with utter disregard of the proper meaning of the word) is not definitely solved in this country, this book may interest teachers of deaf-mutes and others who view this question in the light of a scientific problem. The author proceeds, like a thoughtful scholar, to discuss the language of deaf people—for after they have acquired the faculty of speech they are mute no longer—in a most thorough and lucid manner. After a spirited introduction, he views the untrained deaf-mute's outer and inner world, his ethical, æsthetic, and religious emotions and ideas; shows how appallingly limited is the horizon of his consciousness; then illustrates the action of apperception, or percepts reverberating in harmony with previously acquired concepts, and the reciprocal action between body and soul. Then he answers the question, What is language? discusses the consequences of the want of hearing, thought and its expression, man and animal, and concludes his treatment by showing the influence of language upon thought. This chapter is especially well written. Going into particulars he speaks about sound and sign language and the position they hold among teachers of deaf-mutes. The relation of the spoken word to its meaning, and the onomatopoeic character of the sign language are then discussed with great lucidity. After that there is a discussion of the faculty of articulation in deaf people and of the happy knack these people acquire in reading from the movement of the lips. The author then goes on to enumerate the results of the German method, makes some valuable suggestions concerning the grading of deaf-mutes according to their capacities, and finally applies his most valuable conclusions in special cases.

The book is an extremely interesting one, and has but a single prominent fault. It is the author's occasional harshness when combating ideas promulgated by others. But in no case does he become personal. When he does attack, he means the thing, and at that hits hard and direct. It may be questioned whether the polemic character of the book was necessary, but it may add to its popularity. This book, by reason of its vigor and suggestiveness, will be found valuable for teachers of whatever grades, conditions, or previous servitude to a system.

L. R. KLEMM.

WASHINGTON, D. C.



**The Supreme Court of the United States. Its History and Influence in our Constitutional System.**—By WESTEL W. WILLOUGHBY, Fellow in History, Johns Hopkins University. Baltimore: The Johns Hopkins Press, 1890, pp. 124. [www.libtool.com.cn](http://www.libtool.com.cn)

This thin volume of 115 pages is not a work, but a study; not a treatise, but a monograph. But for all this, from those who value knowledge of the beginnings of our constitutional history and of the real ideas and forces which there shaped our political destiny, this careful study will receive a cordial welcome. The series of Johns Hopkins University studies in historical and political science, admirable and inspiring in other respects, is perhaps most valuable in the direction it has given in so many minds toward researches connected with our earliest civil history. In this series no volume has appeared to us more timely or better done than this of Mr. Willoughby. Its ten brief chapters contain more exact information regarding the real thought of the Convention of 1787 in providing for the Supreme Court and judicial power of the United States, as well as regarding the place of this court in history, than one can at present find, in equal space, elsewhere. Thanks to this essay, and to a few other similar recent efforts, the complete fallacy of Gladstone's description of our Constitution has been put beyond further reasonable controversy, and even Sir Henry Maine's more cautious remark respecting the Supreme Court is shown to need qualification.

Mr. Willoughby's fourth chapter, entitled "Establishment and Jurisdiction of the Federal Courts," is in every way an excellent statement of the true place of our Supreme Court and of the Federal Judiciary as a fact of history as well as a product of political and constitutional growth and development. He says: "The elevation of the judiciary into a branch of government, not only separate from the executive and legislative branches, but co-ordinate with them in power, has undoubtedly been one of the great successes of our political system." Referring to Sir Henry Maine's and Mr. Hannis Taylor's remarks on the originality of this feature of our government, he further says: "The question whether in the establishment of our Supreme Court in 1787 we see the establishment of an original judiciary with unique power, turns, as on a pivotal point, upon the originality of the method of restraining legislative action by a separate judicial tribunal." Our author proceeds to show that while Europe furnished no

precedent for the position of our Federal judicial system, our own antecedent experience, both as colonies and as States prior to 1787, had not only given the hint, but made the American people familiar with the idea that the judicial power should hold all the other departments of government, in the final resort, to conformity to the fundamental law. The habit of the courts, of testing executive acts and legislative enactments by the requirements and principles of the fundamental Constitution, being a part of the customary procedure prior to 1787, the extension of the judicial power of the United States to "all cases in law and equity arising under this Constitution, the laws of the United States, the treaties made or to be made under their authority," was as natural a result as any feature of the Convention's work. Here, as in all parts of the Constitution, save only the method of choosing the President and Vice-President, we see the most remarkable and characteristic sign of the prescience of the framers of the Constitution,—their complete reliance on experience for true and safe advances toward more perfect methods of government.

Each of the remaining nine chapters of this volume is filled with intelligent, acute, and learned exposition and analysis. The sixth chapter—on "The Supreme Court and the State Legislatures and Judiciaries"—is perhaps of pre-eminent value. Here are given in admirable epitome the great conclusions reached by the Supreme Court upon the practical supremacy of the Federal Constitution as interpreted by the Supreme Court, upon the question of State amenability to judicial decisions or process, upon the judicial construction fixed by this court on the latest amendments of the Constitution, and upon the general relations of the judicial power of the Union to that of the separate States.

The seventh and eighth chapters are also of great interest. Indeed, the latter chapter—on "The Supreme Court in Politics"—is specially judicial in its tone and clear in its thought. Upon these topics our author's conclusion seems well fortified by history and by our best public opinion. "We find," he says, "that in addition to having been eminently wise, it has been on the whole extremely impartial. With surprising consistency the court has refused to consider questions of a political nature. . . . Yielding not to the passions of the day, nor to present influence, the Supreme Court has nevertheless, by gradual changes, kept in touch with the people. Only once

in its long history has its decision failed to impress the people, as a whole, as correct."

One is glad to read and commend to all students, as well as to all readers, this study in constitutional history. If the strict originality of conception of our great judicial system is set in its true light, it will not diminish, but heighten, our estimate of the services of the Convention of 1787. It will also, with reason, increase our confidence in the structure and framework of our government when it is clearly perceived, as this volume will help all to perceive that our Constitution is not so much a manufacture as a growth.

I trust that from the university which is honored by Mr. Willoughby's present work, we are yet to receive other like evidences of research, learning, and the faculty of historical exposition and estimate.

DANIEL H. CHAMBERLAIN.

NEW YORK.

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**Tabular Views of Universal History.** A series of Chronological Tables presenting, in parallel columns, a record of the more noteworthy events in the history of the world from the earliest time down to 1890.—Compiled by G. P. PUTNAM, A.M., and continued to date by LYNDE E. JONES. New York and London: G. P. Putnam's Sons, 1890, pp. iv, 211.

This handy volume of reference is a much improved reprint of a part of Putnam's *The World's Progress*, last issued in 1877. Mr. Jones has wisely condensed the first fourteen pages of elaborate Usherian chronology before B. C. 600, and has replaced it with a modest list of probable epochs. At the end he has added eighteen pages covering the period 1878–1890. Otherwise the old plates remain apparently little altered: even the familiar battering of the corner figures and letters is retained.

The compiler suggests two uses for the book: the first is as a book of reference such as "every one needs at his elbow." For this purpose it is one of the most convenient of books. Ploetz's *Epitome*, though almost indispensable, has the provoking inconvenience of breaking off the history of one country to begin that of another. Mr. Jones has preserved the consecutive arrangement for the more important countries; and the arrangement in parallel columns suggests many chains of connection or of common cause. Thus, to take an example at random, when we see that a filibustering expedition against

Cuba and the armed intervention of Russia in Hungary both took place early in 1850, the mind instantly turns back to the revolutionary epoch of 1848. Another advantage of the parallel system is the bringing in of great economic and social events in such wise as to show the political conditions of the times out of which they sprang. So far as form goes, the work is to be commended except for the inexcusable lack of an index. In the choice of matter no two persons would agree, but there certainly seems a want of perspective in inserting, under 1867, "England visited by the Sultan," but not a word about the constitution of the new federation in Germany; or, still more astonishing, in 1873, "Strikes of Colliers" in England, but no mention of the Falk laws in Prussia. Germany and German institutions during the present century receive very inadequate attention, although Mr. Jones has shown more discriminating skill in his additions.

The second use which Mr. Jones suggests is "an important aid in imparting instruction." As a text-book it could not be used, even in the hands of mature students, for the reason that the material is of very unequal degrees of importance, and the compiler's own estimate of the value of each statement is not sufficiently indicated by typographical devices. It may be used as a book of reference, or to suggest parallel events, but nothing is more misleading than simultaneous events which resemble each other and have no connection. The teacher who is able to explain the real connection of events will make his own choice of parallels. The book is a good one for a school reference library, although it cannot replace Ploetz.

ALBERT BUSHNELL HART.

HARVARD UNIVERSITY.

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**An Easy Method for Beginners in Latin.**—By ALBERT HARKNESS, Professor in Brown University. New York: American Book Company, 1890, pp. xii, 348.

The object of this manual is to qualify its users to read Latin authors with some degree of ease. With this end in view, the learner is put, from the start, to translating and making Latin phrases and sentences; paradigms and constructions are introduced only as they are practically needed; syntax is, to some extent, reached by induction from exam-

ples; vocabularies are given throughout the book, and it is intended that they be memorized; the rather artificial Latin of the earlier chapters gives way, at first slowly and finally altogether, to quotations from ancient authors; to help clinch the meanings of Latin words and to emphasize the large element of Latin in our own speech, parallel columns of English derivatives are freely furnished; to enliven the work, ancient and modern colloquies and anecdotes are inserted, and there are many pictures, intended to illustrate Roman life, characters, and theology.

The single aim of the book—to lead directly to the intelligent reading of Latin literature—is to be most heartily commended; it is, in fact, the only defensible aim of an elementary Latin book. The methods employed to secure this end all seem to us wisely chosen, and, on the whole, admirably carried out.

The material for exercise one feels should have been taken in much larger measure from genuine Latin. The manufactured sentences are probably correct in all the accident of Latin grammar; but very many of them are artificial, paratactic, and un-Latin to a degree that is unnecessary and must be deprecated. Beginners are best introduced to a foreign language through simple words within easy compass, and as Latin literature is exceptionally rich in brief, quotable sentences—complete in thought and crystal in statement—the elementary teacher may not merely give even to his youngest pupils the finest specimens of the language, but may also instill pregnant maxims which keen observers and great masters of style have drawn from life, and which are of constant applicability to conduct. If this open store-house had been drawn upon to the displacement of such uninspiring sentences as “Generi non semper a soceris laudantur,” the educational as well as moral value of the book would have been much greater. The method is largely for children, and children’s minds are best stimulated and energized by reading and talking and writing about what is not too far from their every-day experiences and interests,—their games, dress, food, etc. Every Latin teacher who has tried it, knows that his classes can be made and kept alert and eager by showing them that those wonderful Romans were, after all, men and boys like the rest of us. I am convinced that there is an open field for an elementary Latin book which a ripe scholar, knowing the ancient Romans and

the modern youth, shall draw largely from the Latin comedians, *raconteurs*, letter-writers, and moralists.

I fully concur in the author's suggestion that the vocabularies be accurately learned. The appearance of "crowns" and "queens" and "epistles" and "poets" in the first lesson was not of happy augury, but on the whole the words are skillfully chosen and well adapted to prepare for rapid reading. It seems to us equally important that beginners memorize wisely chosen Latin sentences and passages, and this (provided, of course, the thought is mastered) without constant and anxious regard to their vernacular. The best way—probably the only way—to enter with keen sympathy into the genius and charm of Latin is to read it and study it *as Latin*.

It is an excellent feature of this book that the length of all vowels is plainly indicated—the importance of this point with reference to acquiring an accurate, orotund enunciation of Latin and to a sensible reading of Latin poetry can hardly be overstated. This point is so important and the facts, especially in regard to hidden quantities, are so difficult of access that the proof-reading should here have been more careful. Among other false quantities, the penults of *icti* (p. 232), *contracta* (p. 269), *fidem* (p. 271), and the antepenults of *ducēbat* (p. 152), *vehebātur* (p. 230) are wrong.

While thankfully recognizing the care with which vowel-quantities have been marked throughout this method, we cannot withhold our great surprise and regret that Professor Harkness, who has done so much to promote classical scholarship in this country, and to whom our indebtedness is increased by this volume, should give both the English and Roman methods of pronunciation without any intimation as to his preference between them, and as if it were a matter of indifference which is adopted. The researches of the last thirty years, along independent lines, have resulted in substantial agreement as to how the Romans spoke their language, and the responsible guardians of Latin scholarship are hardly justified in practically ignoring these results. From the nature of the case our pronunciation of Latin must always be that of foreigners. Our knowledge here is no more absolute than it is, *e.g.*, in regard to the order of words, the subtler uses of moods and tenses, the structure and rhythm of the period, the proper reading of verse; but we mistake very greatly the nature of the teacher's calling if it is not his duty, patiently and without ceasing, to

work toward the truth as something to be welcomed and used and disseminated.

TRACY PECK.

YALE UNIVERSITY.

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**Outlines of Natural Science for Common Schools.**—By WILBUR S. JACKMAN, A.B., Teacher of Natural Science, Cook County Normal School, Chicago, Ill. Published by the Author, 1890, pp. 43, 58, 57.

Of all the reforms which are winning their way in our educational system, none is more important than the introduction of natural science in the schools of lower grade. The invaluable benefits of the knowledge and discipline which can be secured by the study of natural science ought to be afforded to all the children in our schools, instead of being restricted to the very small number who advance to the highest grades of the educational course. Moreover, the early development of the perceptive faculties in the child's mind, and the intense curiosity about natural objects which is felt by every normal child, point unmistakably to the earliest years of the educational course as the time for the commencement of the study of nature.

An acknowledged difficulty in the way of this reform is found in the lack of any thoroughly developed and universally accepted method of instruction in natural science adapted for pupils in the lower grades. While some general principles may be universally acknowledged, it cannot be claimed that pedagogic science has so far advanced as to develop in full detail a method of primary instruction in natural science which can command universal approval. We must expect a satisfactory method to be developed, not by *a priori* discussion, but by judicious experimentation in the schools. Hence any suggestions as to the method of such instruction, coming from a practical teacher, are to be cordially welcomed.

The work before us consists of three pamphlets, each containing a course of lessons for two months of the school year. These three numbers, accordingly, cover the portion of the school year from September to February, inclusive. We suppose that they are to be supplemented by two additional numbers.<sup>1</sup> Such a book may be useful to teachers, either as affording a definite program for them to follow, or as furnishing them

<sup>1</sup> Part IV has since been issued, and Part V is announced by Messrs. Henry Holt & Co., who will hereafter publish the series.—ED. EDUCATIONAL REVIEW.

suggestions, more or less of which they can adopt while following a general method of their own.

We are not able to commend the work before us as affording a definite program to be followed. In the first place the lessons are not graded, only a single series of exercises for the school year being presented. We believe that a program of science teaching should provide exercises on different subjects and of different degrees of difficulty for scholars of different grades. Secondly, the arrangement of the work in monthly parts impresses us as arbitrary. There are, of course, reasons why much of the botanical and zoölogical work can be performed to advantage only at certain seasons of the year; but there is no natural reason why the study of animal tissues should be put on the program for October, or the study of pumps and siphons on the program for February. Thirdly, we are inclined to believe that the number of subjects treated simultaneously is too large, especially for the lower grades of schools. The lessons for each month are divided into chapters under the following titles: Zoölogy (including Human Physiology), Botany, Physics, Chemistry, Meteorology, Astronomy, Geography, Geology, Mineralogy. While some of these subjects are suitable for scholars in the primary schools, others should, in our judgment, be postponed till a later period in the course. Incidentally, it may be remarked that the directions given do not seem to us in all cases convenient or practicable. When we read that for one exercise each pupil should have a "perfectly clean and fresh specimen" of a "sheep's leg, cut off so as to include the knee joint and the attached muscles a few inches above it," we cannot help thinking that there are few places in which mutton is so cheap as to render feasible the implicit following of these directions.

But we suspect that it is not the design of the author that these lessons should be a program to be strictly followed. He tells us in the introduction, "It must not for a moment be supposed that it is the design for the teacher and pupils to finish the outlines prepared for any month." We conclude, therefore, that the author has intended only to afford a suggestive collection of lessons from which the teacher might select such exercises as suited his or her own plans. The book would have been better for this purpose if the material had been arranged in a topical, rather than a pseudo-chronological order.

While not recommending the book as a program, we can



most heartily commend it to teachers of natural science in the lower schools as affording an abundance of useful suggestions. The author evidently knows nature first-hand, not second-hand. He is himself familiar with natural objects, and not merely with books. He is evidently also a practical teacher; and his fellow-teachers may find in these pamphlets very much that is fresh, suggestive, and inspiring.

Our criticisms on the method suggested by the work before us may perhaps be fitly supplemented by a few positive propositions in regard to the method which seems to us likely to be the best. Botany and zoölogy seem to us much better adapted than mineralogy, geology, physics, and chemistry for scholars in the lower grades. For this there are several reasons. Animals and plants are the objects which are most interesting to children. The comparison of forms, which is involved in botany and zoölogy, seems to us much better adapted to the young child's mind than the consideration of cause and effect, which is involved in the study of physics, chemistry, or geology. It is possible to give to a young child a conception of the characters of vertebrates, or of dicotyledonous plants which, though very incomplete, will be true as far as it goes. It would be scarcely possible to give to a student unversed in chemistry and geology, a conception of the characters of quartz, or tourmaline, or hornblende, which would not be so distorted as to be positively false. In the study of botany, a beginning should be made with such simple exercises as the comparison and drawing of different forms of leaves. Later, the scholar may proceed to the study of the easier kinds of flowers, then to the study of flowers which are more obscure and difficult, later still, to the study of some of the cryptograms. In zoölogy, attention should first be given to our domestic animals and other mammals; later, the study should be extended to birds, reptiles, amphibia, fishes, insects, and mollusks. In the later years of the grammar school course, something of physics, chemistry, and geology may be profitably introduced. Through all stages of the course, I believe that the pupils should be earnestly encouraged to collect specimens of natural objects for themselves, and bring them to the school for study; and such objects should form the subject of a series of desultory object-lessons, which may go on parallel with the more systematic course of study which we have outlined. It may be proper to add that a course of study based in general on the principles

I have just stated was adopted a few years ago in the public schools in Middletown, Conn., and has been used with pretty satisfactory results.

WM. NORTH RICE.

WESLEYAN UNIVERSITY.

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**Intellectual Arithmetic upon the Inductive Method.**—By WARREN COLBURN, A.M. Revised and Enlarged Edition, with an Appendix. Boston: Houghton, Mifflin & Co., 1890, pp. x, 216.

**Second Lessons in Arithmetic.**—Intellectual Written Arithmetic upon the Inductive Method.—By HENRY N. WHEELER. Boston and New York: Houghton, Mifflin & Co., 1890, pp. x, 282.

Colburn's *First Lessons* was originally published in 1821. It had almost from the very start an enormous and unprecedented sale both in this country and in England, and, strange as it may appear, although the book has undergone but slight modifications in the seventy years of its existence, it retains its great popularity even at the present time. No other school-book ever published in this country has received such flattering testimonials from so many distinguished authorities, and none perhaps has done a greater amount of good. To speak, therefore, in anywise disparagingly of a book so embalmed in popular favor would be thought not only presumptuous, but almost sacrilegious.

So numerous are its commendable features that its lack of adaptation to the present needs of any considerable class of schools, might justly be overlooked by the reviewer. Candor, however, compels the statement that in spite of its many points of excellence, our best schools have little need of it as arithmetic is now generally taught.

What is the use, for instance, of the pictured story (pp. xii, xiii) which reminds one, by its antique look, of the cuts and stories in another famous old book, *Webster's Spelling Book*, now long since displaced? Years before children can read well enough to have the *First Lessons* put into their hands, there will be no need of pictures to teach *one boy, two dogs*, etc. So, too, it seems to me that the first ninety-eight pages which are devoted to practical problems, questions, drill tables, etc., on the four fundamental operations, constitute a good teacher's manual, but are unwisely put into pupils' hands for reading or study. The good teacher will have no difficulty in inventing problems enough, and there are strong reasons to favor his

doing it. I am convinced, too, that the best practice of the present time disapproves the use of text-books in arithmetic in lower primary grades. If, however, a book is desired, the *First Lessons* will perhaps be found as useful as any.

The treatment of fractions (pp. 99-174) is the most valuable feature of the book, and that on which its great reputation as a discipline most largely rests. Here the development is slow, logical, sure; the forms of analysis brief, succinct, satisfactory. The pupil who has carefully gone over the seventy-five pages devoted to fractions, under a teacher who has insisted upon the unaided mental solution of all problems, and of a correct, orderly, logical statement of the processes involved, has necessarily attained a high degree of proficiency in the art of arithmetic.

To summarize briefly the chief merits of the *First Lessons*, they are its inductive plan, its numerous graded examples, its model solutions, and especially its omission of rules and definitions, which are properly left for a later period of study.

There has been a growing tendency of late to cut down to a minimum the amount of arithmetic to be taught in the grammar schools. The introduction into the curriculum of so many new studies has made this an absolute necessity. There has been, moreover, a quite general feeling that not a small portion of the time devoted to arithmetic is, comparatively speaking, wasted. Wheeler's *Second Lessons* has been brought out by the publishers to meet the requirements of this class of teachers and school officers. It differs from most if not all other arithmetics in excluding altogether formal rules and definitions. In this respect the author has followed in the footsteps of his great predecessor, Warren Colburn, whose *First Lessons* he has aimed to supplement and complete. Another novel feature of the book is the attempt to work out consistently the "Colburn Inductive Method," as Mr. Wheeler terms it.

This method, as described in his own words, "consists in inducing the pupil to gain an experience of his own, which will enable him to regard every definition as the result of his own personal observation and thought, every rule as a statement of the method by which he has done something, and every new word as only a labor-saving device for the expression of a familiar idea." In practice, the method is worked out by providing a series of logically arranged questions, or problems,

such as to lead the pupil on step by step, until he is able to reach a conclusion of his own, and to formulate his experience in a rule or definition. The advantages of this method in teaching the elements of any subject are obvious and generally admitted, but Mr. Wheeler, in my opinion, has been more consistent and more successful than any other author of whom I have any knowledge.

An examination of the book will show that several topics to be found in most other arithmetics have been summarily dropped. Again, the sequence of topics is essentially different from that of other arithmetics; as, also, the relative amount of space accorded to each. To the appendix have been relegated Roman notation, metric system, and denominate numbers. Square root, cube root, mensuration, etc., have been excluded altogether. The typographical appearance of the book is admirable. The *Second Lessons* differs to such an extent from the conventional arithmetic that its introduction may be slow; but unless I greatly overestimate its novel and valuable features, it is destined, in the near future, to be widely used.

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A. B. P.

**The World's Literature.** Part I.—By MARY E. BURT. Chicago: Albert, Scott & Co., 1890, pp. 316.

Mrs. Burt has set herself a gigantic task—to present in four volumes “forty centuries of history and literature.” She believes that “the history of nations, their real or soul history, has found truest expression in their songs and stories, and that it is an economy of the student’s energy for him to read with reference to the development of the world’s thought and to get its history, in the main, through its literature.” Strong in this belief, she shows no misgivings at attempting a work that has appalled the boldest as well as the most learned of men. But, lest the too impulsive reader may be getting ready to quote the proverb that draws a comparison between unwise persons and angels, greatly to the disadvantage of the former, I hasten to state that Mrs. Burt appears chiefly in the rôle of compiler. She has made liberal use of her paste-pot; neither has she spared her scissors. Of original work on her there is next to none in the book. She merely supplies the links that joins the selections together.

The volume before me deals with the myth-making age—

the age of Homer and Hesiod. The first four chapters are occupied with the origin of the myth. Ruskin's views, as expressed in the "Queen of the Air," are given *in extenso*. Then come the theories of Symonds, Max Müller, Professor Cox, John Fiske, and others, presented in brief extracts from their works, which have been skillfully selected, so that one writer appears either to supplement or to criticise another. And lastly Carlyle expounds his view of the myth in "The Hero as Divinity," which is given in full. "Marvelous," says Symonds, as quoted by Mrs. Burt, "is the vitality of mythology. Indissoluble is its connection with the art and culture which sprang from it." These words express none too strongly the importance of the subject, and are the best justification of the large space devoted to the origin of the myth. Even the reader who is well versed in Ruskin and Carlyle, will not fail to thank Mrs. Burt for having brought into juxtaposition and contrast the views and the styles of these mighty masters. His gratitude will be dashed, however, by just a drop of asperity if he suffers his mind to dwell upon the editor's rather patronizing remarks, as when she tells us of Ruskin that "we see in this essay how reverence has led him on to deeper insight into his subject, and a broader grasp of it," or informs us that Mr. Symonds' criticism of Max Müller "deserves attention."

The remainder of the book is taken up with extracts from Lord Derby's translation of the Iliad, from Butcher and Lang's translation of the Odyssey, and from Bank's translation of Hesiod. Taking Mr. Symonds' view, that the character of Achilles is "the central subject which gives the unity of a true work of art to the Iliad," Mrs. Burt makes all her selections from the great Greek epic with a view to illustrating the story of the hero. Upon these extracts there can be no criticism. They are in every way admirable. But one could wish that Mrs. Burt had found some better way of piecing together the main incidents in the life of Achilles, than by her own brief narratives. After reading several pages of Lord Derby's sonorous blank verse, it is like falling with a "dull, sickening thud," if I may use the Chicago reporter's favorite phrase, to descend to the following description of the duel between Paris and Menelaus: "As he (Paris) was about to be overcome by Menelaus, Venus snatched him from the danger hidden by clouds, and bore him away. The battle became general, the Grecians getting the upper hand; even the god of war, Mars, was wounded and

sent groaning to heaven by a brave Greek." Poor Mars! The only consolation he had—that Homer alone told the story of his discomfiture—is now no longer his. Fortunately, there are few of Mrs. Burt's connecting links introduced among the selections from the *Odyssey*.

Of the pedagogical value of Mrs. Burt's undertaking it is perhaps too early to express an opinion. The work must be completed and have a fair trial in the class-room before it will be possible to form a definite judgment. This much, however, is certain: there is no foundation either in history or in philosophy for Mrs. Burt's opinion that "desultory reading"—if by "desultory reading" is meant, as the context seems to indicate, all reading that is not consciously made part of a system of the world's literature—that "desultory reading" tends to destroy the student's memory and "to weaken his ability to reason and thus give him no power of self-direction." Strange that we have not all been reduced to driveling idiocy by "desultory reading!" Stranger still that there should have been so many great minds nurtured on "desultory reading!" True philosophy teaches us that we may make a beginning anywhere in literature; it matters little where, so long as we make what we read part and parcel of our own minds. It is possible that at some future day the world's literature—or rather the evolution of literature—will take its proper place as a subject of university study. Mrs. Burt's volumes will probably be more acceptable and more useful to the general reader than to the college student and college professor.

W. H. M.

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#### Notes on Recent Pedagogical Literature.

THE STUDY OF CHILDREN.—By N. A. CALKINS. New York: Published by the Author, 1891, pp. 24.

This syllabus of a special course in the philosophy of education, under the auspices of the University and School Extension, is the most significant and striking contribution that that movement has as yet made. Mr. Calkins has prepared, evidently with the utmost care and after long reflection, a syllabus on child-study that is of great value and importance. Its directions are clear and its suggestions entirely practical. The series of questions to be answered is exhaustive. Every normal school and psychological department will find in this

pamphlet something definite and scientific to work from and by, in collecting data illustrative of the mental life of children.

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**THE EDUCATIONAL VALUE OF POLITICAL ECONOMY.**—By SIMON N. PATTEN, Ph.D., Professor of Political Economy in the Wharton School of Finance, University of Pennsylvania. Baltimore: American Economic Association, 1890. pp. 36.

Professor Patten expounds here, with special reference to political economy, the pedagogic ideas that he illustrated so forcibly in a more general way in his recent article on "The Educational Value of College Studies" in this REVIEW (I: 105). His present paper is a contribution both to pedagogics and to economics, and merits a careful reading.

**SUPPLEMENT TO THE CATALOGUE OF THE PEDAGOGICAL LIBRARY IN THE OFFICE OF THE SUPERINTENDENT OF PUBLIC SCHOOLS, PHILADELPHIA.**—By JAMES MAC ALISTER, Superintendent of Schools, Philadelphia.—Philadelphia: Printed by order of the Board of Education, 1890, pp. 40.

This brings down to date the catalogue of the pedagogical library which Mr. Mac Alister collected during his term of office. In the absence of any complete and accurate bibliography of education, this catalogue of the Philadelphia collection is of more than ordinary value. The library itself is one of the best evidences of Mr. Mac Alister's educational activity. This supplement, like the original catalogue, is strangely deficient in German titles.

**ZUR STATISTIK DER DEUTSCHEN UNIVERSITÄTEN.**—Von Dr. S. HAUSMANN. In *Allgemeines Statistisches Archiv*, Hrsg. von Dr. Georg von Mayr, Jahrgang 1890, I Halbband. Tübingen: 1890, pp. 212-233.

Dr. Hausmann publishes here the first of a series of statistical studies of the German universities. He traces briefly the history and literature of university statistics, and then enters upon an examination of the character and causes of the great increase of university students from 1876-77, when they numbered 17,464, to 1888, when they were 29,190. The author's compact statements do not admit of being summarized, and his entire paper will repay a careful examination.

**PRELIMINARY REPORT OF THE GENERAL AGENT OF EDUCATION FOR ALASKA TO THE COMMISSIONER OF EDUCATION, 1890.**—By SHELDON JACKSON. Washington: Government Printing Office, 1891, pp. 15.

Dr. Jackson's report is an object lesson on the fact that education means civilization, and that it cannot be confined solely to schools and instruction given therein. The commissioner's reason for asking the Secretary of the Interior to print

this report—which deals with the introduction of reindeer into Alaska—is that the topic of which it treats is one that affects profoundly the civilizing of the Alaskan natives. If they can be lifted “from the grade of wild hunters to that of herdsmen who live on domesticated cattle,” they will be much better prepared for schools than they are now. The native tribes on the Siberian side of Bering Sea thrive on herds of reindeer. This report urges the introduction of the animal into Alaska.

LEHRPLAN DER RUSSISCHEN GYMNASIEN.—Von Regierungsrath Dr. G. v. HAYEK. In the *Jahresbericht des K. K. Staatsgymnasiums im III. Bezirke in Wien, für das Schuljahr 1889-90*, pp. 5-24. Wien: 1890, pp. 20.

A minute statement of the ground covered in each subject taught in the secondary schools for boys in Russia, based on the new program of 1889. The author has failed to throw into tabular form the distribution of subjects and time among the different classes.

SPEECH OF HON. J. L. M. CURRY, General Agent of the Peabody Education Fund, delivered before the North Carolina Legislature, January 21, 1891. Raleigh, N. C.: Published by the Legislature, 1891, pp. 15.

Dr. Curry's aim in this address was entirely practical. It was to obtain from the legislature increased interest in the State system of schools and increased appropriations for its support. He complains that the annual sessions, averaging only sixty days, are far too short, and that the expenditure for school purposes does not increase as it should. A special plea is made for trained teachers and for the establishment of a school for training persons to teach.

ON THE COLOR-VOCABULARY OF CHILDREN.—By HARRY K. WOLFE, Ph. D. In *University Studies*, July, 1890. Lincoln, Neb.: Published by the University of Nebraska, 1890, pp. 30.

Dr. Wolfe brings together in this paper the results of some investigations of his own, made with children in the public schools of Lincoln, Neb., as to the ability to name colors correctly. The colors used by him were oil pigments, on cardboard previously treated with a coating of common glue. Each card was five and one-half centimeters square. No systematic instruction in color had ever been given to the children with whom the tests were made. Only common colors were used. Of children five years of age, every boy tested was successful in naming black, while the girls gave fifty wrong answers out of a thousand. With red the case was quite different: every girl five years of age named it correctly; but the



boys were right only 821 times out of 1000. With violet the failure was complete with children of this age, and with orange it was nearly so. The results with children of different ages are carefully tabulated. On the whole, the scale of recognition of colors arrived at by Dr. Wolfe is quite different from that given by Preyer. The latter's child learned to recognize and to name colors in this order: yellow, brown, red, violet, black, pink, orange, gray, green, blue. The order as given by Dr. Wolfe is: white, black, red, blue, yellow, green, pink, orange, violet. Other tables covering various points of comparison are given. It is to be hoped that Dr. Wolfe will extend his inquiries in this field to as many children as possible, and so obtain results based upon a very wide induction.

**THE PREPARATION OF TEACHERS SHOULD INCLUDE THE STUDY OF THE PHILOSOPHY OF MIND IN ITS EDUCATIONAL REFERENCE.**—By Professor S. S. LAURIE, LL.D. London: Reprinted from the *Journal of Education*, 1891, pp. 16.

This is Professor Laurie's annual address as President of the Teachers' Guild. Its thesis is that a teacher should be conscious of the art he practices, conscious of its rational basis, its process, and its end. Of the teacher to whom *nascitur non fit* applies, Professor Laurie says: "[That which characterizes him] is simply a profound psychological knowledge, which yet is not knowledge at all, in any strict sense, because it is unconscious; it is rather to be called feeling or intuition. Were such a man suddenly gifted with the power and love of analytic and abstract thinking, he would, by his revelations, put our psychologists to shame."

Because there is no one philosophy of education that is above suspicion, the teacher need not refrain from studying mental science altogether. Nor will the mere study of methods suffice. The student of methods should carry his studies a step further back, and see method growing out of psychology. "Sound theory is sound practice become conscious of itself; and every schoolmaster who would also be an educator should be conscious of the art he practices."

N. M. B.

## EDUCATION IN FOREIGN PERIODICALS.

### The Bishop of Durham on Ideals.

FROM A REPORT IN THE "UNIVERSITY EXTENSION JOURNAL" OF AN ADDRESS BEFORE THE ANNUAL MEETING OF THE STUDENTS OF THE LONDON SOCIETY FOR UNIVERSITY EXTENSION.

Many of us remember the splendid myth in which Plato connects the position of men in their earthly life with their experiences in an earlier existence. There are, he says, festivals in heaven, when Zeus, followed by the Divine hosts, goes forth to the outer boundary of the universe, and, during its revolution, gazes on the supramundane realms of absolute being. The spectacle is the food of the heavenly nature, and gods and heroes fill themselves with it to the full in serene and untroubled tranquillity. Other unembodied souls follow in the celestial train, struggling to share the life-giving vision. Some with grievous effort catch more or less transitory glimpses of righteousness and beauty and moral order, and so retain for another period their lofty state. Others, baffled and beaten down, fail to gain the glorious sight, and, falling to earth, are forthwith confined in mortal frames. But since they still remember something of the truth which they have formerly seen, they cannot on their first embodiment sink below the state of man, and their place among men is determined by the measure of their remembrance. He who has seen and remembered most, is born a philosopher. He who has seen and remembers least, is born a despot.

Now, without discussing in detail the remarkable hierarchy of classes which Plato sketches between these extremes, or entering on any philosophical speculation, we can notice two central thoughts, two central truths, I will venture to call them, vividly expressed in this great picture. That which makes us men is the capacity for regarding the eternal. That which fixes our position in the scale of humanity is the energy of the eternal within and upon us, by which we are freed more or less from the dominion of material and selfish aims. Or, to express the teaching in popular language, man is a being who fashions ideals, and the worth of man in relation to his fellows depends

upon the ideals which he cherishes. "Man partly is and wholly hopes to be." I wish, then, to say a few words now, necessarily most fragmentary and imperfect, upon ideals regarded in this aspect. I wish to show, if there is need to show it, that ideals are the very soul of life; that the characteristic spirit of university teaching, which this society desires to bring within the reach of all, tends to quicken, to sustain, to perfect the loftiest ideals; that the circumstances of the time give peculiar importance to this aspect of the work of university extension.

Ideals are, I say, the soul of life. The simplest human act is directed to an end; and life, a series of unnumbered acts, must answer to some end, some ideal, mean or generous, seen by the eye of the heart, and pursued consciously or often unconsciously, which gives a unity and a clew to the bewildering mazes of human conduct. The word progress is unmeaning without reference to an ideal. And I would say of ideals that which was said here of abstract thoughts by a distinguished scholar and statesman, that they "are the meat and drink of life." They support us, and, still more, they rule us. It is, then, momentous that we should pause from time to time to regard our ideals. They exercise their influence upon us insensibly. We grow like the object of our desire perhaps before we have distinctly realized its true nature; and so we may find ourselves, like some of the souls at the close of the *Republic*, involved in unexpected calamities through a heedless choice. At the same time, the effort to give distinctness to our ideals brings with it a purifying power. For, after all, there is but one ideal in which we can find rest—that which answers to the truth of things. To this alone the name ideal properly belongs. It remains when all illusions pass away. . . . .

This conviction that there is an order in things which we do not make, but can discern and interpret, is the inspiration of the man of science and of the artist, no less than of the man of affairs. The man of science dimly perceives that after which he is feeling. Phenomena speak to him with a voice which others cannot hear, because he has known in some degree their vital coherence, and he trusts to the perfection of the harmony of which he has found the first promise. To the artist outward things are signs rather than copies. He uses them to suggest to others what he discerns behind them. His work is not an end in itself, but a revelation of that which is beyond. And for the statesman ideals are the adequate support of resolute and un-

wearied patience. It was said, I think, of Michael Angelo that he often hewed the marble before him without a model, as one who was setting free a figure imprisoned in the block, clear to his artist eye. The image is a just representation of the work of life. Our work in life is to set free from manifold encumbrances that which is present about us, good and true and lovely. But we must first see the ideal which we desire to bring to view, and the vigor of action depends upon the clearness of our sight, and such clearness comes through discipline. Every prospect on which we look is for us as we are. The phenomena are the material which are offered to us to use and to interpret, and as the quickened soul realizes their meaning and their relations, seeing becomes beholding, the partial apprehension of the ideal by which and toward which we have been guided. So to keep the ideal before us in the midst of our common occupations, to guard the conviction that there is an ideal, is to preserve the first freshness of our early impressions of the mysterious beauty of the world. Poets tell us that in the pilgrimage of life we shall watch the glory fade away from the things of earth. But if it be so, the fault lies with us. It will be because we have not grown to match with the growth of things. . . . .

The average man, the man of business, the artisan, and the miner, require the vision of the ideal, and they are capable of it. The vision of the ideal guards monotony of work from becoming monotony of life. The simplest home opens a place for it. And no problem is pressed upon us now with more continuous urgency than how that place shall be rightly filled. The University Extension Movement is one important help toward the solution of the problem. University teaching tends, I believe, with every accumulating force and directness to quicken and to sustain ideals. It is characteristically structural, catholic, equalizing, chastening, historical, personal, spiritual. Let me, in the fewest possible words, endeavor to explain and justify this formidable list of epithets. To every university man each word will, I think, recall a debt which must grow with the growth of life.

University teaching is, I say, structural. It aims, I mean, at giving a sense of the whole and preserving the proportion of the parts. It insists on a general training and a special training. It brings intelligent sympathy with all studies and guides to the mastery of some one. It provides that the physical student shall understand the aims, the resources, the achieve-

ments of literature; and that the scholar shall understand the methods and the limitations of physical science.

It is catholic. A university is strong enough to prevent the overpowering dominance of a popular pursuit. It is hospitable alike to the enthusiasm which proclaims new thoughts and to the reverence which lingers over the thoughts of a past age. It is tolerant of all things except one-sided arrogance. No specialist can move among the bands of fellow-students, pre-occupied with other interests, without feeling the amplitude of knowledge and of life and the manifold relations in which his own subject stands to others on which he cannot enter. The common search for truth and right brings mutual respect; and the teacher who has felt the subtle influence of the university must himself in turn diffuse its spirit.

It is equalizing. Nowhere is fellowship more complete among representatives of every class than at a university. There poverty is no reproach, and wealth is no title to superiority. The foremost students are bound, perhaps unconsciously, in a brotherhood of heart through which comes the power of penetrating to the noblest in each man. The teacher who has learnt his lesson under such social conditions will be eager to bring help to the humblest as a fellow-heir with him of the wealth of humanity; and he will not accept, as permanent, conditions of life which exclude any class or any man from access to his birthright.

It is chastening. The university teacher cannot forget that his office is not to supersede labor, but to stimulate it. He will not entertain the vulgar notion that we can bestow on others our thoughts as we can bestow on them our money, so that they can employ them rightly before they have made them their own. He will bear in mind the pregnant saying of an old divine, "We have ourselves as we use ourselves." He will make it clear that great books can only be read in the spirit in which they were written, as serious work and not as indolent amusement. He will, therefore, claim from his hearers the difficult service of thinking, as one who knows that the true teacher, like Nature, gives nothing but materials and opportunities and impulse.

It is historical. A university is not a bureau. It is a living body, a complex result of life and not an official provision for carrying into effect a formal scheme. The teaching which answers to it is, as a necessary consequence, vital and not intel-

lectual only. It bears the impress of many associations, old and new. It is flexible in the largest sense human, of the past at once and of the present. A Cambridge man might find it hard to analyze or to estimate the effect which has been produced upon him by the great libraries, by the old buildings wedded to new, by the chapels of Trinity or King's, yet he will know that they have, in many undefined ways, given him breadth and sympathy and tenderness which will color his own work.

It is personal. The method of learning is, I believe, of scarcely less moment than the matter. The student who has mastered a subject by the help of a text-book occupies a very different position intellectually and morally from one who has gained his knowledge in continuous contact with a teacher. The frank questioning, the interchange of thought, the influence of personal enthusiasm, the inspiring power of living words, which come in the free intercourse of the class-room, give a force and meaning to facts and theories which the book cannot convey.

It is spiritual. The end of the teacher whose work we strive to follow is not fixed by the communication of his special lesson. He will seek, indeed, to do this as perfectly as possible, but he will at the same time suggest the vast fields which lie unexplored even in his own department; he will make clear the limitations and assumptions under which his results are obtained; he will add, if I may so express the truth, the symbol of infinity to the provisional statements which represent the actual attainments of man; he will use the most effective technical education as the vehicle of wider culture. Literature, art, science will be for him partial revelations of a boundless life, and it will be his object to make the life felt through the least part with which he deals. If, then, this is the general character of university teaching, however imperfectly it may be realized by the individual teacher, we may rightly maintain that it does, as I have said, tend to quicken and to sustain ideals, to bring into view the loftiest aspects of man and nature, to assure to thought and action that liberal freedom which corresponds with the sense of absolute law, to keep open a free course for aspirations and endeavors which rise beyond the conventional standard of custom.

Hitherto the universities have fulfilled their teaching office for a few. Now they are endeavoring to extend it to every

town and village, and to make it effective even for those who are busily engaged in various industries. The movement corresponds in many respects with that out of which the old universities themselves arose. It is still experimental, but the results already obtained have far more than satisfied the hopes of those who watched the beginning of the movement not without anxiety. They have won a distinct academic recognition at Cambridge, and they have contributed, I believe, in no small degree to create the desire for a teaching university in London. For, however important the test of an examination may be for fixing the value of acquirements, the discipline of learning is yet more important for character; and this discipline the extension system offers in a form equally attractive and stimulating.

Such a system, fitted to bring many-sided liberal culture to every condition of life, to enlarge common interests, to deepen fellowship, to create simplicity through refinement, and to check the passion for excitement by the force of purer interests, would be welcome at any time. But it is of singular importance now, when the inspiration of great ideals seem to be alone able to meet the intellectual distraction, the materialism, the critical indifferentism, and the consequent enfeebling of will which appear to be the dominant perils of our age. We are in danger of losing the true conceptions of nature, humanity, and life, and the calm vigor of action is failing us. On the one side our attention is concentrated on isolated subjects. We are absorbed in the study of fragments. We are fascinated by minute details. We unconsciously treat our little domain as the whole. On the other side, in the eager hurry of life, every one is expected to possess a ready acquaintance with all that can be known. In this way genuine labor and superficial borrowing of opinions become equally destructive of broad and balanced judgment. But the contemplation of a great ideal of nature will bring proportion to special inquiries and justly discredit the affectation of an impossible omniscience. The worth of our own little service will be seen to be fixed by the grandeur of the cause to which it is rendered, and the worth of our knowledge by the help which it brings to others.

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