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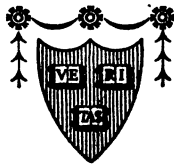
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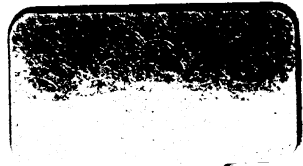
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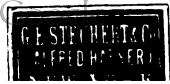


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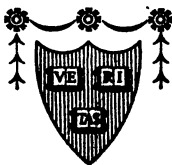
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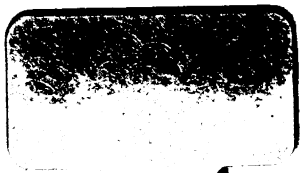
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SCIENCE OF LOGIC.

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KAWAIF-UL-MANTIQ,

YANE ILM I MANTIQ KA MUFASSAL BAYAN.

Jis ke wāste Sarfār ne inām diyā.

BY

REV. T. J. SCOTT, M. A., D.D.

A GOVERNMENT PRIZE BOOK.

Second Edition

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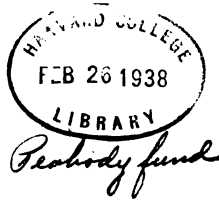
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REV. T. CRAVEN, *Superintendent.*

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PREFACE.

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THE study of Logic is most useful in the cultivation and development of the mind; but the means of prosecuting this study in the vernacular languages of India are very limited. Until recently, no works on logic could be found in the vernacular. A small tract recently published in Urdu called "Ilm i Mantiq," while good, is still too brief to give any clear knowledge of the subject. In Persian some small books on logic as the "*Sugrá*" and "*Kubr *" are found, while a chapter or section of some other books as the "*Dary e Lat fat*" the "*Makhzan-ul-ul m*" treats on the subject of logic, but these are only accessible to good Persian scholars. Still further beyond the reach of ordinary readers are the Arabic works on logic from which the Persian are taken, such as "*Ris la Shamsiya*" and the commentaries in Arabic on it, as the "*Qutbi*." Moreover the subject as treated is often not very comprehensible to the best of Arabic scholars. The few works found in Sanskrit of course are only available to scholars in that difficult language. Such being the state of this useful science in India, I have attempted to obviate the difficulties in the way of its study by preparing a work in Urdu in which the science of logic is treated at such length and so fully illustrated by figures and practical illustrations that any ordinary student, with proper effort, may master it and make it available in every-day life.

The book is accompanied by the English, as some native friends acquainted with English requested that the work be issued in both languages. It was thought that this would greatly aid students of English in under-

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DĪBĀCHA.

ILM I MANTIQ ká parhná zihn kī árástagi aur sanwárne ke wáste bahut mufid hai. Lekin is ilm kī kitáben Hindustání zubánon men bahut kam hain. Ek mukhtasar risála musamma ba “ILM I MANTIQ” hál men ba zubán i Urdú chhapá hai. Agarchi wuh risála achchhá hai, magar phir bhí aise mukhtasar risála se ilm i Mantiq ká hál sáf nahín khultá hai. Fársí men bhí do ek chhóte chhóte risále, maslan “Sugrá,” “Kubrā,” hain. Chand báten Mantiq ke bayán men “Daryá i Latáfat” aur “Makhzan-ul-Ulúm” men likhí hain, magar in kitábon se sirf unhín logon ko fáida hai, jo Fársí jánte hain, aur jab ki Fársí zubán men is ilm ká síkhná mushkil húa, to Arabí zubán men (jis se Fársí men tarjuma húa hai,) jaise risála i “Shamsiya” jis kī sharh “Qutbī” hai, síkhná, awám-un-nás ke wáste bahut mushkil hai. Siwá is ke un kitábon se is ilm ká hál aksar Arabí tálib ul ilmon ke bhí samajh men achchhí tarah nahín átá. Zubán i Sanskrit men chand kitáben is ilm kī pái játi hain, magar wuh sirf unhín logon ke kám kī hain, jo us mushkil zubán men daḡhl rakhte hain. Pas yih kaifiyat is ilm kī mulk i Hind men dekhkar mere dil men áyá, ki un mushkilát ko jo is ilm ke hásil karne men ákar partí hain, ásán karún. Chunánci isí liház se yih kitáb ba zubán i Urdú jis men ilm i Mantiq ká bayán khúb tawálat ke sáth likhá hai, aur já ba já shaklon se subút diyá hai, aur misálen aisí sahl sahl hain, ki agar koí muhtadá tálib ul ilm bhí dil lagáke parhe, to is ilm ko hásil kar le, aur roz-marra ke wáste nafa uṭháwe, tálif kī.

Roman-Urdú nuskhé ke sáth Angrezí bhí hai. Baze Hindustání doston ne, jo Angrezí se wáqif hain, yih kahá, ki Agar yih kitáb donon zubánon men ho, to kyá kahná Main ne bhí yih sochá ki Angrezí tálib ilmon ko Mantiq

standing the subject in this language also, so that the book would thus answer a double purpose.

Of the Urdu translation it may be remarked that it is not always strictly literal. Where the meaning could be better preserved the translation is free, and some little change in arrangement has been made to suit the *terminology* of logic in Urdu.

Still, as a rule, the Urdu will be found to correspond closely with the English, so that a good end may be subserved by retaining both in one volume. With the hope that this book may assist the student of logic to a better understanding of this useful science, it is sent forth.

BAREILLY: }
December, 1870. }

T. J. SCOTT.

ke síkhne men is zubán se barí madad pahunchegí, aur do matlab hásil hongé.

Wázih ho, ki yih tarjuma bilkull lafzí nahín hai, jahán jahán achchhí tarah mané nikalte hain, wahán waise hí rahne diyá hai, aur kahín kahín tartíb ibárat kí is garaz se, ki istiláhat Mantiq kí Urdú men be-maháwara aur ná-zeba na malúm hon, badal dí hain. Magar phir bhí yih qáida rakhá hai, ki Urdú tarjuma bilkull Angrezí se mutábaqat rakhtá hai, yahán tak ki donon ko ek jild men rakhne se fáida nikaltá hai. Garaz is ummed par, ki tulabá i ilm i Mantiq ko khúb madad pahunche, aur achchhí tarah is mufid ilm ko samjhen, yih kitáb jári kí játi hai.

SHAHR I BARELF: }
Máh i December, 1870. }

T. J. SCOTT.

PREFACE TO THE SECOND EDITION.

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THE first edition of this book was soon exhausted, and a second edition was called for, which has been long delayed for want of time to make some needed corrections and additions. The book could easily be made larger, by a more lengthy discussion of subjects, and fuller, by the introduction of many petty distinctions and divisions that perplex the memory without adding much to a knowledge of the real subject. - But I have thought the book would be more generally useful not encumbered with unimportant matter. Ordinarily the mind works with more pleasure and power, the more simple and direct its machinery or the lines of thought over which it moves.

As far as possible, I have conformed the terminology and mode of treatment to that in use among Arabic and Persian authors, but have not departed from what seemed a better method than theirs. Native scholars must not infer that this implies error, for the mode of treating the subject of logic even, is open to improvement like many other things.

BAREILLY, N.-W. P., }
May, 1879. }

T. J. SCOTT.

DIBĀCHA I TABA I SĀNĪ.

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TABA I AUWAL kī sab jilden bahut jald kharch ho gain aur do-bāra chhapne kī zururat pari. Magar baz zururi islahāt aur izāfat ke liye qillat i waqt ke māni hone se chhapne men bahut waqfa hua. Mazāmin kī bahs i tawil aur bahut si chhoti chhoti baton ke dakhil karne se hajm is kitab ka bah saktā thā. Lekin is se bilā husul kisi nafa muatadd-bih ke zihn ko zabt i mazāmin men diqqat waqa hoti hai. Is wāste gair zururi bayan ke dakhil karne se muhtariz hoke nafa e āmm ke laiq banānā, munāsib jānā. Kyūnki sāf wāzih bayan par tabiāt khūb jamti hai. Hatt-al-imbkān main ne istilahāt aur tarz i bayan Arabi o Fārsi musannifin ke muwāfiq ikhtiyār kiyā hai. Lekin un ke tarz i bayan se jo tarz mujhe bihtar malūm hua, use nahin chhorā. Hindustāni Mantiqin is se yih na samjhen ki is men kuchh galati hai, kyūnki is fann ke tarz i bayan men bhī bahuteri aur baton kī tarah, taraqqi o tabdil kī gunjāish hai.

SHAHRI BARELI: }
Māh i May, 1879. }

T. J. SCOTT.

THE SCIENCE OF LOGIC.

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INTRODUCTION.

1.—Logic is the *Science* and also the *Art* of reasoning. As a *Science* it has reference to the necessary laws of thought, in accordance with which the mind acts in the production of thought, and in conducting a correct argumentation in the search for truth. As an *Art* it has special reference to the practical rules laid down for conducting an argumentation; for guarding against erroneous processes of reasoning and the drawing of false conclusions, and, in short, for making the best practical use of a system of logic.

2.—By some, logic is thought to be *one* method of reasoning. It is thought that there are other modes of reasoning besides logical reasoning. Logic is supposed to contain rules by which we can so reason as to confound an opponent by forcing him into traps and snares, and secure victory even for error. Hence it is supposed to be chiefly useful in gaining victory in a dispute whether on the side of truth or error, and for making a display of smartness and learning through pride or for sport. This is a common mistake in India. All this is a misapprehension of the real nature and object of logic, which is not merely *a* method of reasoning, but is the *only* method of reasoning; that is, in the correct search for truth the mind acts in but *one* way or only by certain laws. A departure from these laws involves

ILM I MANTIQ.

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MUQADDAMA.

1.—MANTIQ ek aisá ilm aur fann hai, ki jis se aql dauráne aur dalíl karne ká qánún małúm hotá hai. Istiláhan, mantiq ko *ilm* us hálat men kahenge, jab aql dauráne yá dalíl karne ke k̄háss qánún ká bayán ho. Aur *fann* us hálat men bolenge, jab taríqa e hujjat ká bayán ho, aur galatí aur k̄hatá se mahfúz rahne ke taríqe muayyan hon; —yañe hásil kalám yih hai, ki *fann* qawáid i mantiq ke istiamál men láne ko kahte hain.

2.—Baz ádmí gumán karte hain, ki aql dauráne ke kaí ek qawanín hain, jin men se mantiq ek hai. We samajhte hain, ki mantiq ek aisá zarífa hai, jis se mukhátib ko pechída báton men dálkar jhúth ko bhí sach kar sakte hain. Chunan̄chi we k̄hiyál karte hain, ki mubáhasa men k̄hwáh sach par yá jhúth par gálib rahne, aur apne ilm aur zihánat ke záhir karne ke liye k̄hwáh gurúr ke taur par ho, yá tamask̄hur ke taur par yih kár-ámad hai. Yih un kí galat fahmí hai, aur aise logon ko mantiq kí asliyat aur garaz małúm nahín. Aisá na samajhná cháhiye, ki mantiq kaí ek taríqon men se aql dauráne ká ek taríqa hai balki dar haqíqat sirf yihí ek taríqa hai, yañe kisí muámale kí asliyat o haqíqat ke kámil daryáft karne men zihn sirf ek hí taur par un qawáid i muqarrara ke bamújib jo

error. It is the object of logic to elucidate these laws and furnish rules by which a departure from them may be guarded against or detected in an argumentation.

Thus arithmetic is a science, the processes of which are carried on by certain laws or rules. These must be substantially the same in every age and country and language. For instance, the rules for addition, subtraction, multiplication, division, &c., must always be the same. Thus, logic is the science of reasoning, and if we reason correctly at all, we must reason by logic. We may reason correctly without having a knowledge of the rules of logic just as hundreds of persons doubtless do. So one brought up in the society of those who speak correctly will perhaps speak and write correctly without knowing the rules of grammar. Yet it is well to have the modes of correct speaking and writing given in rules for the instruction of the ignorant and the correction of those who do not speak and write correctly. In like manner the rules of logic are useful for guarding against mistakes. They teach us how to detect bad arguments.

3.—Some have mistaken the true nature and object of logic and have imagined that it has a tendency to destroy belief in the existence of God and the truths of religion. They have supposed it to be a kind of art or trick by which any thing can be made true or false at the will of the logician, causing him in the end to lose all confidence in truth. All this is a great mistake; for logic has a tendency to improve the mind and guard it against error and confirm it in truth. This will be made plainer in this book.

4.—Logic is a very ancient science, and in ancient times is found only among two nations, the Greeks and Hindus. All other nations seem to have received the

Khudá ke banáe hain, lartá hai; pas agar in qánúnõn ke bamújib zihn na daure, to galatí men par játá hai.

Asl garaz mantiq kí yih hai, ki wuh qawánín i muqarrara bakhúbí záhir ho jáwen, aur wuh qáide hásil hon, ki jin par agar liház rakhá jáe, to un qawánín mazkúra ke bamújib aql daure, aur agar koí un qawánín se álahidagí ikhtiyár kare, to un kí rú se us kí galatí małúm ho jáe. Maslan, hisáb ek ilm hai, jis ká istiamál chand muqarrar qáidon ke bamújib kiyá játá hai. Aur zurúr hai, ki yih qáide hamesha har mulk aur har zubán men ek hí hon. Masal to maslan zurúr hai, ki qáide jama, tafriq, zarb, taqsim ke hamesha ek hí rahen. Alá házal qiyás mantiq aql dauráne ká ilm hai, aur agar ham thík thík aql daurána yá sochná cháhen, to mantiq hí ke bamújib karná hogá. Aisá bhí hai, ki aksar log durustí se sochte, mubáhisa karte, aur aql dauráte hain, bá wujúd is amr ke, ki zará bhí ilm i mantiq ke qawáid se wáqif nahín hote, jaisá ki aksar húa kartá hai, ki baze ádmí durust likhnewálon kí suhbat páne se thík likhte aur bolte hain, agarchi sarf o nahw se mutlaq bhí wáqif nahín hote. Magar bahar hál yih bihtar hai, ki qawáid durust likhne aur bolne ke ná-wáqifon kí talím ke wáste, aur un logon ke sudhárne ke wáste, jo ki sahíh nahín likhte aur bolte hain, muaiyan hon. Isí tarah par qawáid i mantiq, khatá aur galatí se mahfúz rakhne ke liye, aur auron kí kharáb o náqis dalílon ká nuqs małúm karne ke liye kár-ámad hain.

3.—Baze ádmí mantiq ke matlab o haqíqat se wáqif nahín hain, pas isí jihat se jánte hain, ki mantiq ke síkhne se iatiqád dín par, aur Khudá ke wujúd par qáim nahín rahtá. We khyál karte hain, ki mantiq ek tarah ká hunar yá hikmat hai, jis ke zariá se mantiqí apní marzí ke muwáfiq har ek bát ko jhúth yá sach kar saktá hai, yahán tak ki ákhir anjám yih hotá hai, ki mantiqí ká iatiqád sachehí bát par qáim nahín rahtá; yih galat fahmí hai, kyúnki mantiq se quwat i zihní barhtí, aur aql sachái par qáim ho játí hai, aur khatá o galatí se mahfúz rahtí hai.

4.—Mantiq bahut purána ilm hai, aur qadím zamánon men sirf do qaumon yane Yúnánion aur Hindúion ke darmiyán páyá játá thá, aur sab qaumon ne inhin se yih ilm

science from them. It is not certainly known whether the Greeks received it from the Hindus, or the Hindus from the Greeks. Some learned men have thought that the Greeks received their knowledge of logic from the Hindus, while others have thought not. Most probably each nation formed the science for itself and cultivated it to the degree in which it has been found. The Romans received their knowledge of logic from the Greeks. European nations learned directly from the Greek of Aristotle and from Arabic translations of, and commentaries on, Greek works. The Arabs also received their knowledge of logic from the Greeks, while the Jews learned from the Arabs.

The first writer or teacher of logic among the Greeks, of whom we have any knowledge, was Zeno, who lived about 488, B. C. There were some good things in his logic with some things obscure and worthless. After Zeno, came Socrates, Euclid of Magera, Antisthenes, Archytas, Plato, and Aristotle. Zeno and some of these writers cultivated a system of sophistical wrangling. Among them and their pupils logic seemed to be simply a kind of recreation and diversion in which they occupied themselves for hours in trials of each other's acuteness. Socrates who lived 469, B. C., made a more worthy use of logic. He desired to see logic employed more for the investigation of truth and the cultivation of the intellect. He used in reasoning a system of questions and answers leading to a conclusion. Plato, the pupil of Socrates, improved the science of logic still further; but it remained for Aristotle, born 384, B. C., to bring the science to something like perfection, so that from his day to the present, logic, as taught in Europe, is substantially that of Aristotle. The works of Aristotle were translated into Arabic in the second century after Mahomed; and thus logic as studied among the Musal-

liyá. Lekin yih thík nahín małúm hai, ki áyá Yúnáníon ne Hindúon se páyá, yá Hindúon ko Yúnáníon se milá. Baze yih gumán karte hain, ki Yúnáníon ko ilm i mantiq Hindúon se milá, aur baze is ke baraks kahte hain. Aglab hai, ki in donon qaumon me o alahida. is ilm ko íjád kiyá. Yúnáníon se Rúmíon ne síkhá. Yúrapwálon ne yih ilm Arastátális kí mantiq se aur níz us kí Arabí tarjumon se páyá. Yúnáníon se ahl i Arab ne bhí páyá, phir un se Yahúdíon ne hásil kiyá.

Małúm hotá hai, ki Yúnáníon men sab se pahlá musan-nif o muállim is ilm ká Zino thá, jo Masih se 488 baras peshtar Yúnán men thá. Us kí kitáb men chand baten achchhi pái játi hain, aur muglaq aur náqis baten bhí hain. Us ke bad Suqrát, aur Uqlaidas Mageráwála, aur Antis-thenis, aur Arkytas, aur Aflátún, aur Arastátális jis ko Arastú bhí kahte hain, mashhúr hue. Zino aur baz auron ne in men se ek tarah kí jhúthi aur pechdar taqrir kí rasm nikáli. Małúm hotá hai, ki un ke aur un ke shágiron ke darmiyan men yih kaifiyat rahí, ki mantiq sirf ek tarah ká khel aur tafrih i taba samjhá játa thá, jis men ghanton tak auqát sarf karte the, is amr ke wáste, ki dekhen kaun tez hai; magar Suqrát jo 469 baras peshtar San i Íswi ke maujud thá, achchhi tarah mantiq ko istiamál men láyá, aur cháhtá thá, ki har ek bat kí asliyat o haqiqat ke daryáft karne aur taraqqi i zihn aur tahzib i akhláq ke kám áwe. Us ká ek taríqa yih thá, ki mubáhasa men sawál o jawáb is taur se kartá thá, ki jo natíja wuh cháhtá thá, wuhí nikle. Aflátún shágird i Suqrát ne is ilm ko aur bhí darja i taraqqi par pahuncháyá. Bad Aflátún ke Arastátális ne jo San 384 peshtar Masih ke paidá huá, is qadr mantiq ko takmil dí, ki us waqt se áj tak koí kuchh bahut barhá na saká. Pas wuh mantiq jo Yúrap men parháí játi hai, dar haqiqat Arastátális hí kí hai. Arastátális kí yih tasnífát dúsrí sadí i Muhammadiya men Arabí men tarjuma kí gain; chunánci mantiq jo Musalmánon ke dars men hai, wuh bhí Arastátális kí hai.

mans also is that of Aristotle. The logical works of the Musalmans are chiefly in Arabic, with some translations in Persian; hence they are not available to the great mass of readers.

The fault of these books is that they are not sufficiently plain and comprehensible for the student. The subject is left vague and impracticable. It is hoped that this book may make it plainer and more available in every-day life to the student of this useful science.

Magar chúnki yih kitábeñ aksar Arabí aur kuchh kuchh Fársí men bhí haiñ, is sabab se awámm logon ke kár-ámad nahín haiñ.

In kitábon men bará nuqs yih hai, ki wuh aisí sáf nahín haiñ, ki har koí samajh le, aur aisá parda hai, ki báwujúd parhne ke ilm i mantiq achchhí tarah kám men nahín áta. Magar mujh ko ummed hai, ki názirín ko is kitáb ke dekhne se hál i mantiq khulegá, aur síkhnewále achchhí tarah is se fáida uḥáwenge.

PART I.—APPREHENSION.

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INTRODUCTORY.

*The Sphere of Logic—Some Definitions of
Psychological Terms.*

1.—Logic deals with the laws of mind in thinking and reasoning. The *mind* is that spiritual non-material existence within us which feels, perceives, and reasons. The body is merely its tenement. The mind gains knowledge of the material world in a mysterious way by means of the five senses, *viz.*, of sight, hearing, feeling, taste, and smell.

The mind, like a mirror, receives images or impressions through these senses. This figure illustrates the receptive phase of mind. Besides these ideas or notions obtained through the five senses, other ideas, as of God and of the soul itself, of moral quality, &c., may be awakened in the soul. Intuition, consciousness, original suggestion may be mentioned as sources of ideas. The discussion of this subject belongs to the science of psychology rather than to the science of logic. The mind is possessed of various powers, some of which will be briefly discussed in this book.

HISSAKI.—TASAUWUR.

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AGAZ KI CHAND BĀTEN.

Mantiq kī murād aur chand istilāhāt dar-bāb i zihn.

1.—ILM I MANTIQ zihn se ilāqa rakhtā hai, al-alkhusús hālat sochne, aur mubāhasa karne men. Zihn wuh rúhání gair-máddí shai hamāre jism men hai, jo sochtā hai, aur jis se har ek chíz aur bát maḷúm hotí hai. Badan jo hai, sirf us kí já e sukúnat hai. Zihn, mahsúsát yaṇe, ālam i jismání ko aise taur par, jo baǐd-ul-aql hai, ba zariā hawáss i khamisa ke, maḷúm kartā hai; aur hawáss i khamisa yih hain, *básira*, (yaṇe dekhnewálí qúwat,) *sámia*, (yaṇe, sunnewálí qúwat,) *lámisa*, (yaṇe, chhúnewálí qúwat,) *záiqa*, (yaṇe, chakhnewálí qúwat,) *shámma*, (yaṇe súnghnewálí qúwat.)

Zihn misl áine ke hai, jis par aks ban játá hai. Agar wuh aks ba zariā hawáss i khamisa ke ban jáwe, to us ko *mahsús*, aur agar aláwa in hawásson ke kisi aur tarah par, zihn men tasauwur ban jáwe, to us ko *maqúl* boḷenge, maslan *Khudá ká*, *yá rúh ká*, *yá nekí wg.* ká tasauwur zihn men paidá ho. *Taaqqul* aur *Idrák* aise tasauwurat ká mamba hai. Yih bahs ilm i Zihn ke mutaalliq hai. Ilm i Mantiq se use chandān taalluq nahín hai. Jánná cháhiye, ki zihn men kaí tarah kí qúwaten pái játí hain, chunānchi baz ká zikr is kitáb men áwegá.

2.—Logic is concerned with three acts or states of the mind, *viz*: (1) simple apprehension; (2) judgment; (3) reasoning or argument.

3.—*Simple apprehension*, or cognition as it is sometimes called, is that act or state of mind by which we are made aware of the existence of an object of thought. For example, through perception by the sense of sight, we are made aware of the existence of a tree or stone. The state of the mind by which it receives the impression of these objects is called "simple apprehension." Such also is the act of mind by which we grasp the idea of *justice, love, &c.* The result of an act of apprehension is expressed by such words as *idea, notion, concept, percept, &c.*

4.—*Judgment* is the mental act in which we compare two or more notions or ideas gained by simple apprehension and pronounce that they agree or disagree. Thus, by the sense of sight we get an idea of the existence of a tree, and by the same sense we get the idea of color. Now, the act of mind by which these two ideas are compared, so that we may say "the tree is green," or "the tree is not green," is an act of judgment.

Again, by the sense of sight we get the notion of the existence of a stone, and by the sense of touch we get the notion of coldness or warmth in it, and, having these two notions or ideas, the judgment is that act of mind by which we pronounce that "the stone is cold" or "the stone is warm," or "the stone is not cold" or "the stone is not warm." These conclusions, when expressed in words, are called *propositions*.

5.—*Reasoning* is that act or process of the mind by which, from two or more judgments formed, we pass to another or others founded upon or drawn from them. For instance,

2.—İlm i Mantiq tın amron se taalluq k̄háss rakhtá hai, yañe, *tasauwur*, aur *tasdíq*, aur *dalíl*, jise *burhán* aur *hujjat* bhí kahte hain.

3.—Jab kisi shai ke wujúd yá máhiyat ká k̄hiyál pahlí pahl zihn men ba zariá hawáss i k̄hamsa ke, yá kisi aur tarah se guzre, us ko *tasauwur* kahte hain.* Maslan, koí darakht yá patthar ho, jis ke wujúd ká k̄hiyál ba zariá hawáss i básira, yañe, dekhne se zihn men átá hai, pas us hí patthar, yá darakht ke k̄hiyál ko *tasauwur* kahte hain. Isí tarah *insáf*, *muhabbat* wg. ke k̄hiyál ko *tasauwur* kahenge.

4.—İlm i Mantiq men dúsrá amr *tasdíq* hai. Agar zihn men aise do *tasauwur* hon, jin ke bích men nisbat-i-*isbát* yá *nafí* kí dí jáwe, ilm i mantiq men us hukm ko *tasdíq* kahte hain. Maslan ba zariá hawáss i básira ke, ek to yih *tasauwur* zihn men áyá, ki yih darakht maujúd hai, dústre ba zariá usí hawáss ke, us ke rang ká *tasauwur* áyá; pas do *tasauwur* húe. Ab wuh hukm, jo un do *tasauwuron* ke bích men hai, *tasdíq* kahlátá hai, khwáh wuh *isbát* ke sáth ho, yá *nafí* ke sáth ho; jaisá ki yih “darakht sabz hai” yá “yih sabz nahín hai.”

Dúsrí misál yih hai, ba zariá hawáss i básira ke ek patthar ká *tasauwur* áyá, aur ba zariá hawáss i lámisa ke, yañe, chhúne se, sardí yá garmí ká *tasauwur* zihn men guzrá. Ab un donon *tasauwuron* ke darmiyán men, hukm jo hai, us ko *tasdíq* kahte hain, khwáh wuh *isbát* ho yá *nafí* ho. *Tasdíq* bil-*isbát* kí misál, jaisá ki “yih patthar thandhá hai yá garm hai.” *Tasdíq* bil-*nafí* kí misál, jaisá ki “yih patthar thandhá nahín hai, yá garm nahín hai.”

Jab *tasdíq* likhí jáe yá bolí jáe, tab use *qaziya* kahte hain. Pas *tasdíq* aur *qaziya* men sirf itná farq hai, ki *tasdíq* sirf zihn men thí, aur *qaziya* jab zubán par áyá.

5.—Tísrá amr ilm i mantiq men *dalíl* hai, jis ko “*hujjat*” aur “*burhán*” bhí kahte hain. Dalíl us ko kahte hain, ki do yá káí *tasdíqát* i malúma se majhúl ko níkalen. Pas dalíl *tasdíqát* se bantí hai.

Maslan do *tasdíqát* hain,

* Lafz “*mafhúm*” bhí istiyámál men átí hai.

“ All iron is heavy ”—is a *judgment*.

“ This staff is iron ”—is a second *judgment*.

From these two we may draw a third judgment or conclusion, *viz.*, “ therefore this staff is heavy.” The act of the mind by which these two judgments are compared, and the third deduced from them, is called *reasoning*.

Another example of this operation is—

All men are mortal ;

Zaid Amar and Bakr are men ;

Therefore Zaid Amar and Bakr are mortal.

Here also we have in this process the third state of the mind with which logic is concerned, *viz.*, *reasoning*.

6.—This book is divided into three parts, in which these three mental states or processes are treated in order. It is the *law of thought* concerned in them which constitutes the subject of logic.

Meanwhile there are a few mental states that may be explained here. By them the materials of thought are collected.

1.—*Attention* is the directing of the mind to an object. It may be a voluntary state of the mind. Thus, we may fix our attention on some object of sight, or sound, or on the matter of a page we may be reading.

2.—*Comparing* is the act of the mind in which it contemplates two or more things with reference to one another. Thus, when we observe that iron is heavier than wood, or that John is taller than James, or that one man is more learned than another, we perform an act of comparing. The conclusion we reach from an act of comparing is a “judgment.” The correctness of every judgment and process of reasoning depends on the accuracy of comparison.

Paht.—Kull lohá bhári hotá ha i.

Dúsrí.—Yih qanda lohe ká hai.

Ab in do ma'lúm tasdíqon se tísrá majhúl nikaltá hai, ki *yih qanda bhári hai*. Pas ba zariá do tasdíqon ma'lúma ke, tísrí tasdíq *yane wátiya nikála. c* Dalíl is hí ko kahte hain.

Dúsrí misál.—Kull insán marnewále hain ;

Zaid, Amr, Bakr insán hain ;

Pas

Zaid, Amr, Bakr, marnewále hain.

Chunáñchi is tartíb se aql yá zihn dauráne ko hujjat kahte hain.

6.—Yih kitáb tín hisson par munqasim hai, jin men *tasawwur* aur *tasdíq* aur *dalíl* ká mufassal bayán hogá. Jánná cháhiye, ki maqsúd ilm i mantiq ká us aqlí qánún ká bayán hai, jo in tín báton men páyá játá hai.

Munásib hai ki yahán par chand zihní hálát aur qú-waton ká bayán kiyá jáe.

1.—*Dhyán yá gaur* us ko kahte hain, jab zihn khauz o fikr ke sáth kisi chíz yá bát par lage ; masal to maslan, kisi chíz par, jo dekhne men áwe, yá áwáz par jo sunne men áwe, yá kisi kitábi muámile par parhte waqt ham apná dhyán lagáwen yá gaur karen.

2.—*Muqábala karná* us zihní hálát ko kahte hain, jis se ham do yá ziyáda chizon ko ek dúsrí se muqábala karen. Pas jab ham dekhte hain, ki lohá lakrí se bhári hai, Zaid Amr se lambá hai, yá Zaid Amr se ziyáda álim hai, isí ko “muqábala karná” kahte hain. Yahán par gaur karná cháhiye, ki muqábala karne se tasdíqát nikaltí hain. Har ek tasdíq aur hujjat kí sihhat o galatí muqábale par munhasar hai ; aur agar muqábala karne men kisi tarah galatí par jáwe, to tasdíq aur hujjat men bhí galatí ho jáegi.

3.—*Abstraction* is that act or state of the mind in which it considers one or more of the properties or circumstances of an object to the exclusion of the rest. Thus, it is by abstraction that we think of the *shape* of a piece of iron to the exclusion of its color and hardness and weight and odor; or when we think of its *hardness* to the exclusion of all its other properties. The importance of this power of the mind will be seen when we come to treat of *terms*.

4.—*Generalization* is that process of the mind by which we select the common properties of different objects, and on account of their agreement in these common properties call them by a common name. Thus, the process by which, notwithstanding differences and variations, certain flowers on account of common properties are grouped under the name *rose*, is an act of generalization. Again, notwithstanding great differences of language, color, stature, &c., by observing certain marked points of resemblance we are able to group the human race under the term *man*. It is by this power of mind in connection with the power of abstraction that we are enabled to form *common terms* which stand for classes, genera and species, the importance of which to logic will be seen hereafter. All the operations or states of the mind just described are more or less connected with the study and understanding of logic.

5.—This may be as good a place as any for some remarks on *language*. Man is gifted by the Creator with the faculty of speech by which he can express in sound all the varied operations, notions, and thoughts of his mind. Man alone has the faculty of speech. Mere animals

3.—Ek aur qúwat zihn men hai, jise *qúwat i tafriqí* kahná achchhá hogá. Yih wuhí qúwat hai, ki jab ham cháhen to kisí chíz kí aur sab khássiyaṭon ko chhorkar, us kí ek khássiyaṭ par liház karen. Maslan, jab ham cháhen, to isí qúwat se lohe^{ka} kí aur sab sifaten, yane, rang aur saḡhtí, aur wazn, aur bú wag. ko chhorkar sirf us kí ek sifat, yane, *shakl* par liház rakh sakte hain. Yá aláwa aur sab khássiyaṭon ke, sirf us kí *saḡhtí* yá *wazn* par liház rakhen. Is qúwat i zihní ká bará fáida áge maḡlúm hogá.

4.—Ek aur qúwat zihn men hai, jise *qúwat i jins* kahná achchhá hogá. Yih wuh qúwat hai, jis ke zariá se ham ba liház ámm khássiyaṭon ke, jo muḡhtalif chízon men pái játi hon, ek nám un ke wáste muqarrar kar sakte hain. Maslan, báwujúde ki tarah tarah ke phúl hain, magar chúnki baẓon men ek khássiyaṭ pái játi hai, is sabab se un mutafarriq phúlon ko *guláb* kahte hain. Aur isí tarah báwujúde ki ádmíon men muḡhtalif bolí, aur rang, aur qadd o qámat wag. hai, magar ba liház ámm khássiyaṭ ke, sab ke wáste ek hí nám, yane, *insán* rakhte hain. Pas yih wuhí *qúwat i jinsí* hai. Gaṛ karná cháhiye, ki qúwat i jinsí se ba madad *qúwat i tafriqa* ke, *jins* aur *nau* aur *fasl* baná sakte hain. Is bát ko achchhí tarah samajhná, ilm i mantiq men niháyat pur-zarúr hai, jaisá áge maḡlúm hogá. Hásil yih hai, ki in sab báton mazkúra i bálá ke samajhne se is ilm ke síkhe aur samajh men kuchh na kuchh madad zurúr pahunchtí hai.

5.—Bolí yane *qúwat i nátiqa* ke kuchh bayán ke wáste yahán par achchhá mauqa maḡlúm hotá hai. Kháliq ne insán ko qúwat i nutq aisí áta kí hai, jis se ba zariá áwáz, jis se kalám bantá hai, tarah tarah ke tasauwurat, aur khiyálát, aur apní zihní hálaten, jo guzartí rahtí hain, záhir kar saktá hai. Sirf insán hí men yih qúwat hai. Haiwán bhí apní taklífat, aur khauf, aur gussa, aur khushí wg. ek tarah kí áwáz se záhir kar sakte hain; magar un men wuh qúwat nahín, jis se alfáz banáwen aur kalám karen, lekin hazáron alfáz, yá áwázen, insán tarah tarah par istiamál men lá saktá hai, táki be-shumár khiyálát ko, jo dil men guzarte rahte hain, záhir karen.

Alfás, mufrad, yá murakkab áwázen hain, jo insán ke josh aur khiyálát ke izhár ke liye bole játe hain.

are capable of uttering certain sounds indicative of fear, anger, pain, &c., but they have no faculty of speech by which they are capable of using a language. But man can develop and employ thousands of words or articulate sounds, connected in innumerable ways, to express the multiplied thoughts that continually pass through his mind.

Words are the simple or compound sounds uttered for the expression of feeling or thought.

Dalálat i alfáz do qism kí hai, *wazáí* aur *iltizámí*. *Wazáí* wuh hai, ki jis lafz ko wáza ne kisé mañe ke wáste waza kiyá hai, us par wuh lafz dalálat kare. Yih bhí do tarah par hai, kyúnki jis lafz ko wáza ne kisé mañe ke wáste waza kiyá hai, agar wuh lafz kull mañe mausú lahú par dalálat kartá hai, to us dalálat ko dalálat i *mutábíqí* kahenge. Jaise lafz 'insán' ká, ki dalálat kare 'haiwán i nátiq' par. Aur agar juz i mañe mausú lahú par dalálat kare, to dalálat *tazammuní* kahenge. Jaise lafz insán ká, ki dalálat kare haiwán yá nátiq par. *Iltizámí* wuh hai, ki dalálat lafz kí mañe mausú lahú par na ho, balki aise mañe par, jo us lafz ko lázim hon, jaise lafz sher ká, ki dalálat kare bahádur par, yá Nausherwán ká ádil par, yá Shaitán ká sharír par.

SECTION I.

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SIMPLE APPREHENSION.

1.—We take up for more enlarged treatment the act or state of mind called *simple apprehension*. Simple apprehension is the act of the mind by which some notion or conception of an object of thought is obtained. As of a *man* when seen, of a *sound* when heard, of *hardness*, *coldness*, &c., when felt. Thus, through the five senses we gain ideas of the external world. In a similar elementary manner by what is called internal perception or apprehension, or the “internal sense,” we grasp ideas relating to the soul itself, to moral truth, &c. By simple apprehension we gather the elements of knowledge and of thought, which are woven into trains of reflection and reasoning.

2.—Apprehension may be of an object as incomplex or complex. The result of an act of apprehension is incomplex when the notion formed is simply of one object, or of several without any connection being perceived between them; as *man*, *tree*, *stone*, *bravery*; and complex when, the notion we form of two or more objects is a combination, as *a man on horseback*, *a book on the table*, *a brave man*.

The idea, notion or conception gained by apprehension expressed in language is called, a *term* which will now be briefly discussed.

FASL I.
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TASAUWUR KE BAYÁN MEN.

1.—Ab *tasauwur* ká mufassal bayán hotá hai. Kisi shai yá bát ke *ḳhiyál* ko *tasauwur* kahte hain, jaisá ki kisi ádmí ká *ḳhiyál* jab dekhne men áwe, yá kisi chíz kí saḳhtí yá *ṭhandápan* ká, jab chhúne men áwe. Jaise hawáss i *ḳhamsa* se mahsúsát ká *tasauwur* hotá hai, isí tarah idrák i bátin, yá *taqqul*, yá hiss i bátin se rúh aur nekí wg. ká *tasauwur* zihn men pahunchtá hai. *Tasauwur* karne se wuh maḷúmát, aur *ḳhiyálát* hásil hote hain, jo nazar o bahs ke silsile se wábasta hote hain.

2.—*Tasauwur* yá to *mufrad* hogá, yá *murakkab*, *Tasauwur* i *mufrad* use kahte hain, jab ki ek chíz yá ká chizon ká *ḳhiyál* álahida álahida bilá iláqa ke áwe. maslan, ádmí, patthar, bahádurí. *Tasauwur* i *murakkab* use kahte hain, jab do yá ziyáda chizon ká *ḳhiyál* dil men guzre : masal to maslan, *tasauwur ghore par sawár* ká. Gaur karná cháhiye, ki is *tasauwur* men *ghore* aur *sawár* ke darmiyán iláqa hai. Dúsrí misál, *mez par kí kitáb aur dáwát*, yá *bahádur ádmí*. Yahán tén chizon ká *tasauwur* iláqa ke sáth hai, aur isí ko *tasauwur* i *murakkab* kahte hain. Yád rakhná cháhiye, ki jab *tasauwur* zubán se sádir ho, to us ko lafz kahenge.

SECTION. II.

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OF THE TERM.

A *term* is the result of an act of apprehension expressed in language. For instance, if we have by the sense of sight, the apprehension of a tree, the word *tree* by which we express the conception formed is a "term." Again, if we have in mind the idea of *sweetness*, the word *sweetness* when used to express this notion is a "term." In logic a term has the broad signification of any combination of words expressing an idea and which stand as the subject or predicate of a proposition. There are several divisions of terms which we must notice.

1.—Terms are *simple* or *complex*. A simple term as opposed to complex is the name of a single thing and is generally one word, as James, tree, sweetness. A complex term is a compound word or phrase expressing a complex notion gained by act of apprehension, as "James the fisherman," a "tall tree," the "sweetness of an orange." "James the fisherman" contains the complex idea of a particular man and a certain craft. Here we also have two ideas connected in a complex term, *tall tree*. Again, the two ideas, sweetness and orange give the complex term *sweetness of an orange*.

Words are said to be *categorematic* when they can be used alone as terms, as tree, orange, man, &c. Words that can not be thus used alone but are used in connection with other words are called *syncategorematic*. Such are prepositions, conjunctions, adverbs, the inflected cases of nouns, *e. g.*, to, with, and, truly, man's, &c. It must be marked that this is a division of words merely as such, not of terms.

FASL II.

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Alfāz

~~ISM~~ KE MUFASSAL BAYÁN MEN.

JAB ki tasauwur zubán se sádir ho, us ko *lafz* kahte hain. Masal to maslan, dekhne se kisí daraḡht kí hayat ká tasauwur zihn men áwe, lafz daraḡht, jis se us tasauwur ko záhir kiyá, malfúz kahte hain. Dúsrí misál, farz karo, ki agar zihn men tasauwur miṡhás ká áwe, to us kí nisbat lafz miṡhás bolenge. Wázih ho, ki lafz kaí taqsím par munqasim hai jis ká bayán áge áwegá.

1.—Lafz *mufrad* hotá hai yá *murakkab*. Jab kisí tasauwur ke záhir karne ko ek hí lafz káfi ho, yaṅe ek hí lafz us tasauwur par dalálat kare, to us lafz ko *mufrad* kahte hain, maslan, *Zaid, daraḡht, miṡhás*. Lafz *murakkab*, us murakkab lafz yá fiqre ko kahte hain, jis se ek tasauwur i murakkab záhir hotá hai, jaisé *Zaid machhuá, únchá daraḡht, nárangí kí miṡhás*, wg. Yahán par do tasauwur lafz murakkab se záhir húe, yaṅe ek ḡháss shaḡhs aur us ká peshá. Phir, *únchá* aur *daraḡht*, in donon tasauwuron ke záhir karne ko lafz i murakkab *únchá daraḡht* bolá gayá. Dúsrí misál miṡhás, aur nárangí, in donon tasauwuron ke záhir karne ko lafz i murakkab, yaṅe *miṡhí nárangí* bolá gayá.

Jánná cháhiye, ki lafz *tamám* aur *ná-tamám* hotá hai. Lafz *tamám* wuh hai, jo bilá madad dústre ke, apne maṅe batláwe, jaise insán, *Zaid, daraḡht*, wg. Lafz *ná-tamám* wuh hai, jo bilá madad kisí aur lafz ke, apne maṅe na batláwe. Maslan harf, *ká, se, men, az*, wg.

2.—Another division of terms is into *Proper, singular,* and *common.** The Proper term is a word or phrase used as the particular name of an individual, person, place, or thing, as *John, Calcutta, Kanchinging.* Here we have Proper terms which are the name of a particular person, of a particular city, and of a particular mountain—not names common to every man, city, and mountain.

A *singular* term, strictly applies like a proper term, to only one object in its present use, otherwise it is a common term, *e.g.,* my dog, your horse, are singular terms, but dog and horse are common terms.

A *common* term is a word or name that can be used for all the individuals of a particular class or collection of persons, places, or things, as man, city, mountain. Here the common terms, man, city, mountain can be used for any and every man, city and mountain. The use of common terms will be seen further on in the study of Logic. The individuals for which a common term stands are called its "*Significates.*"

A common term that expresses a group or multitude of objects, as army, people, senate, committee is also called a *collective term.* The collective term is singular, and can only be applied to the group as a whole, and not to the individuals. We cannot speak of each soldier as the army.

2a†.—Terms again are divided into *abstract* and *concrete.* An *abstract term* is a word used to express a quality or thing without referring to any particular object; thus the words *hardness, wisdom, folly,* are abstract terms, when we speak of them without connecting them with any particular object, as "we should seek after wisdom."

* The common term is also called general and universal.

† Left out of the Urdu.

2.—Lafz yá *juzí* yá *kullí* hogá. Lafz *juzí* us ko kahte hain, jo kisi kháss shakhs yá mufrad shai ko batláwe, jaisá Zaid, Kalkatta, daraht. Jab kháss námon se murád hai, to is ko istiláh i nahwíon men ism i marifa, yá alam kahte hain.

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Lafz i *kullí* us ko kahte hain, jo bahut sí chízon, yá ashkhás par bolá jáwe, jaisá *insán*, sab ádmíon ke wáste sádiq átá hai, yá lafz *shahr*, ki sab shahron par bolá játá hai, yá lafz *daryá*, ki sab daryáon ke wáste mustamal hai. Nahw men is ko ism i nakra yá ism i ámm bolte hain. Jitní shai yá ashkhás lafz *kullí* men dákhil hain, un ko us ke *afrád* kahte hain. Kulliát ká istiamál aur mufassal bayán áge áwegá. Jo *kullí* kisi jamáat yá guroh ká nám ho, jaise fauj, log, jamáat, majlis, use ism i jins kahte hain. Ism i jins wáhid hotá hai, lekin us ká istiamál majmúá i afrád ke wáste átá hai, har fard ke liye nahín átá. Maslan sipáhíon kí jamáat ká nám fauj hai, har sipáhí ko fauj nahín kah sakte hain.

But if these words become connected with some object in which they exist, they are called *concrete terms*, as the *hardness* of this stone, the *wisdom* of John, the *folly* of James. In this connection these words become "concrete terms."

3.—Terms are also divided into *absolute* and *relative*. An *absolute* term is a word denoting some object or quality considered without any reference to its relation with any thing else, as tree, man, river, sweetness, wisdom, &c.

A *relative* term is a word in which its relation to something else is expressed, as, father, husband, son, king. Thus, a father implies a child to whom he is related, son implies a father, and king implies a country and subjects to whom he is related.

4.—Terms are *univocal*, *equivocal* and *synonymous*.

A *univocal* term is one which has invariably the same signification, as, mankind, wisdom, &c.

An *equivocal* term is one that may be employed in different senses, as, head, door, shore, &c.

Synonymous terms are different words having the same meaning, as, house and dwelling, remain and abide, &c.

5.—*Contradictory terms* are those which are so completely opposed to each other that the two include every thing, so that there is no object to which one or the other does not apply; and if any object be included in one it is thereby necessarily excluded from the other, and *viceversâ*. Thus, *corporeal* and *incorporeal*, *perishable* and *imperishable*, *combatant* and *noncombatant*. These terms differ from each other only in respectively wanting and having a particle of negation expressed or implied. In this way a twofold division may be made of every thing.

Such a division is often important in a course of

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3.—Lafz yá to *bin-nisbat* yá *bilá-nisbat* hotá hai. Lafz *bin-nisbat* wuh hai, jis ká aur kisé lafz ke sáth iláqa páyá jáwe. Maslan, báp, beṭá, kḥáwind, bádsháh. Chunanḥi báp se maḷúm hotá hai, ki koi beṭá hai, beṭe se báp ká iláqa páyá játá hai; bádsháh se nisbat mulk aur raḳyat kí taraf hai, alá-ház-al-qiyás.

Lafz *bilá-nisbat* wuh hai, jo bagair nisbat dústre ke ek shakhs, yá shai, yá kḥássiyat ko batláwe. Maslan, insán, daryá, dánái, wg.

4.—Phir lafz tén aur tarah par hai, yaṇe *mushtarak*, aur *gair-mushtarak*, jis ko baze *mufrad* bhí bolte haiṇ,* aur *mutarádif*. *Mufrad* us ko kahte haiṇ, jis se sirf ek hí maṇe samjhe jáweṇ, maslan, insán, dánái, wg.

Mushtarak us ko kahte haiṇ, jo kái maṇe par shámil ho; maslan, bukhár, kanára, wg. Bukhár se do maṇe páe játe haiṇ, ek to bímári ká nám, aur ek wuh jo pání se uṭhtá hai. Alá-ház-al-qiyás kanára do chár maṇe par átá hai. Yá lafz billí ká lo, kí ek jánwar par, aur kiwár meṇ jo hotí hai, us par bhí bolá játá hai.

Mutarádif us ko kahte haiṇ, jahán ki kái alfáz ek hí maṇe par dalálat karte haiṇ, maslan, ghar, kḥána, maskan, ek hí maṇe par haiṇ. Aur rahná, basná, sukúnat karná, in sab se ek hí maṇe záhir hote haiṇ.

5.—Wuh alfáz *mutanáqiza* haiṇ, jo bilkull ek dústre se mukhálifat rakhte haiṇ, aur jitní chízeṇ kḥilqat meṇ mau-júd haiṇ, in donoṇ meṇ se ek meṇ zarúr hongí. Agar ek meṇ haiṇ to dústre meṇ nahín, aur agar dústre meṇ haiṇ, to pahle meṇ nahín, yaṇe koi chíz in donoṇ se kḥálí nahín. Maslan, *jismání* aur *gair-jismání*, *fání* aur *gair-fání*, *marnewálá* aur *na marnewálá*. Gaur karná cháhiye, ki in lafzoṇ ke darmiyán sirf naḥí aur isbát ká farq hai. Pas jitní chízeṇ kḥilqat meṇ haiṇ is taur se do taqsim par ho saktí haiṇ. Aisé taqsim aksar kisé amr kí justojú, yá

* Yih *mufrad* ba iṭibár lafz ke maṇe ke hai.

reasoning or investigation. For instance, this disease is or is not consumption. Then it is or is not another disease. Then it is or is not some other disease, and thus (by the "abscission infinite" as it is called) the field of investigation can be narrowed till some result is reached.

6.—*Contrary terms* are opposed in a different manner from *contradictory terms*, for although both can not be applied to the same object, there may be objects to which neither will apply, and thus they do not include every thing as do contradictory terms. *Wise* and *foolish* *learned* and *ignorant* are contrary terms, and while both can not be applied to the same object, there are objects to which neither can be applied. Thus, a stone is neither wise nor foolish, and some men may be neither learned nor ignorant, but mediocres. Contrary terms, then, are those which, coming under the same *class*, are the most widely different of all that belong to that *class*.

6a*.—Terms may be *compatible* or *opposite*.

Two terms which can be applied to an object at the *same time* are *compatible*, as, *white* and *cold*, *hard* and *sweet*. It is plain that a thing may be both white and cold, as snow, or both hard and sweet, as crystal candy. Compatible terms are also called "consistent."

When two terms can not be applied to an object at the same time, they are *opposite*, as *black* and *white*, *good* and *bad*. Nothing can be white and black at the same time, and no man can be good and bad at the same time. Opposite and contrary terms are the same.

These are the divisions of terms ordinarily given and are sufficient for the purposes of logic. It should be borne in mind that the same term may come under different divisions according to the view we take of it.

* Left out of the Urdu.

mubáhise ke liye bare kám kí hai. Maslan yih bímárí tap i sill kí hai, yá aur bímárióñ men se koí hai. Magar fulání fulání wajh se tap i sill nahín hai, to aur jo bímárióñ rahín, un kí taraf mutawajjih hongé, aur kahenge kí in bímárióñ men se fulání bímárí hai yá nahín, magar kisi sabab se fulání bímárí nahín; pas rahín baqí bímárióñ. Garaz yún taqsim aur daryáft karte karte us hadd tak pahunchenge, ki asl bímárí mil jáegí. Is ko mániyat-ul-khulú bhí bolte hain.

6.—Alfáz *mutasádda* wuh hain, jo ápas men mukhá-lifat rakhte hain, lekin mutanáqiza kí tarah nahín kyúñki agarohi donon ek hí chíz men shámil nahín ho sakte hain tau bhí bazí chízen aisi hotí hain, ki in donon se khálf hotí hain: pas misl *mutanáqiza* kí har shai men shámil nahín hote hain. Maslan *aqlmand* aur *be-wuqúf*, *álim*, aur *kam-ilm*, ism i *mutasádda* hain, kyúñki ek hí shakhs par donon sádiq nahín á sakte hain, magar aisi chízen hon, ki donon se khálf hon, maslan patthar, na *aqlmand* hai na *be-wuqúf*, aur baz ádmí aise hain, ki na *álim* na *kam-ilm*, lekin darja e ausat men hon.

Yihí istiláhát alfáz ke wáste, ilm i Mantiq men aksar mustamal hain.

Wázih ho, ki ek hí lafz bilá-nisbat, aur mufrad, aur mutanáqiza wg. hotá hai, jis iatibár se ki us waqt kхийál ho. Yád rakhná cháhiye, ki dalíl yá mubáhasa men

Thus, the same term may be singular, concrete, absolute and univocal at the same time. The term may thus belong to several divisions. The meaning of terms should always be understood and fixed in a process of reasoning.

<i>Terms may be</i>	{	Simple, or complex.
		Proper, singular, or common.
		Abstract, or concrete.
		Univocal, equivocal, and synonymous.
		Contradictory.
		Contrary.
{	Compatible, or opposite.	

auwal har ek lafz ke mañe khúb samajhná aur thahráná cháhiye, kyúñki aisá karne se bahut sí taqrír aur galatíon men parne se bachenge.

ALFAZ KÁ MUJMAL BAYÁN.

<i>Alfáz</i>	{	Mufrad yá Murakkab.
		Juzí yá Kullí.
		Bin-nisbat yá Bilá-nisbat.
		Mushtarak yá Ğair-mushtarak yá Mutarádif.
		Mutanáqiza.
		Mutazadda.

SECTION III.

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CLASSIFICATION AS RELATED TO GENUS, SPECIES, AND DIFFERENTIA.

Another important subject connected with terms and necessary to a proper understanding of logic is that of *species, genus, and differentia*.

1.—*Common terms* obtained by generalization afford the means of classification of objects with reference to some common and distinguishing characteristic. A collection containing objects arranged in this manner is called a *species* or *genus*. Genus is the more extensive term, often including many species, while species includes individuals. Genus is a group of groups, or a class of classes. For instance the term *animal* is a *genus* including every thing having life and the power of voluntary motion. In this genus we have many species included as, man, beast, bird, &c. Any species may be divided into several classes, then it becomes a genus with reference to this new classification.

Thus, above, "beast," according to a common use of this word, is a species including all warm blooded quadrupeds, but these may be divided into horses, sheep, dogs, &c.

These then become species, and the term "beast," which in the first classification was a species, becomes a genus. Again, if we divide horses into different kinds, as Arabian horses, mountain horses, &c., horse itself becomes thus a genus, and so on. The more extensive class is the genus, the more limited one is the species. The genus when included in a higher classification be-

FASL III.

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KULLÍYÁT YAÑE BAYÁN I JINS, NAṢ, FASL AUR AṢ.

1.—Wázih ho, ki *jins*, aur *naṣ*, aur *aṣ* ká bayán alfáz ke mutaʿalliq hai, aur mantiq ke samajhne ke wáste purzarúr hai. Alfáz i Kullí se *jins* aur *naṣ* wg. banáe játe haiñ. Maslan jab káí chízon ke wáste, baliház ek yá ziyáda sífaton ke ek nám muqarrar kiyá jáwe, us ko *jins*, aur *naṣ* kahte haiñ.

Naṣ kí banisbat *jins* ke afrád ziyáda hote haiñ, kyúñki ek *jins* men káí *naṣ* hote haiñ. Masal to maslan, *haiwán* ek *jins* hai, jis men jitrní chízen jándár o mutaharrik biliráda haiñ shámil haiñ. Aur is *jins* men káí *naṣ* shámil haiñ, jaise *insán* aur *chaupáe* aur *parand* wg.

Jánná cháhiye, ki *naṣ* bhí káí faslon par taqsim ho saktí hai; phir is hál men, baliház un faslon ke wuh ek *jins* hai. Maslan *chaupáya* ek *naṣ* hai, jis men char tángwále jánwar dákhil haiñ, aur inhin ko fasl fasl par bánt sakte haiñ, maslan, *ghore*, *bheren*, *kutte* wg., pas yih sab faslen *naṣ* ho játi haiñ, aur in kí banisbat wuh lafz *chaupáya*, jo ki *naṣ* thá, ab *jins* húa.

Phir agar *ghore* kí taraf kхийál karo, yih bhí káí tarah par ho saktá hai, jaisá Arabí, Kábulí, Turkí, wg., pas, ab is súrat men *ghorá* bhí ba-iʿtibár in qismon ke *jins* húa aur *alá-ház-al-qiyás*.

GENUS.

SPECIES.

<i>Mango.</i>	{	Desí Mango. Bombay Mango. Maldá Mango.
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2.—Genus and species are thus classified with regard to each other: the classes which lie above any class, that is, which embrace a wider extension are called, with regard to it *superior*, while the classes below it, i. e., included within it are called *inferior*. The highest class is called the *summum genus* or *highest genus*, the lowest class is called the *lowest species*. All between the highest genus and the lowest species are called *subaltern* genera or species. The genus next above any species is called its *proximate* genus—any genus above that, a *remote* genus of that species. The species into which a genus is divided are called *co-ordinate* or *cognate* species, meaning that they are not subordinate to, or included in one another.

Thus we have,

<i>Classes. *</i>	{	Superior class. Inferior class. Highest genus. Lowest species. Subaltern genera or species. Proximate genus. Remote genus. Co-ordinate or cognate species.
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The meaning of these words should be well fixed in the memory. An illustration may aid in understanding them.

<i>Animal.</i>	{	Beast..... Bird. Reptile. Fish.	{	Horse. ... Cow. Sheep. Dog.	{	Arabian. Kábulí. Turkish.
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* "Class" is here used as a general name for genus, species, groups, &c.

JINS.

ANWÁ.

Ann. { Desí.
Bambáí.
Máldá.

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2.—Wázih ho, ki jo jins kisé jins ke úpar ho, us ko *jins i álá* kahte hain, aur jo kisé ke níche ho, *jins i adná* kahte hain, aur jo sab ke úpar hai, us ko *jins ul ajnás* aur jo sab se níche hai, us ko *naú i sáfil* kahte hain. Jitní jinsen *jins ul ajnás* aur *jins i sáfil* ke darmiyán hain, unko *ajnás i mutawassitá* kahte hain. Jo jins ki ek jins ke áin úpar ho, *jins i qaríb* kahte hain, aur jo jins ki jins i qaríb ke áin úpar ho, us ko pahlí jins kí banisbat *jins i baíd* kahte hain. Jitne anwá, ki mátaht ek jins ke dákhil hain, un ko barábar kí kahte hain.

Pas ajnás aur anwá kí aqsám yih hain :—

Jins { *Álá.*
Adná.
ul ajnás.
Sáfil.
Mutawassat.
Qaríb.
Báfil.

Naú { *Naú i Sáfil.*
Anwá i mutasawia.

In ká matlab bakhúbí zihn-nishín karná cháhiye. Ek misál se ziyáda sáf hogá.

Hairán. { *Chaupáe*..... { *Ghore*..... { *Arabí.*
Parand. { *Bheren.* { *Kábul.*
Machhíán. { *Kutte wg.* { *Turkí, wg.*
Kíre Makore.

Here in reference to the class *horse*, *beast* is superior while *Arabian* is inferior. Of this classification, *animal* is the *highest* genus, and *Arabian*, &c., are the *lowest* species. *Beast* and *horse*, because between these, are called *Subaltern*. *Beast* is the *proximate* genus of *horse*, and *animal* a *remote* genus. Again *horse*, *cow*, *sheep* and *dog* are *co-ordinate* or *cognate* species. The student may note that "bird," and the other words may in like manner be divided into genera or species.

3.—Correct classification depends on another subject which is called *differentia*. *The differentia of a class is its distinguishing characteristic or attribute which separates it from other classes of the same group or genus.* One or more attributes or marks may be fixed upon as the *differentia* or *differentiæ*. Thus, if *animal* be the genus including several species of animated beings, one of which is *man*, "speaking" might be fixed on as the *differentia*, and *man* as a species of *animal* would be a *speaking animal*. *Bird* is another species of *animal* having feathers and wings. *Feathers* and *wings* would thus distinguish *bird* from other species of *animal* and become the *differentiæ*. *Bird* is then a feathered winged *animal*. The species as may be seen is really made up of the *genus* and the *differentia*.

4.—*Property* and *accident* are terms used to denote something joined to a species or to individuals of it, but not included in its essence, or that quality or character which is fixed upon and constitutes the species.

A *property* is something joined necessarily and universally to the species, that is, belonging to all the individuals of it. The property may be *peculiar* as belonging only to that species, or *not peculiar*, as belonging also to some other species. Thus breathing and the habit of walking erect are properties of the species *man*. They belong necessarily and universally to *man*, but not

Ab is men ghoṛe kí banisbat chaupáe jins i álá, aur Arabí adná hai. Aur taqsím i mazkúra men haiwán jins ul ajnás aur Arabí Kábulí wg. nau i sáfil hai. Chaupáe aur ghoṛe, chúñki jins ul ajnás aur nau i sáfil ke darmiyán hai, jins i ausat hai. Chaupáe, ghoṛe kí jins qaríb hai, aur haiwán us ke jins i baíd, aur ghoṛe, bheṛeñ, kutte, barábar kí jinsen hai, waise hí chaupáe, parand, machhlíán, aur kíṛe makore hai.

Taqsím ajnás aur anwá kí durustí ke sáth kháss karke ek hí bát par munhasar hai, yañe *fasl* par.

3.—*Fasl wuh hai, jo ek jins ko us ke mushárikát yañe aur jins yá nau se judá kar de. Fasl men ek yá ziyáda sifateñ tamíz ke liye muqarrar hai. Maslan, haiwán agar jins qarár diyá jée, jis men kaí ek qism ke jándár shámil hai, jin men ek insán samjho, to is súrat men qúwat i nátiqa us kí ek fasl hai, jis ke sabab se haiwáñon men insán ko “haiwán i nátiq” kahte hai. Alá-házá haiwáñon kí, parand bhí ek jins hai, jis ke par aur bázú hai, aur in paron aur bázúon kí jihat se parandon ko aur haiwáñon se tamíz húi, pas isí nazar se un ko fasl kahte hai, aur un jándáron ko, jin men yih bát hai, parand bolte hai. Agar kھیál karen, to małúm hotá hai, ki nau, jins aur fasl se bantí hai. Masal to maslan haiwán ek jins hai, bañھیál ján ke, aur us ke niche parand ek nau hai, is kھیál se, ki us ke par hai: pas sáf małúm hai, ki nau i parand do kھیál jins aur fasl se baní hai, yañe us nau men ján hai, aur par hai.*

4.—*Arz ke bayán men.—Arz us ko kahte hai, jo jauhar yañe zát se khárij ho. Maslan dam lená aur bolná insán kí zát se khárij hai, yañe insániyat in par mauqúf nahíñ, pas wuh arzí huá. Jab koí sifát yá khásiyat kisí nau men páí jáwe, lekin us kí zát yañe máhiyat se khárij hai, pas agar ek nau ke afrád men, khwáh kull afrád men,*

to that which constitutes the species man. Of these, breathing is not peculiar, because other species of animals, as horses, dogs, &c., breathe, but walking erect is peculiar, because belonging only to the species man.

An *accident* is something joined contingently or accidentally to a species or only to certain individuals of it, as Hindus are *dark-skinned*, James is *walking*, James was *born in Calcutta*. Here "walking" and "born in Calcutta" are accidents of James, because not necessarily a part of James, for he might be lying down or he might have been born in any other city. Hindus are not of necessity dark-skinned. Accidents are *separable* or *inseparable*, *i. e.*, they can be separated from the individuals or they cannot be thus separated. In the above example "walking" is a separable accident, because it may be separated from James, so that he may be standing, or sitting, or lying down. But "born in Calcutta," is an inseparable accident, because what thus happened can not now be detached from James.

<i>Property.</i>	{	Peculiar.
	}	Not peculiar.
<i>Accident.</i>	{	Separable.
	}	Inseparable.

5.—The five terms we have discussed, *i. e.*, genus, species, differentia, property and accident, are sometimes called the "five predicables" or the "five heads of predicables," because in a proposition they express a certain relation of predicate to subject. Thus when the predicate is a common term related to the subject as a larger to a smaller group, it is a *genus*, as "man is an animal." Here *animal* is a genus. When the predicate is a common term related to the subject as a group to an individual, it is a *species*, as "James is a man." When to the common term used as a predicate some distinguishing or differencing attribute or characteristic

yá baz men pái jáwe, to us ko *khássa* kahte hain, aur ek nau se ziyáda men pái jáwe, to us ko *arz i ámm* kahte hain. Maslan *kháss shán* se *khará* hoke chalná ki sirf insán ke afrád men páyá játá hai, *khássa* hai; lekin dam lená siwáe insán ke aur anwá men bhí páyá játá hai, is liye *arz i ámm* húa.

Agar wuh sifat yá *khássiyyat* nau kí afrád se judá na ho sake, us ko *arz i lázim*, aur agar judá ho sake, us ko *arz i mufáriq* kahte hain. Misál pahle kí, Zaid Kalkatta men paidá húa. “Paidá honá Kalkatte men” Zaid se judá ho nahín saktá. Alá-házil-qiyás dam lená aur *kharé* hoke chalná. Misál dúsrí, *arz i mufáriq* kí, jaisá Zaid chaltá hai, yih kuchh zarúr nahín, ki Zaid hamesha chaltá rahe, kyúnki kabhí letá ho, yá baiþhá ho. *Arz* kí taqásim zail men hai :—

$$\text{Arz.} \left\{ \begin{array}{l} \text{Khássa.} \\ \text{Ámm.} \\ \text{Lázim.} \\ \text{Mufáriq.} \end{array} \right.$$

5.—Jins aur nau aur fasl aur *arz i ámm* aur *khássa* in ko *páñch kullí* kahte hain. Yih kullíen mahmúl hone kí *haisiyat* rakhtí hain, kyúnki qazáyá men mahmúl ká taalluq mauzú se záhir kartí hain. Pas agar kisi qaziye men koí ámm kullí mahmúl wáqi ho aur mauzú *kháss* kullí ho, to wuh ámm kullí *jins* hotí hai. Maslan “insán haiwán hai.” Yahán haiwán jins hai. Aur jab kisi qaziye men koí ámm kullí mahmúl ho aur us ká mauzú ek fard ho, to wuh kullí *nau* hotí hai. Jaise “Zaid insán hai.” Jab kisi ámm kullí se, ki mahmúl wáqi ho, koí sifat mumaíyaza yá judá karne-wáli *khássiyyat* lagáí jáwe jis se mauzú ko tamám ajnás yá anwá *mashmúlae* mahmúl se tamíz ho jáwe, to mahmúl

is added which distinguishes or differentiates the subject from all other classes or species included in the predicate, the differentiating part of the predicate is called *differentia* as "man is a *moral* animal." Here the word "moral" differentiates man from other animals. When the predicate or some part of it, necessarily accompanies the subject, but does not belong to its essence or material part or that character which has been fixed upon to mark it as a species or class, the predicate is then a *property*, as "man is omnivorous." When the predicate or some part of it belongs only contingently or accidentally to the subject it is called an *accident*, as "James is walking," "James was born in Calcutta."

ká juz i mukhassis *fasl* hotá hai, jaise “insán zí-aql jándár” hai. Yáhn “zí-aql” ká lafz insán ko *aur* jándáron se mahsús kartá hai. Jab mahmúl yá us ká koi juz mauzú ko lázim hai, lekin us kí zát se khárij hai, to mahmúl *arz* hotá hai, maslan insán hama-khor hai.

Jab mahmúl yá us ká koi juz mauzú se ittifaqí taalluq rakhtá hai, to mahmúl *khássa* hotá hai, jaise “Zaid chaltá hai” yá “Zaid Kalkatte men paidá húa.”

6.—Kullíon kí nisbat, Arabí mantiqín kí ráe chár tarah kí hai, “tasáwí,” “tabáyun,” “umúm o khusús i mutlaq,” “umúm o khusúsmin-wajhin.” Do kullíon men *tasáwí* kí nisbat us waqt hotí hai ki donon ke misdaq donon ke afrád ek hon. Maslan “insán” aur “dánishmand jándár.” *Tabáyun* use kahte hain ki do kullíon ke misdaq donon ke afrád alahida alahida hon; jaise patthar aur darakht. *Umúm o khusús mutlaq* wuh hai ki ek kullí ámm ho, aur दूसरी khássa; jáhn khássa kullí sádiq áe aur jo chíz khássa kullí kí fard ho ámm kullí bhí us par sádiq áe, aur wuh chíz us ámm kullí kí bhí fard ho; magar is ká áks nahín. Maslan “jándár” aur “insán.” *Umúm o khusúsmin-wajhin* use kahte hain ki ek kullí दूसरी kullí kí nisbat ek haisiyat se khássa aur दूसरी haisiyat se ámm ho, maslan jándár aur sufaid-rang.

SECTION IV.

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DEFINITION.

ANOTHER subject connected with terms and the subject of classification, and hence necessary to be understood in a system of logic, is *definition*.

1.—Definition means giving the marks or characteristics of an object or class of objects so that it or they may be recognized by these marks. Definition itself has been defined “laying down a boundary.” When applied to terms, then, it means describing them in such a manner as to distinguish them from other terms. Sometimes simply a word well understood is used for the word defined, *e. g.* an *anthropophagus* is a cannibal. In reasoning, true and settled definitions of terms are very important from the fact that different persons employ them with different meanings, thus causing confusion and error.

2.—Logicians usually divide what is called a logical definition into two parts which are called the *genus* and *differentia*. The definition is made by uniting the *genus* to the *differentia*. Thus we may define man to be “an animal gifted with speech.” Here animal is the genus united to “gifted with speech,” the *differentia* by which man is distinguished from other animals, as horse, bird, &c. Again, the *Bombay mango* is a mango which came originally from Bombay. Here *mango* is the genus, and Bombay, the *differentia* distinguishing this mango from others.

FASL IV.

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MUARRIF KE BAYÁN MEN.

1.—*Muarrif* jise “qaul i shárih” bhí kahte hain, is ká bayán, chúnki mutaalliq alfáz ke hai, aur is liház se jins nau fasl wg. se iláqa rakhtá hai, is sabab se us ká jánná ilm i Mantiq men bahut zurúr hai. *Muarrif* kisi lafz ke hadd bándhne ko kahte hain. *Risála i Shamsia* men is kí taríf yún hai :—

“*Muarrif* shai ká wuh hai, ki jab use pahchán len, to wuh shai pahchán men á jáwe, yá us shai ko uske má siwá se tamíz hó jáe.”

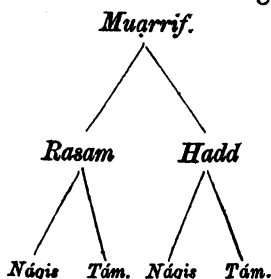
Ilm i mantiq men jab is ká istiamál alfáz ke wáste kiyá jáwe, to yih murád hotí hai, ki bayán yá taríf honá un alfáz ká is taur se ki un ko auron se tamíz ho jáwe. *Kabhí* aisá bhí hotá hai, ki ek lafz kí taríf, kisi ásán lafz se jise log khúb samajhte hain, kí játi hai ; maslan “kargadan” kí “gande,” se, yá “ganam” kí “bakrí” se, yá “safarjal” kí “amrúd” se. Yih bahut zurúr hai, ki mubá-hise men lafzon ke thík thík mane muqarrar kiye jáwen, kyúnki aksar aisá hotá hai, ki ek lafz ke koí kuchh mane letá hai, aur koí kuchh, is bájs se tafriqa aur galatí par játi hai.

2.—Aksar Mantiqín ke nazdik muarrif men do baten pái játi hain, yane *jins* aur *fasl*. *Jins* aur *fasl* ke miláne se muarrif bantá hai. Masal to maslan, insán ká muarrif *haiwán i nátiq* hai. Ab yahán par *haiwán* *jins* hai, jo *fasl i nátiq* se milkar muarrif insán ká hai, pas malúm húa, ki *haiwán i nátiq* jo muarrif hai, insán kí *jins* aur *fasl* se baná.

3.—Another division of definition, not generally now used, is into *nominal* and *real*, *i. e.* definitions of names and definitions of things. A nominal definition merely gives the meaning of the term as a *name*, or specifies the object real or imaginary to which it is applied. For instance, a telescope is an instrument for viewing distant objects. This is the definition usually found in dictionaries and is most frequently made by the use of synonymous words. A real definition is an analysis or explanation of the real or imaginary thing itself, such as will lead to a knowledge of its construction and nature or its supposed character. Thus a real definition of a telescope would enter into an explanation of its construction with some necessary explanation of light. The definition of a centaur, is a fabulous being, half man and half horse, the body and head of the man forming the neck and head of the horse.

There are other divisions of definition, but an understanding of them as divisions is not essential to the subject of logic, and their discussion requires a more

Dúsrí misál, *Bambaí ká ám*, ek ám hai jo ki dar asl Bambaí kí taraf se áyá thá, pas is jagah lafz i ám jins hai, aur lafz Bambaí us ká fasl hai, jo is ám ko auron se tamíz detá hai. Risála i Shamsía men muarrif ká bayán yún hai ki “Farz kijiye, ki *insán muarrif hai*, agar us kí taraf men kahá jáwe ki wuh *haiwán i nátiq* hai, to yih us kí *hadd i tám* húi, kyúнки *haiwán, jins i qaríb*, aur *nátiq, fasl i qaríb* se milkar baní; aur agar kahá jáwe ki wuh *nátiq* hai, yá *jins i nátiq* hai, to yih us kí *hadd i náqis* húi, kyúнки niri fasl i qaríb yane *nátiq* se yá jins i baíd yane “jism” aur fasl i qaríb yane “nátiq” donon se milkar baní hai. Agar insán kí taraf men kahá jáwe, ki wuh *haiwán záhik*, (hansnewálá) hai, to yih us kí *rasm i tám* húi, kyúнки *haiwán jins i qaríb* aur *záhik khásse* se baní. Aur agar us kí taraf men nirá *záhik* yá *jism i záhik* kahá jáwe to *rasm i náqis* húi kyúнки nire khásse *záhik* yá jins i baíd *jism* aur khásse *záhik* se milkar baní. Naqsha i zail se is kí taqsim názir ko áshkára hogí.



3.—Jánná cháhiye, ki muarrif khásskar do taur par hotá hai, yá to sirf kisi haqíqí yá farzí shai ká nám aur mane batlátá, yá us kí haqíqat ko mufassalan záhir kartá hai. Maslan koí kahe, ki dúbín ek ála dúr kí chízen dekhne ke liye hai, to sirf us ká nám aur kám małúm húa, aur agar koí kahe yih shai is taur par fuláni fuláni chíz se baní hai, to us kí haqíqat małúm húi. Misál ek farzí chíz kí yih hai, ki *anqá* ek jánwar daráz gardan hai, jis ká wujúd farzí hai, kyúнки kisi ne use dekhá nahín hai, aur anqá use is sabab se kahte hain, ki tawíl ul anaq yane daráz-gardan hotá hai. Fársí men use símurg kahte hain.

lengthy treatment than can be undertaken in this book. It is the office of definition in logic to guard against ambiguity and error in the use of terms.

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RULES FOR DEFINITION.

To aid in this important matter rules have been laid down, the most important of which are mentioned below.

First.—The definition must be *adequate*, that is neither too extensive nor too limited. For instance as a definition of money if one were to say that it is “something made of metal,” this would be too narrow, because shells and paper are used and these would be excluded by this definition. Or if it were defined as “something given in exchange for something else needed,” this would be too extensive, because including things which are given in exchange which are not money. Grain, cloth, &c., are thus exchanged.

Second.—The definition itself must be *plainer than the thing defined*, otherwise it would not explain its meaning. Hence the definition if possible should not contain figurative, obscure or metaphorical language. These two rules, well observed, will generally make terms sufficiently plain to avoid error.

We pass now to the second division of the subject of logic, viz., *judgment* which is made up as we have seen of notions or ideas gained by *apprehension*. These notions or ideas expressed in language are *terms* which are combined to make *propositions* which are *judgments* expressed in language.

Muarrif ke aqsám aur bhí hain, lekin un aqsám ká jánná ilm i Mantiq ke jánne ke wáste chandán zurúri nahín. Ba-khauf i tawálat, un kí bahs is maqám se chhor dí hai.

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QAWA'ID I MUARRIF.

Muarrif ke banáne men chand qáide hain, chumáñchi un men se do qáidon ká, jo niháyat zurúr hain, yahán par bayán kiyá játá hai.

Phálá.—Zarúr cháhiye ki muarrif *tám* ho, jis ko báze mantiqín *hadd i tám* bolte hain, yane apne kull afrád ko jáme ho, aur gair ke dákhil hone ko mana kare. Maslan agar koí naqd ke mane yún batláwe ki wuh ek dhát kí chíz hai, to yih taríf jáme nahín hai, kyúnki naqd men kaurián bhí dákhil hain, hálánki we dhát kí nahín hain. Yá agar koí yún bole, ki naqd ek chíz hai, jis se jins kharídí játí hai, to yih gair ko dákhil hone se mana nahín kartá; kyúnki anáj wag. se bhí aur jins kharídí játí hai, pas ab is sūrat men gair afrád bhí is taríf men dákhil hūe játe hain. Is liye yih muarrif *tám* na hogá.

Dúsrá.—Cháhiye, ki muarrif us chíz se, jis ke mane batlátá hai sáf ho, warna us chíz kí sharah bakhúbí zahir na karegá. Is wáste, agar mumkin ho, muarrif majází, aur pechída na ho. Agar in donon qáidon par bakhúbí liház rahe, to har lafz ke mane aise sáf rahenge, ki galatí o khatá na paregi.*

Ab ham mutawajjih hote hain, taraf bayán *tasdiqát* ke, jo ki *tasawwurat* se bante hain.

* Risála i Shamsia men muarrif ke qáide is tarah par hain:—

1.—Yih durust nahín hai, ki muarrif nafs i máhiyat ho, kyúnki muarrif, muarrif se pahle malúm hotá hai, aur koí shai apní zát se pahchání nahín játí hai.

2.—Na muarrif aisá cháhiye, jo muarrif se ámmtar yá khashtar ho; balki donon umúm o khusús men barábar hon.

3.—Na kísi shai kí taríf aise lafzon se honá cháhiye jo marifat aur jahálat men masáwi hon.

4.—Na taríf shai kí aisí shai se honá cháhiye ki wuh bagair shai awwal ke pahchán men nahín áti hai.

5.—Alfáz i wahshí o garíb jis se sáme matlab par na pahunche, istiámál nahín karná cháhiye.

PART II.—THE PROPOSITION.

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SECTION I.

FORMATION AND DIVISION OF THE PROPOSITION.

1. A proposition is an act of judgment expressed in language. A proposition as used in logic has also been defined, "a sentence indicative." This distinguishes a proposition from a question, command, an entreaty, &c., which are not dealt with in logic.

2. A proposition is formed by combining two or more terms, as "the tree is green." This proposition consists of two terms *tree* and *green* connected by *is*. Every proposition consist of three parts called the *subject*, the *predicate*, and the *copula*.

The *subject* is that of which something is predicated *i. e.*, affirmed or denied. "The tree is green." Here *tree* is the *subject* of which something is affirmed or said, *viz.* that it is *green*. The *predicate* is that which is affirmed or denied of the subject, as in this example the word "green" which is of affirmed of the subject *tree*.

The *copula* is the uniting word which shows the agreement or disagreement between the subject and the predicate. The copula is always some part of the verb *to be* and although this verb may not always be manifest in the proposition, yet it is understood or the proposition can be resolved into such a form as to bring it out,

HISSA II.—QAZIYA.

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FASL I.

BAYÁN QAZIYON KÁ AUR UN KE AQSÁM.

1.—JAB tasdíq zubán se sádir ho, to us ko qaziya kahte hain. Bāze log qaziye kí taríf yún likhte hain ki *kāi lafzon se murakkab ho, aur ihtimál jhúth aur sach ká páyá jáwe.* Ilm i mantiq men qaziya ek jumla i bayániya hai, yañe wuh aisá jumla hai, ki na wáste suwál na amr na iltijá ke, balki sirf wáste bayán ke howe.

2.—Qaziya kái lafzon se murakkab hotá hai, aur jhúth aur sach ká ihtimál us men páyá játá hai. Maslan, “yih darakht sabz hai;” yih qaziya, murakkab “darakht” aur “sabz” se hai, jis men lafz “hai” ká, wáste nisbat ke áyá hai. Qaziye men tín juz hote hain, yañe *mauzú*, aur *mahmúl*, aur *nisbat i hukmiya*.*

Mauzú us ko kahte hain jis kí nisbat kuchh kahá jáwe, khwáh isbat ke sáth ho, yá nafí ke sáth. Misál “yih darakht sabz hai.” Yahán par “darakht” mauzú hai, jis kí nisbat kuchh bayán hai, yañe ki wuh “sabz” hai, aur mahmúl wuh hai, jo mauzú kí nisbat kahá gayá ho. Qaziye mazkúr men lafz “sabz” ká jo áyá hai, mahmúl hai. Nisbat i hukmí wuh hai, jis ke zariá se mauzú par mahmúl ke darmiyán men muwáfiqat yá ná-muwáfiqat pái játí hai.

* Bāz Mantiqín “mauzú” o “mahmúl” ko mahkúm-álaih aur mahkúm-bih, aur jo lafz nisbat i Hukmí par dalálat kartá hai, use rábit-kahte hain. Nahíyon kí istiláh men mauzú ko mahkúm-álaih aur musnada ilaih aur mubtadá, aur mahmúl ko mahkúm-bih aur musnad-bih aur khabar aur nisbat i hukmiya ko isnád, aur jo lafz isnád par dalálat kartá hai use harf i rabt kahte hain.

showing that this verb is implied. "The bird flies," here "flies" is equivalent to a copula "is" and a predicate "flying." Thus "the Moguls conquered," is equivalent to "*the Moguls were victorious.*" From this proposition we see too that the verb is sometimes both *copula* and *predicate*. Thus in the above proposition, *conquered* is equivalent to the copula "*were*" and the predicate "*victorious.*" Sometimes there is an inversion in propositions, as "I hope to see you" equivalent to "to see you, is the thing I hope." These peculiarities of proposition must be kept in mind.

DIVISIONS OF PROPOSITIONS.

There are several divisions of propositions which must be well understood in order to comprehend successfully the subject of logic.

1. Propositions are divided into *simple* and *compound*.

A simple proposition is one whose subject and predicate are composed of simple terms, *i. e.*, there is in it but one subject and one predicate united by the copula. "Iron is hard," is a simple proposition, having but one subject "*iron*" united by the copula "*is*" to one predicate "*hard.*"

A compound proposition has two or more subjects or two or more predicates, or both; *i. e.*, it has more than one term either in the subject or predicate of the proposition or in both, and it may be resolved into two or more simple propositions. Thus, "beasts, birds and insects have life." In the subject of this proposition there are three terms or subjects, *beasts*, *birds*, and *insects* and the proposition may be resolved thus,

Beasts have life ;
Birds have life ;
Insects have life.

Maslan, "darakht sabz hai," yahán par lafz "hai" ká nisbat i hukmí par dalálat kartá hai. Wázih ho, ki jo alfáz nisbat i hukmiya par dalálat karte hain wuh masdar honá se hamesha hote hain, magar yih nahín, ki sab jagah záhir ho, kyúnki bazí jagah aisá bhí hotá hai, ki hukman hotí hai. Maslan, "yih parand ur jáwegá," is men honá hukman páyá játá hai, kyúnki dar haqíqat is ká matlab yún hai, ki "parand ká urná hogá." Gaur karná cháhiye, ki bazí jagah mahmúl aur nisbat i hukmiya ek hí hotí hain, jaisá koí kahe, ki "Zaid játá hai," yahán par "játá hai," mahmúl aur nisbat i hukmiya donon hai. Garaz ki qaziya men tén juz hote hain, yane, *mauzú*, aur *mahmúl*, aur *nisbat i hukmiya*. Maslan, "Zaid álim hai," yahán par *Zaid*, *mauzú*, aur *álim*, mahmúl, aur *hai*, nisbat i hukmiya. Muglon ne Hindustán men hukúmat kí thí. Yahán lafz "Muglon" ká *mauzú* aur "hukúmat" mahmúl, aur "kí thí," nisbat i hukmiya.

AQSÁM I QAZIYA.

Qaziya kaí tarah par hai, jis ká samajhná ilm i mantiq men pur-zarúr hai.

1.—Qaziya yá *mufrad* hotá hai yá *murakkab*; *qaziya mufrad* wuh hai, jis ká *mauzú* aur *mahmúl* *mufrad* ho, maslan "lohá sakht hai." Yahán par *lohá* jo *mauzú*, aur lafz *sakht* ká jo *mahmúl* hai, donon *mufrad* hain.

Qaziya *murakkab* wuh hai, ki jis men kam se kam do *mauzú* yá do *mahmúl* hon, yá *mauzú* aur *mahmúl* donon kam se kam do do hon. Is qaziya ko judá judá karke kaí ek qaziye baná sakte hain. Maslan, "Chaupáe, parand, aur kíre makore jándár hain." Gaur karná cháhiye, ki dar asl is qaziye men tén *mauzú* hain, yane "chaupáe" aur "parand" aur "kíre makore," aur tén qaziye ban sakte hain; maslan,

Chaupáe jándár hain.

Parand jándár hain.

Kíre makore jándár hain.

“Men and angels are rational and religious beings.” Here both in the subject and predicate there are two terms. In the one *men* and *angels*, and in the other *rational* and *religious*. It may be resolved into four propositions.

- 1 Men are rational beings,
- 2 Men are religious beings,
- 3 Angels are rational beings,
- 4 Angels are religious beings.

Propositions in which the subject or predicate contains more than one term, but which can not be resolved into simple propositions, are sometimes called *complex* propositions. Thus “joy and sorrow are opposite mental states,” is simply a *complex* proposition, because it can not be resolved into single propositions. Propositions of this kind must not be taken for compound propositions.

2. Propositions are divided according to their *quality*, into *affirmative* and *negative*.

An affirmative proposition is one in which the subject and predicate are said to agree, as “ice is cold,” “A is B.”

A negative proposition is one in which the subject and predicate are said not to agree, as “fire is not cold,” “A is not B.” A proposition is affirmative or negative according to its copula, *i. e.*, just as the predicate is affirmed or denied of the subject. Thus, “not to obey God is sin,” is really an affirmative proposition, because *sin*, the predicate, is affirmed of the subject “not to obey God.” Sometimes in negative propositions, the negative particle is placed so far from the copula that the negative character of the proposition may be overlooked, as “not all the men and angels in the universe can cleanse a soul from sin.” Here the negative is the first word of the proposition, far from the copula *can*. The proposition in the ordinary form would be, “All

Misál दूसरी.—“Insán aur firishte zī-aql aur ábid hain.” Yahán par mauzú aur mahmúl donoñ do do hain. Is qaziya i murakkaba ko judá karke chár qaziya e mufrada baná sakte hain. Maslan,

Insán zī-aql hai.
 Insán ábid hai.
 Firishte zī-aql hain.
 Firishte ábid hain.

Jánná cháhiye, ki baze qaziye aise hain ki súrāt men murakkab hain, lekin dar haqíqat murakkab nahín, mufrad hain, Maslan “gam aur khushí, ápas men mukhálif hain;” yih koi kah nahín saktá, ki “gam mukhálif hai,” yá “khushí mukhálif hai.” Agar cháhen, ki is qaziye ke do qaziye mufrada banáwen to nahín ho saktá, kyúnki dar asl wuh mufrad hai.

2.—Qaziya yá mújiba hogá yá sáliba. Qaziya i mújiba us ko kahte hain, jab mauzú aur mahmúl ke darmiyán muwáfíqat ho, yane un ke bích men nisbat i isbát pái jáwe. Maslan “barf thandhá hai,” “A. B. hai.”

Qaziya i sáliba wuh hai,” jis ke mauzú aur mahmúl men ná-muwáfíqat ho, yane un ke bích men nisbat i nafi pái jáe. Maslan, “Ág thandhí nahín hai.”—“A. B. nahín hai.”

Qaziya, bamújib apne nisbat i hukmiya ke mújiba yá sáliba hotá hai, yane jaisá ki iqrár yá inkár mahmúl ká mauzú ke wáste ho. Maslan, “Khudá ke hukm ko na mánná, gunáh hai,” yih qaziya dar haqíqat mújiba hai, kyúnki lafz gunáh ká, jo mahmúl hai, mauzú ke iqrár men áyá hai, inkár men nahín.

Baze sálibon men álamat nafi kí aise mauqa par hoti hai, ki us ká sáliba honá bakhúbí malúm nahín hotá Maslan “na tamám insán na firishte kisi ko gunáh se pák kar sakte hain.” Aise qaziye ko “mađúla” kahte hain.

Yahán par álamat nafi kí sab se pahle ái, aur fiál se dúr hai. Agar yih qaziya bamújib ámm muháwara ke bolá jáwe, to yún hogá ; “tamám insán aur firishte kisi ko gunáh se pák

the men and angels in the universe cannot cleanse a soul from sin." These irregular forms of propositions must be understood. It may also be noted that every proposition must be either affirmative or negative.

3. A third division of propositions is according to their *quantity* into *universal* and *particular*.

A *universal proposition* is one in which the predicate is affirmed or denied of the whole of the subject, *i. e.*, agrees or disagrees with the whole of it. In other words, the predicate is said of the whole of the subject, hence the proposition is universal. Thus, "all men are mortal" is a universal proposition, because the predicate "mortal" is affirmed of the whole of the subject "men." Mortal is said not of one man, nor of some men, but of all men. "All A. is B." is a universal proposition. Again "no men are trees" is a universal proposition because "trees," the predicate, is wholly denied of the entire subject, "Men." So of "no A is B."

The signs of *universality* are *all, each, every, no, neither*, and such words as indicate the whole of the subject.

When the sign of universality is not used, or the indefinite article is placed before the subject, the universal proposition is called *indefinite*. Thus, "sheep are quadrupeds," is a universal proposition, because it is evidently intended to be asserted that "all sheep are quadrupeds." Thus also, "a sheep is a quadruped" means any sheep is a quadruped, hence that all sheep are quadrupeds. "Liars are sinners," "beasts are not accountable," are universals having the sign understood.

Where the sign of universality is omitted, the *quantity* of the proposition must be ascertained from its *matter*. We must determine how it is intended that the proposition be taken.

A *particular proposition* is one whose subject is

nahīn kar sakte haiñ.” Aise qaziŪn be-tartīb aur pechīda ke matlab kō samajh lenā chāhiye ; aur yih bhī yād rakhnā chāhiye, ki har qaziya do hāl se khālī nahīn, yā to mūjiba hogā yā sālība hogā. QaziŪn ke ijāb o salb ko “kaif i qazayā” kahte haiñ.

3.—Qaziya *kulliya* hogā yā *juziya* hogā.

Qaziya i kulliya wuh hai, jis kā mahmūl, mauzū ke tamām afrād ke iqrār yā inkār men āwe ; yāne mahmūl muwāfiqat yā nā-muwāfiqat rakhe tamām mauzū se. Yā is tarah par us kā bayān samjho, ki qaziya i kullī men mahmūl kull mauzū par bolā jāe. Maslan, “kull insān marnewāle haiñ.” Yih qaziya i kulliya hai, is liye kī lafz “marnewāle” kā jo mahmūl hai, kull mauzū ke wāste jo “insān” hai, kahā gayā hai, yāne lafz marnewāle kā sirf ek ādmī ke wāste nahīn, balki tamām insān ke wāste āyā hai. “Kull A. B. hai.” Yih qaziya bhī kulliya hai. Ek aur misāl dī jātī hai. “Insān daraḳht nahīn hai,” yih bhī qaziya i kulliya hai, kyūnki yahān par lafz daraḳht kā, tamām mauzū yāne insān ke inkār men āyā. “Kōī A. B. nahīn hai.” Yih bhī qaziya i kulliya hai. *Sab, tamām, har ek, kōī nahīn* wg. jo lafz haiñ, in se qaziye kī kulliyat sābit hotī hai.

Jis qaziya i kullī men ālāmat kulliyat kī, lafzan maujūd na ho, us ko *muhmila* kahte haiñ, maslan, “Bherēn chaupāe haiñ.” Ab yahān par bāwujūde ki ālāmat kulliyat kī maujūd nahīn, phir bhī sāf maḷūm hotā hai, ki matlab sab bherēn se hai.

Jhūṭh bolnewāle gunahgār haiñ.

Jāuwar zī-ḳī nahīn haiñ.

Yahān par bhī kulliyat samjhī jātī hai, agarchi zāhir men kōī lafz nahīn hai. Garaz yih kī jahān kulliyat kā kōī lafz na pāyā jāwe, to wahān par sirf matlab se samjhenge.

Qaziya i juziya wuh hai, jis ke mauzū ke baḳ afrād

taken in only a part of its extension, *i. e.*, the predicate is said to agree or disagree with only a part of the subject. Thus, "some Christians are not true followers of Christ," is a particular proposition, because the predicate "true followers of Christ," is denied of "some Christians," the subject, that is, does not belong to all who are called Christians. The predicate then only belongs to a part of the term "Christians." Again, "many men or brave," "some A is B," are particular propositions, because the predicate "brave" does not belong to all "men," nor the predicate "B" to all "A." Thus, we see that in particular propositions something is said, *i. e.*, affirmed or denied of only a part of the *subject*, which is then taken in only a part of its extension. The sign of a particular proposition is some such word as, some, few, several, many, &c., indicating that a *part* only of the subject is intended for the predicate. Of that part only, the predicate is true.

Some particular propositions are indefinite, that is, have not the words, some, few, &c., prefixed to them to show that they are limited. Thus, "men are poets," "Hindus are idolaters," are indefinite propositions, because it can not be intended that "all men are poets," or that "all Hindus are idolaters," for there are some men who can not write poetry, and there are Hindus who never worship idols, of which facts all are aware. The universal or particular character of such propositions must be determined from their *intended meaning*. It is not so much the business of logic to determine their meaning, as to pronounce on the character of the argument in which the propositions are used, after their quantity has been determined. Every proposition, then, must be either *affirmative* or *negative*, also *universal* or *particular*. Hence, with the same subject and predicate four different propositions may be formed. Let these propositions be distinguish-

hiye jāen, yañe mahmúl mauzú ke kull afrád ke wáste na áyá ho, balki báz afrád ke wáste. Masal to maslan, “Báz Ísáí Masíh ke sachhe pairau nahín haiñ.”

Is misál men, chúnki figra “sachhe pairau” ká, jo mahmúl hai, “báz Ísáíon” ke inkár men, jo mauzú wáqi húá hai áyá hai, is sabab se is qaziye ko juziya kahte haiñ. Garaz ki is jagah par mahmúl, mauzú ke báz afrád ke inkár men áyá hai, yañe sab Ísáíon ke wáste nahín.

Dúsrí misál.—“Bahut ádmí bahádur haiñ.” “Báz A. B. haiñ.” Yih bhí qaziye i juziye hai, kyúnki lafz “bahádur” ká, jo mahmúl hai, kull insán ke wáste sádiq nahín áyá hai, aur isí tarah mahmúl “B.” kull mauzú “A.” par dalálat nahín kartá. Garaz ham dekhte haiñ, ki qaziya i juziya men mauzú ke báz afrád par dalálat hotí hai, khwáh bil-isbát ho yá bin-nafi. Juziyát kí alámaten báz, kuchh, wg. haiñ.

Báz qaziya i juziya bhí muhmila hote haiñ, yañe lafz juziyat ke báz, kuchh wg. un men nahín páe játe haiñ. Maslan, “ádmí sháír hote haiñ,” “Hindú butparast haiñ;” yih donon qaziya i muhmila haiñ, kyúnki yih matlab nahín ho saktá hai, ki tamám insán sháír haiñ; kyúnki bahutere ádmí aise haiñ, jin ko shiár kahná nahín áta, aur Hindúon men bhí aise haiñ, ki butparast nahín haiñ.

Aise qaziyon kí kulliyat yá juziyat sirf matlab se malúm hotí hai. Qaziya i muhmilá kí kulliyat aur juziyat ká muqarrar karná ilm i mantiq kí garaz nahín. Us kí garaz sirf itní hai, ki jab ham qaziyon kí kulliyat aur juziyat qarár dekar báham-dígar zarb den, aur phir zarb dene se jo natíja nikle, us kí sihhat yá ádam sihhat ká batlána.

Is mauqa par kھیال rakhná zarúr cháhiye, ki har qaziya yá *mújiba* hogá, yá *sáliba* hogá, aur har wáhid

ed by the vowels A. E. I. O., and let x . and y . stand for the subject and predicate, then we may have :—

A. Universal affirmative ; All x is y .

E. Universal negative ; No x is y .

I. Particular affirmative ; Some x is y .

O. Particular Negative ; Some x . is not y .*

4. A fourth division of propositions considered as sentences, is into *Categorical* and *Hypothetical*.

The *categorical proposition* unconditionally asserts that the predicate does or does not agree with the subject. As, "man is mortal," "A is not B," which are simple unconditional declarations.

The *hypothetical proposition*, which is compound, makes its assertion under a *condition* or *alternative*. Hypotheticals are divided into *conjunctive* and *disjunctive* propositions.

A conjunctive proposition implies that the parts of the proposition are so conjoined that if one part of the proposition be true, the other follows, as, "If James return, John will go," "If X is Y, it is Z." This proposi-

* NOTE.—Sir William Hamilton proposed the "quantification of the predicate," by which the forms of the proposition are increased to eight, thus—

Toto-total.	All x is all y = (A.)
Toto-partial.	All x is some y = (A.)
Toto-total.	No x is y = (E)
Toto-partial.	No x is some y = (E.)
Parti-total.	Some x is all y = (I.)
Parti-partial.	Some x is some y = (I.)
Parti-total.	Some x is not any y = (O.)
Parti-partial.	Some x is not some y = (O.)

It will be observed that the words "all" and "some," that determine the quantity of the subject are applied to the predicate also. This new scheme is followed entirely or in part by a few logicians. It is claimed that it makes conversion, the distribution of terms, and the forms of the syllogism, more simple. But most logicians, some of them as Mill, the ablest, reject this proposed improvement, as involving more trouble than is avoided, and as giving some forms of propositions never really used, while others which seem to contradict the common rules for the distribution of the predicate, can be dealt with under the old forms as exceptional or unnatural forms of judgment. This point will be noticed under the discussion of rules for the distribution of terms.

donon men se yá kulliya hogá yá juziya. Pas ek hí mauzú aur mahmúl se ham chár qaziye baná sakte haiñ.

Mújiba kulliya.

Sáliba kulliya.

Mújiba juziya.

Sáliba juziya.

Ab in cháron súraton ke wáste ye hurúf muqarrar kiye játe haiñ, yane,—

<i>mk.</i> jis se murád mújiba kulliya,	Maslan	kull A. B. hai.
<i>sk.</i> jis se murád sáliba kulliya,	„	koí A. B. nahín hai.
<i>mj.</i> jis se murád mújiba juziya,	„	Baz A. B. hai.
<i>sj.</i> jis se murád sáliba juziya, *	„	Baz A. B. nahín hai.

4.—Qaziya yá hamliya hotá hai yá shartiya.

Qaziya i hamliya men shart nahín hai, yane isbát yá nafí bilá shart páí játí hai. Maslan, “insán marnewálá hai,” aur “rúh fání nahín hai,” “A. B. nahín hai.”

Qaziya i shartiya wuh hai, jis men shart ho, is kí do qismen haiñ, *muttasila* aur *munfasila*.

Qaziya muttasila wuh hai jis men sidq dústre qaziye ká, awwal par mauqúf ho. Maslan, “Agar Zaid dawá kháwe, to achchhá ho jáegá.” “Agar A. B. hai, to wuh J. hai.” Is qaziya kí kaí súraten ho saktí haiñ, maslan agar A. B. hai

* Sar William Hamilton Sáhib ne qaziŵn kí chár súraton mazkúra ke aláwa, chár aur súraten nikálí haiñ jin men mahmúl ke hál se bahs hotí hai, yane ki wuh kullí hai yá juzí. Is bayán se áth súraten ho játí haiñ maslan.

Mauzú aur mahmúl donon *mk* = kull A. kull B. hai.

Mauzú *mk.* aur mahmúl *mj.* = kull A. Baz B. hai.

Mauzú o mahmúl donon *sk.* = koí A. koí B. nahín.

Mauzú *sk.* aur mahmúl *mj.* = koí A. baz B. nahín.

Mauzú *mj.* aur mahmúl *mk.* = baz A. kull B. hai.

Mauzú o mahmúl donon *mj.* = baz A. baz B. hai.

Mauzú *mj.* aur mahmúl *sk.* = baz A. koí B. nahín.

Mauzú *mj.* aur mahmúl *sj.* = baz A. baz B. nahín hai.

Jánná cháhíye kí alfáz “kull” aur “baz” jo mauzú kí kamíyat batáte haiñ, mahmúl ke sáth bhí á sakte haiñ. Is nae tariqe kí taqlíd baz mantiqín kullán yá juzán karte haiñ. Is nae tariqewálon ká yih dawá hai ki is se áks, aur kam o kaif, aur súrát i qiyás, bahut ásan aur sáda ho játí hai. Lekin áksar mantiqín jin men baz bare láiq haiñ, maslan Mill Sáhib, wuh yih kahte haiñ ki is se aur ziyáda pechídagi o diqqat wáqj hotí hai, aur baz aqsám i qazáya jo ki is taqám kí rú se bante haiñ, mutlaq istiamál men nahín átí haiñ, aur baz qaziye jo kulliyat i mahmúl ke ámm qáidon ke mukhálif malúm hote haiñ, wuh mustasniyát men aur be-tartíb shumár kí játí haiñ. Is kí bahs qawáid i kam o kaif ke bayán men likhenge.

tion may take many forms, *e. g.*, If A is B, C is D; if A is not B, C is D; If A is not B, C is not D; If A is B and C is D, E is F. If A is B, either C is D or E is F. &c. If either A is B, or C is D, E is F.

A disjunctive proposition, implying an alternative, is formed with the disjunctives *either, or*, as "James is either a liar or a thief." "X is either Y or Z." This proposition also may take many forms, *e. g.*, either A is B, or C is D; either A is B or C is D, or E is F; A is either B or C or D; either A or B or C, is D; either A is not B, or C is not D; either A is B or C is not D.

This last division of propositions may be indicated by a table, thus:—

<i>Propositions</i>	{	Categorical	{	Conjunctive
		Hypothetical		Disjunctive.

The hypothetical proposition will be treated of more fully hereafter. For the present we will deal only with categorical propositions.

MATTER OF PROPOSITION.

This is as good a place as any to explain what is meant by the *matter* or modality, of propositions. By the matter is meant the nature of the connection between the terms of a proposition, and it has reference to the *truth* or *falsity* of the proposition.*

By observing the nature of the connection of the terms we can see that there can be only three kinds of matter, *viz.*, *necessary*, expressed by an affirmative proposition, *impossible*, expressed by a negative proposition, and, *contingent*, expressed by a particular proposition. Thus if we have two terms "iron" and "heavy," reflection shows us that the truth or the nature of these terms

* By the modality of a proposition some writers on logic mean its modification by some adverb of time, place, manner, degree, &c., or by some phrase or expression. Some writers exclude the question of modality from the subject of logic.

to J. D. hai; agar A. B. nahín hai to J. D. hai; agar A. B. nahín hai to J. D. nahín hai; agar A. B. hai aur J. D. hai to R. S. hai; agar A. B. hai to yá J. D. hai yá R. S. hai; agar A. B. hai yá J. D. hai to R. S. hai, wg.

Qaziya munfasila wuh hai, jis men hukm bil infisál páyá jáwe, yane na to donon juzon qaziya ká sachhá honá mumkin ho, na jhúthá honá donon ká. Harf infisál ká “yá” hai. Maslan, “Zaid yá sachhá hai yá jhúthá.” “A. yá B. hai, yá J. hai.” Is qaziya kí kái súraten ho saktí hain, maslan A. B. hai yá J. D. hai; A. B. hai yá J. D. hai yá R. S. hai; A. yá B. hai yá J. hai yá D. hai; A. yá B. yá J. D. hai; A. B. nahín hai yá J. D. nahín hai; A. yá B. hai yá J. D. nahín hai, wg.

Qaziya, { Hamliya, ... { Muttasila.
 { Shartiya, ... { Munfasila.

Qaziya i shartiya ká bayán áge chalkar mufassal hogá, yahán par qaziya i hamliya kí misálen dí játí hain.

BAYÁN MÁDDE KÁ.

YIH mauqa achehhá małúm hotá hai, ki qazion ke mádde ká bayán kiyá jáwe.* *Mádda* us nisbat kí haqíqat ko, jo qaziya ke juzon ke darmiyán men hai, kahte hain, yane mádde se yih murád hai, ki áyá is qaziya men ihtimál sidq ká hai yá kizb ká.

Agar ham gaur karke dekhen, ki juzon ke darmiyán nisbat kái tarah par hai, to małúm hotá hai, ki sirf tén tarah par hai, yane *zarúrí bil íjáb*, jo qaziya i mújibon men hotí hai. *Nisbat zarúrí bis salb*, jo qaziya i sálibon men hotí hai. *Nisbat i tasáwí*, jo ki qaziya i juziyon men páí játí hai. Maslan, do lafz hon, “*lohá*” aur “*bhári*.” Ab agar ham in do lafzon kí asliyat par bagaur liház karen, to małúm hotá hai, ki in donon ke darmiyán *nisbat i íjáb biz zarúr* hai, aur qaziya yún hogá, “*lohá bhári* hai.”

Aur agar yih do lafz hon, yane, “shakar” aur “khat-tá,” aur in ke darmiyán nisbat *íjáb dí jáwe*, qaziye ká

* Bas mantiqín kí yih rás hai ki mádde ká bayán ilm i mantiq ke mutalliq nahín hai, liháza is ká bayán apní kitábon men nahín karte hain.

makes it *necessary* for us to connect them affirmatively, and we get the affirmative proposition, "iron is heavy."

Again, if we have the two terms "sugar" and "sour" and wish to connect them in a true proposition, it is impossible to do it affirmatively, and hence we get the negative proposition "sugar is not sour."

Again, if we have the two terms "men" and "learned," we see that they cannot be truthfully connected in a universal proposition either affirmatively or negatively but they have a *contingent* relation, *i. e.*, only sometimes and under certain circumstances men are learned, hence we must connect these terms in a particular proposition, "some men are learned."

Thus, from the matter of propositions three rules are formed, the correctness of which will be manifest on reflection.

1. In necessary matter all affirmatives are true and all negatives false.

2. In impossible matter all negatives are true and all affirmatives are false.

3. In contingent matter all particulars are true and universals false.

The importance of understanding this point in the consideration of propositions will be more fully seen when we come to treat of "opposition of propositions."

The student should fix well in mind the following:—

RECAPITULATION.

<i>Propositions are</i>	{	Simple or compound.	}
		Affirmative or negative.	
		Universal or particular.	
		Categorical.	
	or		
	{	Hypothetical. ...	}
		{ Conjunctive. Disjunctive.	
<i>Matter is</i>	{	Necessary.	}
		Impossible.	
		Contingent.	

sachchá honá gair-mumkin hogá; pas is sabab se nisbat salb kí dekar yún kahenge, ki “shakar khattí nahín hai.”

Aur agar yih do lafz hon, yane, “ádmí,” aur “álim,” ham dekhte hain, ki in donon ke darmiyán nisbat íjáb yá salb kí, kulliyat ke sáth sádiq nahín á saktí hai, yane koí nahín kah saktá, ki “sab ádmí álim hain,” yá “koí ádmí álim nahín”; balki in ke darmiyán men nisbat gair-muqayana hai, yane yih muqarrar nahín, ki nisbat bil íjáb ho yá bis salb, jis ke sabab se yún kahná cháhiye, ki “báz ádmí álim hain,” yá “báz ádmí álim nahín.”

Pas ba liház mádde qazíon ke, tín qáide nikalte hain, jin ká hál gaur karne se malúm hotá hai, ki yúnhi sádiq áte hain.

1.—*Nisbat zarúri bil íjáb* men qaziya i mújiba sab sahíh, aur sálibe sab galat hote hain.

2.—*Nisbat zarúri bis salb* men úpar ke baráks yane sálibe sab sahíh, aur mújibe galat hote hain.

3.—*Nisbat i tasáwi* men qaziya i juziya sab sahíh, aur kulliya sab galat hote hain.

Mádde ke samajhne ká fáida, qazíon kí naqíz ke bayán men chalkar malúm hogá.

Názirín ko bayán i mujmal mundarja i zail bakhúbí zihn-nishín kar lená cháhiye.

Qaziya.	{	Yá mufrad hogá yá murakkab.	
		Yá mújiba hogá, yá sáliba.	
		Yá kulliya hogá, yá juziya.	
		Yá hamliya hogá,	
		yá	
		Shartiya.....	{ Muttasila. Munfasila.

<i>Mádda i nisbat.</i>	{	Zarúri bil íjáb.
		Zarúri bis salb.
		Tasáwi.

SECTION II.

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DISTRIBUTION OF TERMS.

1. The *distribution of terms* is an important matter connected with propositions. Terms, as has been seen, are found in the subject and predicate of propositions. The terms of a proposition are said to be distributed, when they include or relate to every thing that can be referred to by them. A term, then, is "*distributed*" when it is used universally, that is, when it stands for or includes all its significates, and "*non-distributed*" when it is particular, that is, stands for but a part of its significates.

Thus, in the proposition "All men are mortal" the subject "all men" is distributed, because the whole of it is taken as affected by the quality of mortality. On the other hand the predicate "mortal" of this proposition is undistributed because, as used in this proposition, it is manifest that but a part of the *extension* of the term is used, viz., that which includes or covers man, there being many other creatures besides man for which the term could be used, but here it is confined to man, i. e., it is not distributed.

2. Without fully understanding the distribution of terms, but little use can be made of the study of logic, hence we proceed to present clearly the principles on which it depends. We may note that a proper, singular, collective, or abstract term, is always taken in a general or universal sense, hence where one of these terms is the

FASL II.

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BAYÁN I KAM, YAÑE KULLIYAT AUR JUZIYAT, MAUZÚ AUR MAHMÚL KÁ.

1.—BAYÁN i kam, yañe kulliyat aur juziyat, mauzú aur mahmúl ká, qaziön ke séth zarúr hai. *Jab qaziye ke mauzú o mahmúl apne tamám afrád ko shámil karte haiñ, to un ko kullí kahte haiñ, aur jab sirf baz afrád ko shámil karte haiñ, to un ko juzí kahte haiñ.* Masal to maslan, qaziya “kull insán fání haiñ,” is men mauzú, “kull insán” kullí hai zerá ki apne tamám afrád ko *fání hone* men shámil kartá hai, magar “fání,” jo mahmúl hai, is qaziye men juzí hai, kis wáste ki sáf záhir hai, ki yih lafz is jagah apne kull afrád par dalálat nahín kartá hai, balki baz par, yañe insán par is jihat se, ki lafz fání men bahut aur maḵhlúq shámil hai. Insán to maḵhlúq ká sirf ek juz hai.

2.—Táwaqte ki yihí *kam* yañe kulliyat aur juziyat, baḵhúbí samajh men na áwe, ilm i mantiq ko achchhí tarah istiamál men nahín lá sakte haiñ. Chúnki istiamál ilm i mantiq ká is hí par munhasar hai, liházá us amr ká, jis par kulliyat aur juziyat mauqúf hai, sáf o mufassal bayán kiyá jétá hai. Yih amr bhí qábil i liház hai ki ism i muáyan aur mufrad aur ism i jins hamesha kulliyat ká fáida detá hai. Is liye jis qaziye men kisi qism i mazkúra ká koi ism

subject of a proposition it is to be treated as a universal and the subject is distributed. Thus, "James loves John," "my dog is black," "Parliament is prorogued," "wisdom is justified of her children," may be treated as universals. Where the subject of a proposition is a single thing, Mill calls the proposition singular. Such are universals in the sense of distributing the subject.

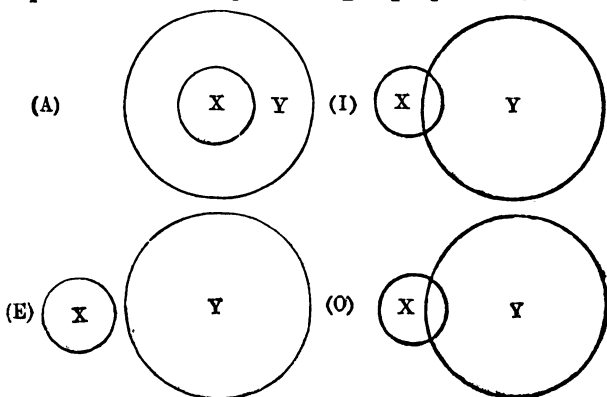
Both the *subject* and *predicate* of a proposition must always be either distributed or non-distributed.

The distribution of the subject of a proposition depends on its *quantity*, *i. e.*, on its being *universal* or *particular*, while the distribution of the predicate depends on the *quality* of the proposition, *i. e.*, on its being *affirmative* or *negative*. The truth of these statements will appear from some illustrations.

Four kinds of categorical propositions can be formed, *viz.*,—

Universal affirmative... (A) All X is Y.
 Universal negative ... (E) No X is Y.
 Particular affirmative... (I) Some X is Y.
 Particular negative ... (O) Some X is not Y.

These may be represented by geometrical notations, each pair of circles representing a proposition, thus:—



mauzú wáqī ho, to us qaziye ko kulliya kah sakte hain, aur mauzú kullí hotá hai. Maslan, “Yaqúb Yúhanná se muhabbat rakhtá hai”; yá “majlis barkhást ho gai”; yá “merá kuttá siyáh hai.” Aise qazion ko, báwujúde ki un ká mauzú mufrad hai, kulliya kah sakte hain. Mill Sáhīb is qism ke qaziye ko *qaziya mufrada* kahte hain.

Har qaziya ká mauzú aur mahmúl do hál se khálí nahín hogá, yane, yá to kullí hogá, yá juzí.

Wázih ho, ki mauzú kí kulliyat aur juziyat, qaziye kí kulliyat aur juziyat par mauqúf hai; magar mahmúl kí kulliyat aur juziyat, qaziye ke íjáb o salb par mauqúf hai. Kaifiyat is kí, zail kí misálon se bakhúbí malúm hogí.

Qaziya i hamliya kí chár súraten hain, yane,

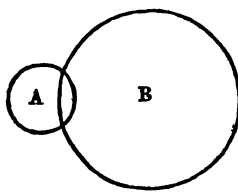
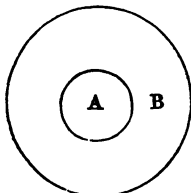
Mújiba kulliya,	(m. k.)	Kull A. B. hai.
Sáliba kulliya,	(s. k.)	Kof A. B. nahín hai.
Mújiba juziya,	(m. j.)	Baz A. B. hai.
Sáliba juziya,	(s. j.)	Baz A. B. nahín hai.

In cháron qazion ko Uqlaidas kí shaklon se bhí bayán kar sakte hain.

Har dáire ko ek qaziya samjho :—

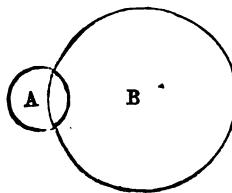
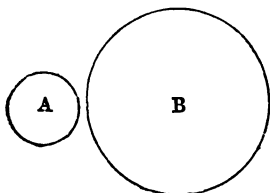
m. k. Kull A. B. hai,

m. j. Baz A. B. hai,



s. k. Kof A. B. nahín hai.

s. j. Baz A. B. nahín hai,



Inspection of these propositions, first with regard to the subject, will show that in the universal proposition the subject is distributed, that is, it is taken in its fullest extension including all its *significates*. This is indicated by the prefixes *all* and *no*, and a glance at the geometrical figure shows the truth of this statement to the eye. Hence the rule—

1.—*All universal propositions distribute the subject.*

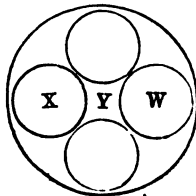
An examination further of these propositions shows that in the *particulars* the *subject* is not distributed, i. e., a part only of the term is taken, as is indicated by the prefix *some*, and is made plain to the eye by the geometrical figures, only a part of X being included in Y. Hence the rule—

2.—*Particular propositions do not distribute the subject.*

Thus, it is seen that the distribution of the subject depends on the *quantity* of the proposition.

Again, if we examine the four categorical propositions with reference to the *predicate*, we will see that its distribution is by no means implied in the distribution of the subject, and that it depends on the *quality* of the proposition, i. e., its being affirmative or negative. If it be asserted, in a universal affirmative proposition, that “all men are mortal,” or “all X is Y,” it is not asserted that other beings besides men, are not mortal, or that other things besides X, are not Y. Other beings beside men may be mortal, and other things besides X may be included in Y, as is seen in this figure.

Hence it is evident that the whole of the predicates “mortal” and “Y,” is not considered.



Agar mauzú kí nisbat in qaziön par liház kiyá jáwe, to małúm hotá hai, ki qaziya i kulliya ká mauzú, hamesha kullí hotá hai, yañe apne kull afrád par dalálat kartá hai, aur wuh dalálat, lafz i “kull” aur “koí nahín” se małúm hotí hai. Aur dáiron ke dekhne se bhí yih bát małúm hotí hai. Pas qánún yih hai, ki—

1. *Qaziya i kulliya ká mauzú kullí hotá hai.*

Agar mauzú kí nisbat, qaziya i juziön par liház kiyá jáwe, to małúm hotá hai, ki mauzú bhí juzí hotá hai, yañe faqat apne baz afrád ko batlátá hai, aur yih juziyat, lafz “baz” se małúm hotí hai, aur dáira i marqúma e bálá se sári kaifiyat is kí roshan hai, ki faqat ek hissa dáira A. ká B. meñ dákhil hai. Pas qánún yih thahrá, ki—

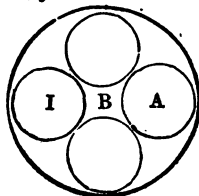
2. *Qaziya i juziyya ká mauzú hamesha juzí hotá hai.*

Pas małúm húa, ki kulliyat aur juziyat mauzú kí, qaziye kí kulliyat aur juziyat par mauqúf hai.

Aur agar mahmúl kí nisbat in chár qaziya i hamliön par liház kiyá jáwe, to małúm hotá hai, ki yih kuchh zarúr nahín, ki mahmúl kí kulliyat o juziyat, mauzú hí kí mánind ho, kyúñki mahmúl kí kulliyat o juziyat, qaziye ke íjáb aur salb par mauqúf hai.

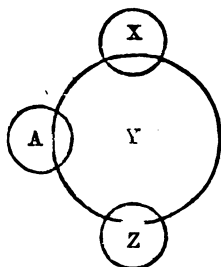
Agar koí qaziya mújiba i kulliya ho, jaise “kull insán fání haiñ,” yá kull “A. B. hai,” to is se yih dawa nahín nikaltá, ki aur maḡhlúqát siwá insán ke fání nahín, yá siwá A. ke aur koí chíz B. meñ nahín hai. Bahut aur maḡhlúq haiñ siwá insán ke jo fání haiñ, aur aur dáire haiñ siwá A. ke jo B. meñ shámil haiñ, jaisá ki shakl i zail se záhir hai. Pas sáf záhir húa, ki kull

mahmúl “fání” aur “B” kám meñ is jagah nahín áyá, yañe mahmúl ke kull afrád par dalálat nahín hai.



Again, if we make these propositions particular, thus, "some men are mortal"—"some X is Y," it will still be seen that only a part of "mortal" and "Y" is distributed. A part or all of other

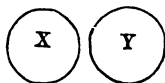
things besides X may be included in Y, as is seen in the annexed figure. Hence whether universal or particular, we get the rule:—



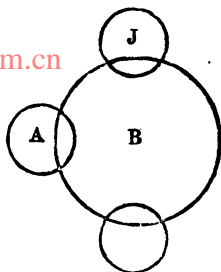
3.—*Affirmative propositions do not distribute the predicate.*

There are exceptions to this rule, where affirmatives, both universal and particular, by an inverted, unnatural, or exceptional form of expression, may distribute the predicate. Thus, in the propositions, "all men are rational animals," "all triangles are figures bounded by three straight lines," "some men are poets," "some animals are men," the predicate is co-extensive with the subject, *i. e.*, is distributed. We may treat these cases as exceptional and understand the general rule as given above.

If we turn now to negative propositions, we see that whether universal or particular, the predicate is always distributed. Thus, in the universal negatives, "no men are birds," "no X is Y," it is plain that we must consider, *i. e.*, distribute, the whole of the predicate "birds," before we can affirm that there are no men in it, and the whole of Y, before we can assert that no X is included in it. Hence, in the universal negative the predicate is



Aur agar ham in do qaziya ko juziya banáwen, maslan, “Baz insán fání hai,” yá “baz A. B.” hai, to is súrát meñ bhí mahmúl “fání,” aur B. juzí rahtá hai, kyúñki aláwa insán ke, baz aur makhluq bhí fání hai, aur aláwa A. ke baz aur dáire hai, ki dáira i B. meñ shámil hai.



Pas qaziya kulliya ho, yá juziya, qánún yih rahá, ki—

3. *Qaziya i mújiba, khwáh kulliya ho yá juziya, mahmúl us ká juzí hotá hai.*

Baz qaziye mújibe, khwáh kulliyehon yá juziye, is ámm qáide se mustasná hai. Maslan in qazáyá meñ ki “tamám ádmí haiwán i nátiq hai.” “Baz ádmí sháir hai.” “Baz haiwán insán hai,” mahmúl mauzú se masáwí ul afrád yané kullí hai. Aise qaziya ko mustasniyát meñ shumár karná, aur ámm qáidoñ mazkúra i bálá ko sahíh tasauwur karná cháhiye.

Ab agar ham qaziya i sáliba kí taraf khíyál karen, khwáh wuh kullí ho yá juzí, mahmúl us ká hamesha kullí hogá. Maslan, sáliba i kulliya, “koí ádmí chiriya nahín,” yá “koí A. B. nahín.” Yahán par gaur karná cháhiye, ki kull mahmúl “chiriya” (A) (B) par jab liház ho, to ham kah sakte hai, ki koí insán chiriya meñ nahín hai. Pas is qaziya meñ mahmúl “chiriya” kullí húa. Alá-házal-qiyás, jab kull mahmúl “B” par liház ho, to ham kah sakte hai, ki kuchh hissa A. B. meñ nahín hai. Pas har qaziya sáliba ká mahmúl kullí (A) (B) hogá. Isí tarah par har qaziya sáliba juziya

distributed. So also of the particular negative, for if it be asserted, that "some X is not Y," it is plain that the whole of the predicate "Y" must be passed in review or examined, that is *distributed*, before the statement can be truthfully made that Y does not belong to the part of X under consideration. Hence for all negatives we get the rule:—



4.—*All negative propositions distribute the predicate.*

Thus, it is seen that the distribution of the predicate depends on the *quality* of the proposition. All these facts should be kept well in mind. The rules for distribution, collected together, are as follows:—

1. All universal propositions, distribute the subject.
2. Particular propositions do not distribute the subject.
3. Affirmative propositions do not distribute the predicate.
4. All negative propositions distribute the predicate.

The importance of this point in propositions, will be more fully seen in part third of this book.

ká bhí. Maslan sáliba i juziya, “Baz A. B. nahín hai.”
 Yahán par sáf záhir hai, ki jab tak kull B. na
 dekh lewen, ham nahín kah sakte hain, ki kuchh
 B. A. ke us hisse men nahín hai, jis ká zikr
 hai. Pas sab qaziya i sálibon ke liye yih qánún
 nikaltá hai, ki—



4. *Har qaziya sálibe ká mahmúl, kullí hai.*

Ab małúm huá ki kulliyat mahmúl kí, qazion ke
 fíjáb o salb par mauqúf hai. In báton ko qhúb zihn-nishín
 karná cháhiye.

Majmúq qawánín i kulliyat o juziyat ká, zail men
 hai:—

- 1.—*Qaziya i kulliya ká mauzú kullí hotá hai.*
- 2.—*Qaziya i juziya ká mauzú juzí hotá hai.*
- 3.—*Qaziya i mújiba ká mahmúl juzí hotá hai.*
- 4.—*Qaziya i sáliba ká mahmúl kullí hotá hai.*

Is kitáb ke tísre hisse men chalkar małúm hogá ki is
 bát ká jánná kaisá zarúrí hai.

SECTION III.

CONVERSION.

1. The *conversion* of a proposition, consists in transposing its terms so as to place the subject for the predicate and the predicate for the subject. Thus, the proposition "no men are angels," may have the subject and predicate transposed and become, "no angels are men"--"Some men are good," "some good (beings) are men" is likewise converted. The proposition to be converted is called the *exposita** that into which it is changed is called the *converse*.

Conversion is only allowable when the truth of the *converse* is implied by the truth of the *exposita*. Such is called "*illative*" conversion, and is the one used in logic. Any thing else would be only an *apparent*, not a real conversion. It is often useful in an argument, or in detecting an error to thus transpose the subject and predicate of a proposition.

2. There are three kinds of conversion, by one of which every proposition may be converted.

First.—When the subject is simply made the predicate, and the predicate the subject without any further change, it is called *simple* conversion, as

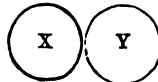
"No good man is a rebel."

Converse.—"No rebel is a good man."

"Some bad men are learned."

Converse.—"Some learned men are bad."

"No X is Y."



"No Y is X."



* Called by Sir Wm. Hamilton the *convertend*.

FASL III.

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 AḲS KE BAYÁN MEN.

1.—AḲS us ko kahte haiṅ, ki qaziye ke mauzú ko mahmúl kar deṅ, aur mahmúl ko mauzú. Maslan yih qaziya, ki “koí insán firishta nahín hai,” agar is ke mauzú ko mahmúl kar diyá jáe, to qaziya yún hogá, “koí firishta insán nahín hai.” Dúsrí misál, “baḷ ádmí nek haiṅ,” is ká aḱs “baḷe nek (maḱhlúq) ádmí haiṅ.”

Jab kisé qaziye ká aḱs kiyá jáwe, to us ko maḱúsa kahte haiṅ, aur qabl aḱs ke qaziye ko gair maḱúsa kahte haiṅ. Aḱs us waqt durust hogá, jab qaziya i maḱúsa, aur gair maḱúsa kí haqíqat men kisé tarah ká farq na wáqí ho, pas aise aḱs ko aḱs i sahíh kahte haiṅ, aur agar kisé aur tarah kiyá jáe, to wuh aḱs sirf ba záhir hogá, na yih, ki haqíqat men.

2.—Aḱs tén taur par hotá hai, aur har qaziye ká aḱs in tinoṅ men se kisé na kisé ke bamújib ho saktá hai.

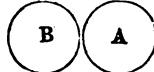
Auwal.—Mauzú ko mahmúl karná, aur mahmúl ko mauzú karná, aur kisé tarah ká tabaddul aur tagaiyur na karná.

Maslan, “Koí achchhá ádmí bágí nahín hai.”
 is ká aḱs, “Koí bágí achchhá ádmí nahín hai.”
 is ká aḱs, “Baḷ ḱharáb ádmí, álim haiṅ.”
 is ká aḱs, “Baḷ álim, ḱharáb ádmí haiṅ.”

“Koí A. B. nahín hai.”



“Koí B. A. nahín hai.”

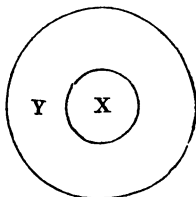


Universal negatives and particular affirmatives are converted in this way.

Second.—But by an examination of the four categorical propositions, it will be seen that they cannot all be transposed by *simple conversion*. Thus, take the universal affirmative:—

“All horses are quadrupeds,” and the simple converse, “all quadrupeds are horses,” is not true, for there are many four-legged animals that are not horses.

Thus, also “all X is Y,” cannot be converted to “all Y is X.” Hence, in order to preserve a true proposition in the converse of a universal affirmative, we must make it a particular, thus the converse of the above propositions should be—



“Some quadrupeds are horses.”
“Some Y is X,”

and they become true enough. *Thus the converse of a universal affirmative must be a particular affirmative.* The *quantity* of the proposition is changed. This is called conversion by *limitation* or “per accidens.” All universal affirmatives, are converted in this way. In the exceptional cases of universal affirmatives that distribute the predicate (page 78), of course simple conversion may be used, forming an exception to this rule.

Third.—By an examination of a particular negative, it will be seen that its subject and predicate can be transposed neither by simple conversion nor by limitation as in the last example. Here then is a peculiar difficulty. We can say, “Some quadrupeds are not horses,” but we cannot convert this *simply*, and say “Some horses are not quadrupeds,” for this would not be *illative* conversion, and the proposition would not

Is ko *aks i mustawí* kahte hain.

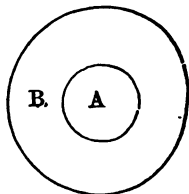
Doyam.—Agar ham qaziya i hamliya kí *cháron súra-ton* ká *aks isí tarah* par banáná *cháhen*, to nahín ho saktá hai ; jaisá ki *mújiba i kulliyá*,

“*Sab ghoré chaupáe hain;*”

agar is ká *aks usí tariqe* par banáyá *cháhen*, to sahíh na hogá. Maslan, agar koí kahe, ki “*sab chaupáe ghoré hain,*” to sahíh nahín hai, kyúnki bahut *chaupáe ghoré nahín hain.*

Dúsrí misál, “*sab A. B. hai,*” is ká *aks yún nahín ho saktá*, ki “*sab B. A. hai,*” kyúnki A. ke siwá B. men bahut aur wasat hai. Pas is

wáste ki *mújiba i kulliya* ke aslí manon men *farq na áwe* us ká *aks mújiba i juziya* hogá ; maslan,—



“*Baz chaupáe ghoré hain.*”

“*Baz B. A. hai.*”

Pas ámm qáida yih *thahrá*, ki *mújiba i kulliya ká aks mújiba juziya átá hai*, yane sirf *kulliyat* aur *juziyat* men *farq á játá hai*

Is ko bhí *aks i mustawí* kahte hain.

Jánná *cháhiye* ki jis mauqe par *mújiba kulliya ká mahmúl*, ámm qáide ke *khiláf kullí hotá hai*, (*Dekho safha 79,*) *qaziya ká aks kullí áwegá.*

Seyum. Agar ham *cháhen*, ki *sáliba i juziye ká aks in donon men se kisí ke bamújib banáwen*, to sahíh na hogá. *Yahán* par ek *diqqat* hai. Agar ham *yún bolen*, ki—

“*Baz chaupáe ghoré nahín hain,*”

to is ká *aks yún nahín ho saktá hai*, ki—

“*Baz ghoré chaupáe nahín hain,*”

kyúnki yih sahíh nahín hai ; aur agar *sáliba i kulliya banáwen*, maslan “*Sab ghoré chaupáe nahín hain,*” tau

be true. Nor does it make truth to convert the particular into a universal, and say

“All horses are not quadrupeds.”

Hence some writers on logic say that the particular negative cannot be converted. But this particular negative can be converted by a peculiar process. If we detach the negative particle from the copula, and attach it to the predicate, the proposition really becomes a particular affirmative, and may readily be converted by limitation, thus,—

“Some quadrupeds are *not-horses*.”

“Some X is *not-Y*.”

Here we have changed the quality of the proposition and have really a particular affirmative with the term “not-horses” for its predicate which may then be converted by limitation, thus—

“Some *not-horses*, are quadrupeds”

or plainly expressed,

“Some animals *not-horses*, are quadrupeds,”

which is true enough. Thus also—

“Some men are *not-poets*,”

“Some *not-poets* are men.”

This is called, *conversion by negation*, or *contraposition*.

3. Thus, there are three regular kinds of conversion by means of which every proposition may be converted. An examination of the process of conversion, shows that a term undistributed in the *exposita*, remains undistributed in the *converse*. The predicate of the affirmative proposition, “all horses are quadrupeds”—is undistributed, because affirmatives do not distribute the predicate.* Hence, when we convert illatively and the predicate becomes the subject, it must be undistributed, and we get, “some quadrupeds are horses.”

* Except in certain unusual cases. See p. 78

bhí durust na hogá. Is liye baz mantiqín kahte hain, ki sáliba juziya ká aks nahín ho saktá hai.

Táham is ká ek tarah ká aks ho saktá hai. Agar ham harf i nafi ko, nisbat i hukmiya se alag karke, us ko mahmúl ká ek juz kar den, to is súrat men qaziya i mújiba juziya ho jáegá, aur is ká aks ho jáegá; maslan,—

“Baz chaupáe ghore nahín hain.”

Ab harf i nafi ko nisbat i hukmiya se alag karke, mahmúl ká juz banána cháhiye, yane—

“Baz chaupáe, ná-ghore (yane gair i asp) hain.”

Is ká aks yún hogá, ki

“Baz gair i asp, chaupáe hain,”

yane, baz jánwar jo ghore nahín hain, chaupáe hain. Dúsrí misál is kí:—

“Baz ádmí, sháir nahín,”

Is ká aks yún na hogá, ki

“Baz sháir, ádmí, nahín hain.”

Lekin agar harf i nafi, mahmúl ká juz ho jáe, us súrat men us ká aks ho jáegá, jaisá ki

“Baz gair i sháir, ádmí hain.”

Is ko aks i naqíz kahte hain.

3. Garaz ki aks tín taur par hotá, yane do tarah ke aks i mustawí, aur ek aks i naqíz hai, jin ke zariya se har qaziye ká aks ho saktá hai. Qaziye ke aks karne ke tariqe jo hain, un par agar gaur kiyá jáwe, to malúm hotá hai, ki mauzú o mahmúl i juzí, bad aks ke bhí juzí rahtá hai; Maslan,—

“Sab ghore chaupáe hain.”

Is ká mahmúl “chaupáe” jo hai, juzí hai, kis wáste

So of every proposition, and we get the rule for conversion—

No term must be distributed in the converse that was undistributed in the exposita.

Conversion is of three kinds, { 1 Simple conversion.
2 Conversion by limitation.
3 Conversion by negation or
contraposition.

ki qaziya i mújiba ká mahmúl kulliya nahín hotá hai.
Pas agar aks kiyá jáwe, to yún hogá,

“Baz chaupáe ghore haiq,”

aur ámm qáida yih thahrá, ki

*Jo mauzú yá mahmúl ki juzí hai, bad aks ke bhí juzí
rahtá hai.*

Aqsám i Aks { 1 Aks i Mustawf.
 { 2 Aks i Naqiz.

SECTION IV.

www.libtoo**O**pposition.

1.—Opposition in propositions, is the relation between any two, which having the same subject and predicate, differ in quantity, or quality, or both. Thus—

One may deny in whole or in part what the other affirms, *e. g.*

All X is Y, opposed by $\begin{cases} \text{No X is Y.} \\ \text{Some X is not Y.} \end{cases}$

One may affirm, in whole, or in part, what the other denies, *e. g.*

No X is Y, opposed by $\begin{cases} \text{All X is Y.} \\ \text{Some X is Y.} \end{cases}$

One may affirm in whole, what the other affirms in part, *e. g.*

All X is Y, opposed by some X is Y.

One may deny in whole what the other denies in part, *e. g.*

No X is Y, opposed by Some X is not Y.

Now, as there are four forms of categorical propositions, *universal, particular, affirmative, negative*, and any two of these may be opposed, it is plain that with the same subject and predicate, there are four kinds of opposition, as is seen in the above statement.

If two universal propositions differ in *quality* only, they are called *contraries*,

as $\begin{cases} \text{Every X is Y.} \\ \text{No X is Y.} \end{cases}$

If two particular propositions differ in *quality* only, they are called *subcontraries*,

as $\begin{cases} \text{Some X is Y.} \\ \text{Some X is not Y.} \end{cases}$

FASL IV.

NAQÍZ KE BAYÁN MEN.

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I.—*Naqíz us ko kahte hain, ki do qazion ká mauzú o mahmúl ek hí rahe, magar kulliyat o juziyat, yá íjáb o salb, (yañe kam o kaif) yá donon men ikhtiláf ho. Maslan,*

1. Agar auwal qaziya mújiba i kulliya ho, to dúsrá us kí naqíz sáliba i kulliya ho yá juziya. Jaise sab A. B. hai.

Naqíz, { Sab A. B. nahín hai.
Baz A. B. nahín hai.

2. Agar auwal qaziya mújiba kulliya yá juziya ho, us kí naqíz sáliba i kulliya ho; maslan,

Sab A. B. hai, } Naqíz, koí A. B. nahín hai.
Baz A. B. hai, }

3. Agar auwal qaziya mújiba i kulliya ho, to us kí naqíz mújiba i juziya ho. Maslan, sab A. B. hai. Naqíz, baz A. B. hai.

4. Agar auwal qaziya, sáliba i kulliya ho, to us kí naqíz sáliba i juziya hai. Koí A. B. nahín hai. Naqíz, baz A. B. nahín hai.

Qaziya i hamliya kí chár súraten hain, yañe, mújiba i kulliya, aur mújiba i juziya, aur sáliba i kulliya, aur sáliba i juziya; pas chúnki in charon men se koí do muqábale men ho sakte hain, is se yih zahir hai, ki mauzú o mahmúl kí naqíz chár tarah par hotí hai:—

Pahle.—Do kulliyé faqat íjáb o salb men mutanáqiz hon. Misál,

Sab A. B. hai.
Naqíz, Koí A. B. nahín hai.

Dúsré.—Do juziye, sirf íjáb o salb men mutanáqiz hon.

Misál, Baz A. B. hai.
Naqíz, Baz A. B. nahín hai.

If two propositions agree in *quality*, but differ in *quantity*, they are not actually opposed to each other, and are called *subalterns* :

as $\left\{ \begin{array}{l} \text{Every X is Y.} \\ \text{Some X is Y.} \end{array} \right.$ or $\left\{ \begin{array}{l} \text{No X is Y.} \\ \text{Some X is not Y.} \end{array} \right.$

If two propositions differ both in *quality* and *quantity*, they are called *contradictories* :—

as $\left\{ \begin{array}{l} \text{Every X is Y.} \\ \text{Some X is not Y.} \end{array} \right.$ and $\left\{ \begin{array}{l} \text{No X is Y.} \\ \text{Some X is Y.} \end{array} \right.$

Or to state this matter in another way :—

Universal affirmatives, opposed to universal negatives, are *contraries*.

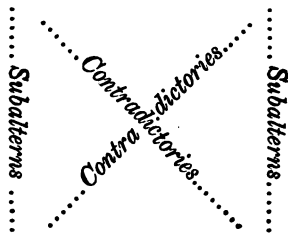
The two particulars opposed, are *subcontraries*.

The two affirmatives or the two negatives opposed, are *subalterns*.

Two propositions opposed both in *quality* and *quantity*, are *contradictories*.

The four kinds of opposition may be illustrated by a figure thus,

All men are mortal.....A.....Contraries.....E.....No men are mortal.



Some men are mortal.....I.....Subcontraries.....O.....Some men are not mortal.

2. Opposition is a form of immediate inference in which, from the truth or falsity of one proposition, the truth or falsity of another proposition, having the same subject and predicate, may be inferred. By recollecting what was said on the *truth* or *falsity* of propositions under the head of *matter*, an inspection of the above scheme shows that,—

Tisre.—Do qaziye, íjáb o salb men muwáfíq hon ma-
gar kulliyat o juziyat men mutanáqiz hon. Magar aisí
naqíz, hálánki haqíqí nahín hai, phir bhí ek tarah ká
tanáquz is men páyá játá hai.

Misál, Sab A. B. hai,
Naqíz, Báz A. B. hai,

Misál, Koí A. B. nahín hai.
Naqíz, Báz A. B. nahín hai.

Chauthe.—Do qaziye, íjáb o salb, aur kulliyat aur
juziyat, donon men mutanáqiz hon,

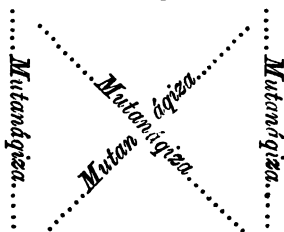
Maslan, Sab A. B. hai.
Naqíz, Báz A. B. nahín hai.
Yá Koí A. B. nahín hai.
Naqíz, Báz A. B. hai.

Garaz ki mukhtasar bayán yún hai ki

mk. aur *sk.* mutanáqiz.
mj. aur *sj.* mutanáqiz.
mk. aur *mj.* mutanáqiz.
sk. aur *sj.* mutanáqiz.

In cháron qism kí naqíz kí shakl zail men mastúr hai.

Sub insán fání hai.....*Mk.*.....Mutanáqiza.....*Sk.* Koí insán fání nahín hai.



Báz insán fání hai.....*Mj.*.....Mutanáqiza.....*Sj.* Báz insán fání nahín hai.

II.—Bahs i mádde men sidq o kizb qazion ká jo
bayán ho chuká hai, agar yád ho, aur shakl i mazkúra i
bálá par bhí liház rahe, to małúm hogá, ki :—

If one *contrary* is true, the other must be false, but—

If one *contrary* is false, the other *may* be false also.

If one *subcontrary* is false, the other must be true, but—

If one *subcontrary* is true, the other *may* be true also.

If, in *subalterns*, the universal is true, the particular must be true.

But in *subalterns*, if the particular be true, the universal may or may not be true.

If, in *subalterns*, the particular is false, the universal must be also.

If one *contradictory* is true, or false, the other must be just the opposite.

This may be summed up in three rules, thus—

Contraries may both be false, but never both true.

Subcontraries may both be true, but never both false.

Of *contradictories*, if one be false the other must be true, and *vice versâ*.

These points in regard to *opposition*, should be well kept in mind. In logic we may thus learn how far the truth or falsity of one proposition, may be inferred from the truth or falsity of another.

Agar ek kulliya sádiq hai, dúsrá zarúr kázib hai.

Agar ek kulliya kázib hai, to mumkin hai, ki dúsrá bhí kázib ho.

Agar ek juziya kázib hai, to dúsrá zarúr sádiq hai.

Agar ek juziya sádiq hai, to mumkin hai, ki dúsrá bhí sádiq ho.

Agar do mújibon yá sálibon ke bích men kullí sádiq hai to juzí bhí zarúr sádiq hai.

Agar do mújibon yá do sálibon ke bích men juzí sádiq ho, to kuchh zarúr nahín ki kullí bhí sádiq ho.

Agar do mújibon yá sálibon ke bích men juzí kázib ho, to kullí bhí zarúr kázib hogá.

Agar do qaziye, kulliyat o juziyat, íjáb o salb men mutanáqiz hon, to agar ek sádiq yá kázib ho, to dúsrá k̄hiláf us ke hogá.

Tín qáida i zail kull bayán mazkúra ko jáme hai :

Pahle.—Do kulliyon ká kázib honá mumkin, lekin donon ká sádiq honá gair-mumkin hai.

Dúsré.—Do juzion ká sádiq honá mumkin, lekin kázib honá gair-mumkin hai.

Tísre.—Un do qazion men, jo maukhtalif hon, íjáb o salb, aur kulliyat o juziyat men, agar ek sádiq yá kázib ho, to dúsrá us ke k̄hiláf hogá.

Naqíz kí bahs men jo qáide maǎlúm húe, un ko khúb zihn-nishín karná cháhiye, kyúnki in hí ke zaríe se maǎlúm hotá hai, ki ek qaziye ká sádiq yá kázib honá, dúsré par kis tarah mauqúf hai.

RECAPITULATION.

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Having thus gone over the second great division of logic, it may be well to collect what has been said on *propositions*, in a tabular form to be memorized.

A proposition is an act of judgment expressed in words.

A proposition consists of three parts, the *subject*, the *copula*, and the *predicate*.

Divisions of propositions. { Simple and compound.
Affirmative and negative. (quality)
Universal and particular. (quantity)
Categorical and Hypothetical, { Conjunctive.
Disjunctive.

The matter of propositions is of three kinds. { Necessary— (affirmatives)
Impossible— (negatives)
Contingent— (particulars)

RULES FOR MATTER.

1.—In necessary matter all affirmatives are true, and universals false.

2.—In impossible matter all negatives are true and affirmatives false.

3.—In contingent matter all particulars are true, and universals false.

The terms, *i. e.*, the subject and predicate of propositions, are distributed when they are taken universally, non-distributed when only taken in part.

RULES FOR DISTRIBUTION.

1.—All universal propositions distribute the subject.

2.—Particular propositions do not distribute the subject.

3.—All negative propositions distribute the predicate.

4.—Affirmative propositions do not distribute the predicate. *www.libtool.com.cn

The conversion of a proposition consists in transposing its terms, so that the subject becomes the predicate and the predicate the subject.

The original proposition is called the *exposita*, the new one formed from it, the *converse*.

Only *illative* conversion is allowable, *i. e.*, where the truth of the *converse* is implied by the truth of the *exposita*.

Illative conversion is $\left\{ \begin{array}{l} 1 \text{ Simple conversion.} \\ 2 \text{ Conversion by limitation.} \\ 3 \text{ Conversion by negation.} \end{array} \right.$
of three kinds.

RULE FOR CONVERSION.

No term must be distributed in the converse that was undistributed in the exposita.

Propositions are opposed, when having the same subject and predicate, they differ in quality or quantity, or both.

Opposition is of four kinds.

1.—Two universal propositions, differing only in quality, are *contraries*.

2.—Two particular propositions, differing only in quality, are *subcontraries*.

3.—Two propositions agreeing in quality, but differing in quantity, are *subalterns*.

4.—Two propositions, differing both in quantity and quality, are *contradictories*.

RULES FOR OPPOSITION.

1.—*Contraries* may both be false, but never both true.

* The exceptions on page 78 must be kept in mind.

Tisrá.—Qaziya i sáliba ká mahmúl kullí hotá hai.

Chauthá.—Qaziya i mújiba ká mahmúl juzí hotá hai. *

8.—*Aks* us ko kahte hain, ki qaziya ke mauzú ko mahmúl, aur mahmúl ko mauzú karná.

9.—*Aks* i sahíh wuh hai, jis men asl qaziya ke manse se ikhtiláf na ho.

10. *Aks* do tarah par hotá hai.

Aks, { *Mustawí*
 { *Naqíz.*

11. *Qáida aks* ká yún hai :—

Jo mauzú yá mahmúl, ki juzí hai, bad aks ke bhí juzí rahe.

12. *Naqíz* us ko kahte hain, ki do qazion ká mauzú o mahmúl ek hí rahe, magar kulliyat o juziyat yá íjáb o salb, yá donon men ikhtiláf ho.

13. *Naqíz* ehár tarah par hotá hai :

Mk. naqíz *Sk.*
Mj. „ *Sj.*
Mk. „ *Mj.*
Sk. „ *Sj.*

14. *Naqíz* ke qawáid :—

Pahle.—Do kullion ká kázib honá mumkin, lekin sádiq honá gair-mumkin.

* Siwás chand mustasniyát ke. Dekho safha 79.

2.—*Subcontraries* may both be true, but never both false.

3.—Of *contradictories*, if one be false, the other must be true, and *vice versâ*.

We now proceed to Part III. of this Book, where *propositions* are gathered into *arguments*, thus completing the subject of logic.

Dúsré.—Do juziõn ká sádiq honá mumkin, lekin kázib honá gair-mumkin.

Tísre.—Un do qazion men, jo mukhtalif hain, íjáb o salb aur kulliyat o juziyat men, agar ek sádiq yá kázib ho, to dúsrá us ke khiláf hogá.

Ab ilm i Mantiq ká tísrá hissa, jis men bahs *dalíl* kí hai, shurú hogá.



PART III.

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SECTION I.

REASONING OR ARGUMENT.

1.—The third operation of the mind with which logic is concerned is *reasoning*. An act of reasoning expressed in words, is called an *argument*.* Every argument consists of two parts, the point to be proven, and that by which it is proven. The term argument, is by some writers, confined to this part alone. It is here used in the more popular way.

The part to be proven is called the *conclusion*, and that by which it is proven the *premisses*. In the logical order, the premisses are stated first, and after them the conclusion, connected by the illative conjunction *therefore*. Thus, an argument:—

Whatever exhibits marks of design, must have an intelligent author.

The world in which we live, exhibits marks of design :
Therefore, The world must have an intelligent author.

Here the first two statements are the *premisses*, and consist of judgments or propositions, in an argument proving that the world has an intelligent Creator. The statement beginning with *therefore*, is the *conclusion*.

* Sir William Hamilton insists that *argumentation*, not argument, should be used for the complex act of reasoning, the argument being that part from which the conclusion is drawn.

HISSA III.

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FASL I.

DALÍL, YAÑE HUJJAT KE BAYÁN MEÑ.

I.—TÍSRÁ amr jis se ilm i mantiq mutaʻalliq hai, *dalíl* yañe hujjat hai. Dalíl, us soch ko kahte hain, jo aise yaqíní muqaddamát se murakkab ho, jin se natíja yaqíní nikle. Masal to maslan :—

Jis chíz meñ kisi tarah ki kárigarí pái játi hai, us ká banánewálá zarúr hai.

Khilqat meñ kárigarí pái játi hai,
Pas, Khilqat ká koi banánewálá zarúr hai.

Dalíl meñ do bāteñ hotí hain, yañe *dáll* aur *madlúl*.

Dáll wuh hai, ki jis ke zariʻa se natíja hásil hotá hai, aur us natíje ko *madlúl* kahte hain. Misál mazkúra e bálá meñ pahle do muqaddameñ ko *dáll* kahenge, aur tísrá, jo un donoñ se hásil húa, *madlúl* hai.

An argument, then, is an expression of reasoning in which, from something laid down and granted as true, i. e., the premisses, something else beyond this, viz., the conclusion, necessarily follows, and must be admitted as true.

The two parts of an argument then, are made up of *propositions*. The propositions in the first part, called the premisses, are as has been seen, admitted to be true, and from them another proposition or other propositions are drawn, which is the *conclusion*, or second part of the argument. Now, logic teaches us to draw from known or admitted propositions, true conclusions.

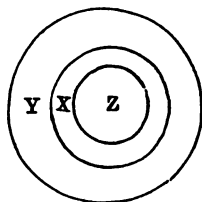
2.—*An argument stated in its full, regular, logical form is called a syllogism.*

In the syllogism, the conclusion follows from the mere force of the expression or arrangement of the propositions, without considering the meaning of the terms. Thus :—

All X is Y.
Z is X.
Therefore Z is Y.

It is manifest that the conclusion must follow whatever the terms X, Y, and Z may stand for, i. e., the conclusion follows from the mere force of the expression, as may be seen by a geometrical figure.

All X is contained in Y.
Z is contained in X.
Therefore Z is contained in Y.



Or to express the same thing in plain propositions.

All men are mortal.
Zaid, Amr, Bakr are men.
Therefore, Zaid, Amr, Bakr are mortal.

Dáll aur *madlúl*, jaisá ki is misál se maḷúm hotá hai, qaziye hai. Qaziya i dálla, yaqíní hote hai, aur un se ek, yá ek se ziyáda qaziye yaqíní hásil hote hai, aur wuh jo hásil hote hai, un ko *madlúl* yá *natíja* kahte hai.

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Ílm i mantiq se yih maḷúm ho játá hai, ki *natíja* i yaqíniya ba zariá muqaddamát i yaqíniya ke, kis tarah par nikálná cháhiye.

II.—Jo hujjat ba tartíb i kámil, bamújib ílm i mantiq ke, bayán kí jáwe, us ko *qiyás* kahte hai.

Qiyás men qaziye is tartíb par hote hai, ki *natíja* khud ba khud hásil hotá hai, bagair samajhne mauzú aur mahmúl ke ; maslan,

A. B. hai.

J. A. hai.

Pas,

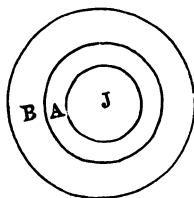
J. B. hai.

Yih sáf záhir hai, ki agarchi in harfon se koí matlab nahín maḷúm hotá hai, magar téham *natíja* yúnhi nikaltá hai. Chunánchi is kí kaifiyat shakl i zail se bakhúbí záhir hai.

A. B. men shámil hai.

J. A. men shámil hai.

Pas J. B. men shámil hai.



Misál दूसरी.—Sab insán fání hai.

Zaid, Amr, Bakr insán hai.

Pas, Zaid, Amr, Bakr fání hai.

Qiyás murakkab hotá hai kull tén qaziyon se jis men pahle ko *kubrá*, aur दूसरे ko *sugrá*, aur तीसरे को *natíja* kahte hai. Pahle do *muqaddamát* kahláte hai. *

* Arabí mantiqín tartíb i *qiyás* men, *sugrá* ko auwal, aur *kubrá* ko us ke niche rakhte hai. Is se *natíja* nikálne men kuchh farq nahín áta.

Arabí mantiqín faqat do *muqaddamaton*, yane *sugrá* o *kubrá* ke is tarah tartíb dene ko, ki *natíja* nikal áwe, *qiyás* kahte hai.

3.—Every simple syllogism, then, consists of three and only three propositions, the first two of which are called the *premisses*, and the last which follows from them is called the *conclusion*. The first proposition in the syllogism is called the *major premiss*, and the second is called the *minor premiss*. Every proposition, as was seen, contains two *terms*, called the *subject* and *predicate*. Now, let it be kept in mind that every syllogism contains three, and only three terms, called the *major term*, *minor term*, and the *middle term*. The *major term* is so called because found in the major premiss, the *minor term* because found in the minor premiss. The *middle term*, which is found in both premisses, is so called because it comes between the other two, and is the medium of comparison between them. Having been thus compared with it, they are declared to agree, or disagree, in the conclusion which thus contains both the major and minor terms. Thus, the syllogism is the comparison of two notions or terms, with a third notion or term, to ascertain whether they agree or not. Suppose the question is whether a certain thing is poisonous or not. In order to ascertain the agreement of the term poisonous, and the thing before us, we compare it with a third thing, *arsenic*, which we know to be poisonous, and find that it contains arsenic, hence we may say that it is poisonous. The syllogism for this would be,

Arsenic is poisonous.
This thing is arsenic.
Therefore, It is poisonous.

The minor term is always the subject of the conclusion, and the major term the predicate.

4.—A few examples of syllogisms are subjoined and analyzed, for practice in the form and elements of the syllogism.

III.—Bayán húa, ki har qaziye men tñ juz, yane mauzú, aur mahmúl, aur nisbat i hukmiya hote hain. Yád rakhná-cháhiye, ki har qiyás men tñ juz hote hain, yane akbar aur asgar aur hadd i ausat. Akbar is sabab se kahte hain, ki wuh kubrá men hotá hai, aur asgar is sabab se kahte hain, ki sugrá men hotá hai. Hadd i ausat ko, jo kubrá aur sugrá donon men pái játi hai, hadd i ausat is sabab se kahte hain, ki goyá wuh akbar aur asgar ke darmiyán men, un kí nisbat batláne ká ek wásta hai. Pas is tarah par hadd i ausat se natíja men ákar małúm hotá hai, ki akbar aur asgar ke bích men muwáfiqat hai, yá ná-muwáfiqat.

Garaz ki qiyás bolte hain do tasauwuron (akbar o asgar) ko tísre ke (hadd i ausat) sáth miláne ko, táki małúm ho jáwe, ki in donon tasauwuron men muwáfiqat hai yá nahín.

Maslan koí sawál ho, ki fulání chíz zahr hai ki nahín? Ab yahán par tísri chíz se, jaise sankhiyá, jis ko ham jánte hain ki zahr hai us shai ko jis ká zikr hai, miláenge, táki małúm ho jáwe, ki yih shai bhí zahr hai ki nahín? Agar małúm ho jáwe ki yih shai sankhiyá se muwáfiqat rakhtí hai, to małúm húa ki zahr hai. Pas qiyás yún hogá,

Sankhiyá zahr hai.

Yih shai sankhiyá hai.

Pas, Yih shai zahr hai.

Wázih ho, ki natíja ká mauzú, asgar, aur mahmúl, akbar hotá hai.

IV.—Chand misálen qiyás kí, bit-tafsíl, zail men, is maqsad ke wáste mundarj kí játi hain, ki mashq barhe.

SYLLOGISM.

Every desire to gain by another's loss, is sin.

All gaming, is a desire to gain by another's loss.

Therefore, All gaming is sin.

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Here are three propositions; the first is the major premiss, the second the minor premiss, and the last the conclusion.* Each proposition has its subject and predicate connected by a copula. In the first proposition, or major premiss, the subject is "every desire to gain by another's loss," the predicate is "sin." In the second proposition, called the minor premiss, the subject is, "all gaming," and the predicate is, "a desire to gain by another's loss." In the last proposition, called the conclusion, "all gaming" is the subject, and "*sin*" is the predicate. By observing, it will be seen that the syllogism really contains only three terms, *i. e.*, "desire to gain by another's loss," "sin;" and "all gaming." "Desire to gain by another's loss," is the middle term, being that with which the other two terms are compared. "Sin" in the major premiss, is the major term, and "all gaming," in the minor premiss, is the minor term. As always must be the case, "all gaming," the minor term, is the subject of the conclusion, and "sin," the major term, is its predicate.

SYLLOGISM.

All murderers deserve death.

Náná sáhib was a murderer.

Therefore, Náná sáhib deserved death.

Here are three propositions, the two first are the premisses, the major and minor, the last is the conclusion.

* The Arabic logicians put the minor premiss first. This does not affect the result in the reasoning process.

Qiyás.

Apne nafa ke wáste, gair ká nuqsán takná, gunáh hai.

Júe men aisá nafa hai, jis kí badaulat gairon ká nuqsán taká játá hai. www.libtool.com.cn

Pas, júá gunáh hai.

Yahán par tín qaziye hain, auwal *kubrá*, दूसरा *sugrá*, तीसरा *natija*; aur har qaziye men mauzú, aur mahmúl, aur nisbat i hukmiya, jo un donon ke darmiyán ek wásta hai, hotí hai. Pahle qaziye, yane kubrá men, “apne nafa ke wáste gairon ká nuqsán takná,” mauzú hai, aur “gunáh,” mahmúl. Dústre qaziye yane sugrá men, “júá” mauzú hai, aur “apne nafa ke wáste gairon ká nuqsán takná,” mahmúl hai. Pichhle qaziye, yane natíje men, “júá” mauzú, aur “gunáh,” mahmúl hai.

Dekhne se malúm hotá hai, ki is qiyás men sirf tín juz hain, pahle, “apne nafa ke wáste gairon ká nuqsán takná,” दूसरा “gunáh,” तीसरा “júá.” “Apne nafa ke wáste gairon ká nuqsán takná,” hadd i ausat hai, jis se do aur juz jo hain miláe játe hain. Kubrá men, “gunáh” akbar hai, aur sugrá men, “júá” asgar hai; aur natíje men, “júá” jo asgar hai, mauzú hai, aur natíje men “gunáh” jo akbar hai, mahmúl hai, jaisá ki natíje men hamesha honá cháhiye.

Qiyás.

Sab khúni wájib ul qatl hain.

Náná Ráo khúni thá.

Pas, Náná Ráo wájib ul qatl thá.

Dekho, yahán tín qaziye hain, jin men pahlá kubrá, दूसरा sugrá, aur तीसरा yane akhír ká, natíja hai. Har

Each proposition has its subject and predicate, yet there are only three terms in the syllogism; first, the middle term "murderer," second, the major term "deserve death," and third, the minor term "Náná sahib." The minor and major terms, are the subject and predicate of the conclusion.

SYLLOGISM.

Avarice is a sin.

Sin leads to hell.

Therefore, Avarice leads to hell.

"Sin" is the middle term, "avarice" is the minor term, "leads to hell" is the major term.

SYLLOGISM.

Middle term.

Every (doctrine tending to bring dishonor on God),

Major term.

(should be rejected.)

Minor term.

Middle term.

The (doctrine of fate), (tends to bring dishonor on God.)

Minor term.

Major term.

Therefore, the (doctrine of fate), (should be rejected.)

5. Let it be remembered that every valid argument may be reduced to a syllogism. It is not necessary that every argument be stated in this form in full, but if an argument is correct, it may be put into this form. Thus if one should deny that the world has an intelligent Creator, one claiming that it has, would bring forth a number of facts to prove that the world is full of *design*, and the proof would be considered valid and

qaziye ká mauzú aur mahmúl judá hai, magar táham haqíqatan qiyás men faqat tín juz hote haiñ, jaisá ki is misál se záhír hai,—ki pahlá *hadd i ausat* “*ḳhúní*,” dúsrá *akbar* “*wájib ul qatl*,” aur tísrá *asgar*, “*Náná Ráo*” hai. Natíja ká mauzú *asgar* hai, aur mahmúl *akbar* hai.

Misál tísrí.

Tamaḡ gunáh hai.

Gunáh ká anjám dozaḳh hai.

Pas, Tamaḡ ká anjám dozaḳh hai.

Is misál men “*gunáh*” *hadd i ausat*, aur “*tamaḡ*” *asgar*, aur “*anjám dozaḳh*,” *akbar* hai.

Misál chawthí.

Hadd i ausat.

Akbar.

(Jis masle men *Ḳhudá* kí be-tazímí pái játí hai), (*Radd karná cháhiye.*)

Asgar.

Hadd i ausat.

(*Qismat ke masle men*), (*Ḳhudá kí be-tazímí pái játí hai.*)

Asgar.

Akbar.

Pas, (*Qismat ke masle ko*), (*radd karná cháhiye.*)

V. *Jánná cháhiye*, ki har dalíl yá hujjat, ba súrat i qiyás ho saktí hai, magar kuchh zarúr nahín ki jo dalíl bi áinihí isí súrat par kí jáe, to sahíh ho, warna nahín; lekin yih hai ki dalíl agar sahíh ho, to is súrat par bayán ho saktí hai. Maslan koí inkár kare, ki *ḳhilqat ká Ḳháliq* koí nahín hai, aur ek kahe ki hai, aur *ḍawá karnewálá Ḳhudá* ke wujúd kí chand misálen is amr kí sihhat men pesh kare, ki *dunyá men koí chíz ḳháli* az hikmat nahín hai. Pas yih subút i kámil, aur dalíl i sahíh hai, hálánki ba súrat i qiyás

the argument good, although one point is left out, namely that *whatever contains design has an intelligent Creator*. Now this argument stated in full and reduced to a syllogism would be—

Whatever contains design, has an intelligent Creator.
The world contains design.

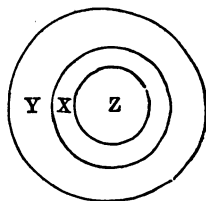
Therefore, The world has an intelligent Creator.

The syllogism then, is a kind of touch-stone that may be applied to all arguments to test their quality of truth or falsity. Or it may be represented as a straight-edge, which applied to arguments, shows them to be straight and truthful or crooked and erroneous.

6. The syllogism in the first figure, a term to be explained hereafter, is founded on what is called *Aristotle's dictum*. The dictum is—

*Whatever is predicated of a universal term or class may be predicated of any or all things contained in that term or class.**

This may be stated more at length thus: If we predicate, *i. e.*, affirm or deny that something belongs to any term or class, and then show that something comes under that term or class, we may likewise predicate, *i. e.*, affirm or deny of it what is affirmed or denied of the term or class. Thus if we show (predicate), that All X is contained in Y, and then show (predicate) that Z is contained in X, we may predicate that Z is contained in Y, as seen in the figure.



Nothing can be more simple and plain than this law of thought. If we affirm or deny something of an

* This dictum as Hamilton, Mill, and other noted logicians have shown is not the sole law of syllogistic reasoning. Mill objects to the use of this celebrated dictum, as savouring of realism, *i. e.*, as implying that the class has a real existence, separate from individuals.

nahín; kyúñki ek bát rah gaí, yañe jis chíz men hikmat páí játí hai, us ká hakím zarúr hogá.

Ab agar yih dalíl púrí bayán kí jáwe, aur ba tartíb i qiyás likhí jáwe, to yún hogí: ol.com.cn

Jis chíz men kuchh hikmat páí játí hai, us ká hakím zarúr hogá.

Khilqat men tarah tarah kí hikmat páí játí hai.
Pas dunyá ká hakím zarúr hogá.

Małúm karná cháhiye ki qiyás, dalíl ke sidq o kizb ke parakhne kí kasautí hai.

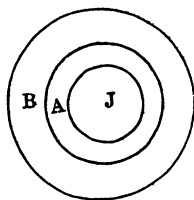
VI. Biná i qiyás Aristátálís ke qaul par hai, aur wuh qaul yih hai, ki—

“Jo kuchh kisi kullí kí nisbat kahá jáwe, us ke sab afrád par bhí sádiq áwegá.

• Is ká mufassil bayán yún hai, ki agar kisi kullí yá jins kí nisbat kuchh kahá jáe, khwáh íjáb ke sáth yá salb ke sáth, aur yih dekhá jáwe, ki is kullí yá jins men fulání fulání fard dákhil hai, to is súrát men jo kuchh is kullí yá jins kí nisbat kahá gayá hai, wuh us chíz yá fard kí nisbat jo us men dákhil hai, kahá jáwe. Maslan agar koí kahe, ki—

Sab A. B. men dákhil hai, aur małúm kare, ki

Sab J. A. men dákhil hai to wuh kah saktá hai, ki Sab J. B. men shámil hai.



Garaz yih ki jo kuchh kisi kullí kí nisbat kahá jáwe, us ke kull afrád kí nisbat kahá jáwe. Yih qánún bahut

entire class of things, and then prove or assert that a certain thing comes under this class, we may justly affirm or deny the same of it. The term or class here spoken of, is the "middle term" of the syllogism.

7. *Logical Axioms and Rules for the Syllogism.*

Every correct syllogism agrees with certain rules. It was stated that every syllogism contains three and only three terms, the major, the minor, and middle with which the major and minor are compared.

AXIOMS.

(1.) *If two terms agree with one and the same third they agree with one another.*

(2.) *If one term agrees with, and another disagrees with the same third, these two disagree with one another.*

The third term, of these axioms, is the middle term in a syllogism.

From these two axioms, several rules are drawn for testing the validity of syllogisms.

RULE.—1. *If both premisses of a syllogism are affirmative, the conclusion must be affirmative.*

This comes from the first axiom, because if the major premiss be affirmative, *i. e.*, expresses the agreement of the *major* term with the *middle*, and the minor premiss also be affirmative, expressing the agreement of the *minor* term with the *middle*, it is plain that the conclusion in which these two terms are compared with each other must be affirmative, *i. e.*, it must express their agreement with each other, because they were affirmed to agree each with the same third or middle term. Thus, if we affirm that "All intelligent beings were made to serve God," (major premiss) and also we affirm that "Angels are intelligent beings," we (minor premiss) must affirm in the conclusion that "Angels were made to serve God."

sáf o sahl hai. Agar ham kisi kullí kí nisbat kuchh bolen phir bad is ke sábit karen, ki fulání chíz is kullí men dákhil hai, to albatta us chíz kí nisbat bhí usí tarah kahná wájib hogá.

Khiyál rakhná cháhíye, ki yihí kullí, qiyás men *hadd i ausat* hotí hai.

VII. Har qiyás i sahl, muwáfiq chand qawáid i muqarrar ke hotá hai. Yih bayán ho chuká hai, ki har qiyás men tén juz hain, yané *akbar, asgar, aur hadd i ausat*, jis se akbar aur asgar ko miláte hain.

QIYÁS KE QÁNÚN I BADÍHÍ.*

1.—Agar do juz kisi tísre juz ke mutábíq hon, to ápas men mutábíq hain.

2.—Agar ek juz mutábíq, aur dúsrá juz gair-mutábíq ho kisi tísre juz ke, to yih donon ápas men gair-mutábíq hain.

Tísre juz se murád hadd i ausat hai.

In do qánún i badíhí se chand aise qawáid nikalte hain, jin se qiyás kí sihhat bakhúbí ma'lúm ho játi hai.

PAHLÁ QÁIDA.—Jis qiyás men *kubrá aur sugrá mújiba* hain, natíja bhí mújiba hogá.

Yih qáida pahle qánún se nikaltá hai, kyúnki agar *kubrá mújiba* ho, yané akbar hadd i ausat se mutábíq ho, aur *sugrá* bhí mújiba ho, yané asgar mutábíq ho hadd i ausat ke, to sáf záhír hai, ki natíja bhí jis ke donon juz ek dústre ke muqábil hain, zarúr mújiba hogá, yané donon juz muwáfiq honge, zeráki yih donon mutábíq ho chuke hain tísre juz, yané hadd i ausat ke. Masal to maslan, agar ham kahun, ki

“Sab zí-aql, K̄hudá kí itáat karne ko paidá húe hain.” (*Kubrá*.)

“Firishte zí-aql hain.” (*Sugrá*.)

Pas natíje men yihí kahná paregá, ki

“Firishte, K̄hudá kí itáat karne ko paidá húe hain. (*Natíja*)

* Badíhí wuh hai, ki bagair fikr o taammul samajh men á jáe.

Here the two terms, "serve God," and "angels," were found to agree with the same third, *i. e.*, "intelligent beings," hence they were declared to agree in the conclusion.

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RULE.—2. *If either of the premisses be affirmative and the other negative, the conclusion must be negative.*

This comes from the second axiom. It is plain that if a term in one of the propositions agrees with, *i. e.*, is affirmed of the middle term, and a term in another proposition disagrees with, *i. e.*, is denied of the middle term, the two not agreeing with the same, cannot agree with each other, hence a negative conclusion follows. Thus—

Good men are not liars.

Those who go to heaven are good men.

Therefore, Those who go to heaven are not liars.

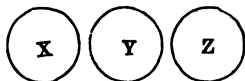
Here the major premiss is negative, *i. e.*, the major term "liars," does not agree with the middle term "good men." The minor premiss is affirmative, *i. e.*, the minor term, "those who go to heaven," is affirmed of the middle term, and hence these two terms agree and the conclusion, "those who go to heaven are not liars," must be negative according to this rule.

RULE.—3. *If both premisses be negatives, we can draw no conclusion.* Thus—

"Zaid is not a diligent student."

"Amr is not a diligent student,"

X is not Y.
Z is not Y.



A statement like this proves nothing.
No relation is established, as is seen in the figure.

Ab yahán par “K̄hudá kí itáat karne ko,” aur “firish-te,” yih donon̄ juz mutábiq tísre juz “zî-aql” ke hain, is sabab se natíje men̄ mutábiq hain̄.

DÚSRÁ QÁIDA.—*Agar kubrá aur sugrá men̄ ek sáliba ho, to natíja zarúr sáliba hogá.* ol.com.cn

Yih qáida dúsre qánún i badsíhí se nikaltá hai. Yih záhir hai, ki kubrá aur sugrá men̄ se kisi ká ek juz agar hadd i ausat se muwáfiqat rakhe, yane mansúb bil-ijáb ho, aur dúsre ká ek juz hadd i ausat ke gair-mutábiq ho, yane mansúb bis-salb ho, to is súrát men̄, yane jab ki ek mutábiq aur dúsrá gair-mutábiq hadd i ausat ke hai, ápas men̄ bhí kisi tarah mutábiqat na hogí: pas natíja sáliba niklegá, jaisá misál se záhir hai.

Nek log, jhúth-bolnewále nahín hain̄.

We jo bihisht ko játe hain̄, nek hote hain̄.

Pas, We jo bihisht ko játe hain̄, jhúthe nahín hain̄.

Is misál men̄ kubrá sáliba hai, yane juz i akbar “jhúth-bolnewále” mutábiqat nahín rakhtá hai “nek log” se, jo hadd i ausat pará hai. Sugrá mújiba hai yane fiqrá, “we jo bihisht ko játe hain̄,” jo juz i asgar hai, mutábiq hai hadd i ausat ke, pas bamújib dúsre qáide ke natíja sáliba nikaltá hai, yane “we jo bihisht ko játe, jhúthe nahín hain̄.”

TÍSARÁ QÁIDA.—*Agar kubrá aur sugrá donon̄ sálibe hon̄, to kuchh natíja na niklegá.* Maslan,

Zaid mihnati tálib i ilm nahín hai.

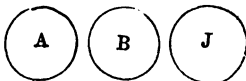
Amr mihnati tálib i ilm nahín.

Is se kuchh natíja nahín nikaltá.

Dúsrí misál :—

A. B. nahín.

J. B. nahín.



It is nothing to the point to say "Zaid is not Amr," for although it is true enough, this does not follow from the premisses, but is simply a fact, not sustained by these two propositions. We must keep in mind that the syllogism is a form of expression in which two terms are compared with each other by means of a middle term ; now, at least one of the terms must agree with the middle term or standard of comparison, or no comparison can be effected between them. We are supposed to be trying to find some relation between these terms, but we can draw no comparison between them, unless at least one of them agrees with the thing by which we propose to measure or compare them. Thus, if we have before us two large stones, and wish to compare them and say what their weight is with reference to each other, we can conclude nothing about them by having a weight put into our hand by which neither of them can be weighed, *i. e.*, with which neither of them agrees. Thus, also if we say—

Zaid is not a diligent student.
Amr is not a diligent student.

We have learned nothing about Zaid and Amr as compared with each other, or in other words, we have failed to establish any relation between them. But if we make one of the premisses affirmative and say,—

A good boy is a diligent student.
Zaid is not a diligent student.

We can compare Zaid with "good boy" and draw the conclusion—

Zaid is not a good boy.

The conclusion thus states the relation between the major and minor term, found out when both or one of them agrees with the *middle*, the term of comparison.

In donon ke darmiyán, yāne “A” aur “J” ke, kuchh nisbat nahín maḷúm hotí hai ki natíja nikle.

Pahlí misál men yih kahne ká mauqa nahín, ki Zaid Amr nahín, kyúñki agarchi filwáqi yih sach hai, magar yahán kubrá aur sugrá se nahín nikaltá, is sabab se, ki qiyás ek aisá bayán hai, jis men do juz ba zariá hadd i ausat miláe játe haiñ aur kam az kam ek juz zarúr hadd i ausat se mutábíq honá cháhiye, warna kisi tarah mutábíqat in donon juzon kí na hogí. Hamen yih daryáft karná cháhiye, ki in donon, yāne akbar aur asgar ke darmiyán kyá nisbat hai; lekin akbar aur asgar ke darmiyán kuchh nisbat maḷúm nahín ho saktí hai, tá waqte ki in donon men se kam se kam ek juz mutábíq hadd i ausat, jo un ko báham dígar miláne yá nāpne ke liye ek paimána hai, na ho. Maslan agar do patthar hon, aur ham daryáft karná cháhen, ki yih donon ba iātibár wazn ke kyá nisbat ápas men rakhte haiñ, aur us waqt men kóí bát aisá maujúd na ho, jis se donon ko taul saken, to un donon ke darmiyán kyá nisbat maḷúm hogí.

Pas agar ham kahen ki

Zaid mihnati tálib i ilm nahín hai.

Amr mihnati tálib i ilm nahín hai.

to is súrat men Zaid aur Amr ke darmiyán kuchh nisbat maḷúm nahín, yāne yih nahín maḷúm hai, ki Zaid Amr se bará hai yá aqlmand hai yá nahín, yá achchhá hai yá burá. Magar ek qaziya agar mújiba ho, maslan—

Zaid mihnati tálib i ilm nahín hai.

Achchhe larke mihnati hote haiñ.

Yahán par chúñki “Zaid” kí, “achchhe larke” ke sáth tarkíb ho saktí hai, is jihat se natíja yún nikaltá hai,—

“Zaid achchhá larke nahín hai.”

Garaz ki natíja us nisbat ko zāhir kartá hai, jo akbar aur asgar ke darmiyán hotí hai, aur yih nisbat hadd i ausat ke wasíle se maḷúm hotí hai.

RULE.—4. *The middle term must be univocal, i. e., have but one meaning in the premisses.*

The reason is, that in the syllogism a comparison is effected, as before stated and illustrated, between two terms by means of a third; the syllogism then, as has been shown, must have only three terms. But if in any syllogism, the middle term is ambiguous, *i. e.*, has one meaning in the major premiss and another meaning in the minor premiss, there are in reality two middle terms, or four terms in the syllogism. To draw a conclusion from such premisses, would be like comparing the length of two staffs, having measured one with a false and one with a true measure, or like comparing the weight of two stones, having weighed one with a false and the other with a true weight.

The following is an example of an ambiguous middle.

Light is contrary to darkness.

Feathers are light.

Therefore, Feathers are contrary to darkness.

Here the word "light" is used in two senses.

This plain example is given simply as an illustration of the ambiguous middle. No one could be misled by such a glaring fallacy, but in many cases of error, the ambiguous middle is not so manifest. For instance, Christians and Mohammedans in arguing about the Trinity, attach different meanings to that word. Mohammedans argue that Christians teach a plurality of Gods and hence they are blasphemers. Their argument thrown into the form of a syllogism would run thus—

The doctrine of the Trinity, implies a plurality of Gods.

Christians hold to the doctrine of the Trinity.

Therefore, Christians hold to a plurality of Gods.

Here the middle term "doctrine of the Trinity," is ambiguous. As urged by the Mohammedans in the major

CHAUTHÁ QÁIDA.—*Hadd i ausat zarúr mufrad honá cháhíye, yane kubrá aur sugrá men, us ke sirf ek hí mane hon.*

Is ká sabab yih hai, ki ba wasile hadd i ausat ke, *akbar aur asgar* ko miláte hain, pas zarúr hai, ki har qiyás men sirf tñn hí juz hon, lekin agar kisí qiyás men hadd i ausat mushtarak ho, yane kubrá men aur mane liye jáwen, aur sugrá men aur, to is súrát men dar haqíqat do hadd i ausat, yane chár juz ek qiyás men ho jáwenge, hálánki cháhíye yih thá, ki sirf tñn juz hon.

Aise muqaddamát se, jin men do hadd i ausat hon, natíja nikálná aisá hai, jaise do dandon men se ek ko púre gaz se, aur dúsre ko aise gaz se jo púrá na ho, nápkar donon ke túl ko milána, yane yih daryáft karná, ki yih donon ba iatibár túl ke kyá nisbat ápas men rakhte hain; yá jaise do pattharon men se ek ko púre bát se, dúsre ko kamtar bát se taulná, aur phir muqábala karná donon ká is tarah par ki áyá ek dúsre se kitná bará yá chhotá hai yá barábar.

Misál i auwal, hadd i ausat i mushtarika.

Til ek qism ká anáj hai.

Aksar ádmion ke munh par til hotá hai.

Pas, Aksar ádmion ke munh par anáj hotá hai.

Is misál men lafz “til” ká, do manon par mustamal hai.

Misál dúsri:—

Buqhár ek bímári hai.

Tálábon se buqhár ughtá hai.

Pas, Tálábon se bímári ughtí hai.

In misálon men sáf malúm hotá hai, ki hadd i ausat mushtarak hai. Koi aisi saríhi galatíon men na paregá,

premiss, it means one thing, and as held by the Christians in the minor premiss, it means another thing. Christians mean by the Trinity, three divine personalities or existences in one God-head, constituting a Trinity in unity, *i. e.*, one God with three personalities, the *mode* of which they do not claim to understand.

The same ambiguity sometimes occurs in the word *faith*. Christians argue that faith in God is pleasing to him, and insures salvation. Hindus urge that they have faith in God, and therefore will obtain salvation. Their claim put in the form of a syllogism would run thus—

Faith in God procures salvation.
Hindus have faith in God.
Therefore, Hindus procure salvation.

Here the middle term "faith in God," is ambiguous, for, as used by Christians, it includes more than as used by the Hindus. As used by one, it means a proper conception of God's character, trust in him, obedience to him; by the other it means simply a belief in the existence of God. The meaning of the middle term then, should be uniform in the premisses, *i. e.*, it should have but one meaning in a syllogism.

RULE.—5. *The middle term must be distributed at least once in the premisses.*

The reason of this is, if the middle term be not distributed at least once in the premisses, it does not become a reliable medium of comparison between the major and minor terms; for if the middle term be not distributed at least once, *i. e.*, if one of the terms be not compared with the whole of it, it might happen that the major term was compared with one part of the, middle and the minor term with a totally different

lekin bahut jagah aisá hotá hai, jahán sáf nahín ma'lúm hotá hai, ki hadd i ausat mushtarak hai yá nahín? Maslan, Ísáí aur Musalmán bar waqt i mubáhiise taslís ke, mukhtalíf mañe taslís ke lete hain. Musalmán dawá karte hain, ki Ísáí jamá'at i K̄hudá ke qáíl hain, is sabab se káfir hain; pas ba iatibár us mañe taslís ke, jo Musalmán qarár dete hain, agar dalíl ba súrát i qiyás, murattab kí jáwe, to yún hogí :—

Taslís se jamá'at K̄hudá kí sábit hotí hai.

Ísáí taslís ke qáíl hain.

Pas, Ísáí jamá'at i K̄hudá ke qáíl hain.

Yahán par hadd i ausat, yañe “taslís” mushtarak hai; jo mañe taslís ke kubrá men Musalmán qarár dete hain, aur hain, aur jo mañe taslís ke Ísáí sugrá men qarár dete hain wuh aur hain. Ísáíon ká aqída yih hai, ki taslís bá tauhíd hai, yañe K̄hudá kí wahdáníyat men taslís hai.

Ísí tarah lafz “ímán” men kabhí kabhí shirkat mañon kí hotí hai. Maslan Ísáíon ká dawá yih hai, ki jo shakhs K̄hudá par ímán látá hai, K̄hudá us se rází hotá hai, aur us ko naját detá hai. Hindú kahte hain, ki hamará ímán K̄hudá par hai is sabab se hamarí naját hogí. Pas agar Hindúon ká dawá ba súrát i qiyás bayán kiyá jáwe to yún hogá :—

K̄hudá par ímán láne se naját hásil hotí hai.

Hindú, K̄hudá par ímán rakhte hain.

Pas, Hindúon ko naját hásil hogí.

Yahán par hadd i ausat, “K̄hudá par ímán láná,” mushtarak hai, kyúnki Ísáíon ke yahán “ímán” se yih murád hai, ki K̄hudá kí zát o sífát ko pahchánná, aur us par bharosá rakhná, aur us kí itá'at karní; aur Hindúon ke yahán “ímán láné” se murád yih hai, ki sírf K̄hudá ke wujud ko mánná, aur bas. Garaz qiyás men yih zarúr hai, ki hadd i ausat ke ek hí mañe rahen.

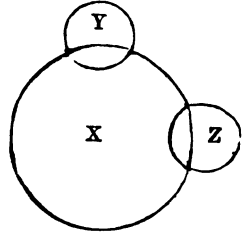
PÁNCHWÁN QÁIDA.—Kubrá aur sugrá men se, ek men to hadd i ausat zarúr kullí honá cháhiye.

Is ká sabab yih hai, ki agar hadd i ausat, na kubrá men kullí ho, aur na sugrá men, to akbar aur asgar ke muqábala karne ká wástá káfi nahín hogá, kyúnki agar hadd i ausat ek men bhí kullí na ho, yañe akbar aur asgar men se agar koí bhí us ke kullí afrád se muqábala na kiyá jáe,

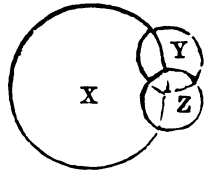
part of it. There would thus really be two middle terms, *i. e.*, the major and minor terms would not be compared with the same thing. Hence the syllogism would have in reality four terms.

This will be plain from a figure.

Some X is Y.
Some X is Z.
Therefore, Some Z is Y.



Here X is not distributed as is seen from the sign "some," and from the figure it is plain that the conclusion does not follow, although it might happen that some Z is Y, as seen in the figure.



The following are syllogisms violating rule 5th.

Some animals are sheep.
Some animals are horses.
Therefore, Some horses are sheep.
White is a color.
Black is a color.
Therefore, Black is white.

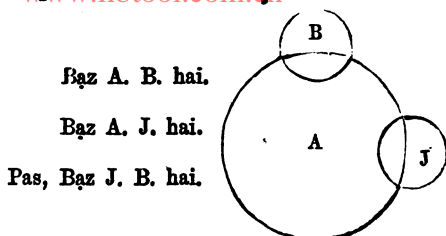
It is manifest that the *middle term* "color," is only taken in part in both premisses, hence the error in the conclusion. The middle term then, must be distributed at least once.

In the syllogism:—

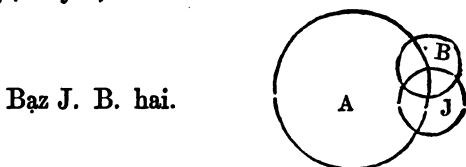
Some men are tyrants.
Some men are learned.
Therefore, Some learned men are tyrants.

—we have an example of a conclusion which is correct though not following from this reasoning.

to sháyad akbar hadd i ausat ke baz ek afrád se, jo bilkull pahle se judá haiñ, muqábala kiyá jáwe, to is súrát men do hadd i ausat húa játe haiñ, yañe akbar aur asgar ek hí juz se muqábala nahín kiye játe, aur us qiyás men chár juz húa játe haiñ. Chunánchi shakl i mundarja i zail se záhir hai.



Is misál men hadd i ausat "A" kullí nahín, chunánchi lafz "baz" se záhir hai, aur shakl se záhir hai ki kuohh zarúr nahín, ki natíja yúnhi nikle, agarchi ittifaqan yih bhí sádiq áwe, yañe yih, ki



Zail men ek misál isí tarah ke qiyás kí mundarij hai :

Baz jánwar bheren haiñ.
Baz jánwar ghore haiñ.
Pas, Baz ghore bheren hai.

Dúsrí misál :

Sufaidí ek rang hai.
Siyáhi ek rang hai.
Pas, Siyáhi sufaidí hai.

Záhir hai, ki is misál men hadd i ausat "rang" jo hai, kubrá sugrá donon men juzí hai, isí jihat se natíja galat nikaltá hai. Pas zarúr hai, ki hadd i ausat kam se kam ek men kullí ho. Is qiyás men, ki—

Baz ádmí zálím haiñ.
Baz ádmí álim haiñ.

Is liye, Baz álim zálím haiñ.
misál aise natíje kí hai jo sahíh hai, magar tartíb i qiyás se yih natíja nahín nikaltá hai.

RULE.—6. *A term must not be distributed in the conclusion that was not distributed in the premisses.*

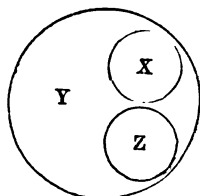
The reason is, that if a term be distributed, *i. e.*, taken entire in the conclusion, which was undistributed or taken but in part in the premisses, things would be compared in the conclusion which were not compared in the premisses, and in reality a fourth term would be introduced into the syllogism, while three is the rule. We can only compare that part of a term with another in the conclusion that was compared with the middle term in the premisses, but if only a part of a term be compared in the premiss, and then the whole of it be compared in the conclusion, something would be introduced that had not been compared before.

A figure will make this error plain.

All X. is Y.

No Z. is X.

Therefore, No Z. is Y.



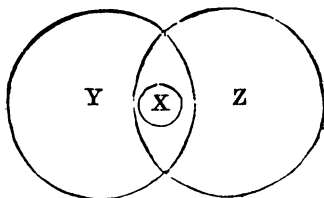
Not true.

Or:—

All X. is Y.

All X. is Z.

Therefore All Z. is Y.



Not true.

In the first of these examples, Y the major term, is not distributed in its premiss because the predicate of an affirmative proposition, *i. e.*, a part only of Y is taken, as much as is included in X. But in the conclusion Y is

CHHATHWÁN QÁIDA.—*Agar Muqaddamát men akbar yá asgar juzí ho, to natíje men bhí juzí honá cháhiye.*

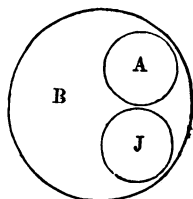
Sabab is ká yih hai, ki agar akbar yá asgar natíje men kullí ho, jab kubrá, aur sugrá men juzí hai, to aisá hogá, ki baz afrád, jo kubrá aur sugrá men muqábala karne ko rah gae the, natíje men ákar muqábala kiye játe hain, pas is súrát men char juz qiyás men ho jáenge hálánki tín honá cháhiye. Natíje men ek juz ke sirf unhín afrád ká dúsre juz se muqábala ho saktá hai, jo kubrá o sugrá men hadd i ausat se muqábala kiye gae the; lekin agar kubrá aur sugrá men usí juz ke sirf baz afrád ká muqábala kiyá gayá ho, aur natíje men ákar kull afrád us ke muqábala kiye jáen, to baz aur afrád, jo peshtar muqábil nahín the, ab á jáenge.

Shakl i zail se yih galatí sáf záhir hai :

Sab A. B. hai.

Koí J. A. nahín hai.

Pas, Koí J. B. nahín hai.



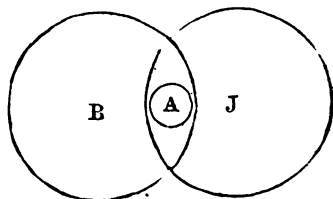
Hálánki haqíqat men J. B. men hai.

Dúsrí misál :

Sab A. B. hai.

Sab A. J. hai.

Pas, Sab J. B. hai.



Yih bhí galat hai, kyúnki sab J. B. men nahín hai. Pahlí misál men B. jo akbar hai juzí hai, is sabab se ki mahmúl pará hai qaziya i mújibe ká, yane jítná hissa B. ká A. men dákhil hai, utná hí le liyá hai, na yih ki kull

distributed because it is the predicate of a negative proposition, *i. e.*, the whole of Y is taken and hence the mistake of saying that no part of Z corresponds with Y.

In the second of these examples the minor term Z is not distributed, *i. e.*, it is taken but in part, because the predicate of an affirmative proposition; but in the conclusion being the subject of a universal, it is distributed; hence the error.

The first example is the same as saying,—

All quadrupeds are animals.
No bird is a quadruped.
Therefore, No bird is an animal.

The second example is,—

All men are sinners.
All men are animate beings.
Therefore, All animate beings are sinners.

Neither of these can be true. If the major term be unduly distributed, it is called “illicit process” of the major, if the minor be unduly distributed it is called “illicit process” of the minor.

RULE.—7. If both premisses are particular, no conclusion can be drawn.

This rule follow from rules 5th and 6th. The reason is plain. We are left without any medium of comparison. Thus a conclusion from particular premisses, would be either a case of “undistributed middle,” or “illicit process.” For instance to say,

Some men are wise.
Some men are foolish,

B. Lekin natíje meṇ B. kullí hai, is sabab se ki mahmúl hai qaziya i sálibe ká, yaṇe kull B. liyá játá hai, pas yih Kahná galat ṭhahartá hai, ki J. kull B. meṇ nahín.

Dúsrí misál meṇ asgar J. juzí hai, yaṇe tamám A. par nahín áyá hai, is sabab se ki mahmúl pará hai qaziya i mújiba ká, magar natíje meṇ ba báis mauzú hone qaziya i kulliya ke, kullí hai, aur yihí báis galatí ká hai.

Pahlí misál meṇ aisí galatí hai, goyá koí kahe, ki—

Sab chaupáe haiwán haiṇ.
 Koí parand chaupáya nahín hai.
 Pas, Koí parand haiwán nahín haiṇ.

Dúsrí misál meṇ is tarah kí galatí hai, jaise koí kahe,

Sab insán gunáhgár haiṇ.
 Sab insán haiwán haiṇ.
 Pas, Sab haiwán gunáhgár haiṇ.

Jo akbar ki kubrá meṇ yá asgar ki sugrá meṇ juzí ho, aur natíje meṇ ákar kullí ho jáe, us ko “*kulliyat i ná-jáiz*” kahte haiṇ, pas agar akbar natíje meṇ kullí ho jáe, jis hál meṇ ki kubrá meṇ juzí thá, us ko “*kulliyat i ná-jáiz akbar kí*” kahte haiṇ, aur jo asgar, ki sugrá meṇ juzí thá, aur natíje meṇ kullí ho jáe, us ko “*kulliyat i ná-jáiz asgar kí*” kahte haiṇ.

SÁTWÁN QÁIDA.—*Agar kubrá aur sugrá donoṇ juzí haiṇ to natíja kuchh nahín niklegá.*

Yih qáida pánchweṇ aur chhaṭhweṇ qáida se nikaltá hai. Yih záhír hai, ki jab donoṇ juzí hon, to koí wásta i kámila, akbar aur asgar ke muqábala karne ká na hogá.

Do qaziye juzion se natíja nikálná, do galatíon se khálí na hogá, yá hadd i ausat juzí hogí, yá kulliyat i ná-jáiz akbar yá asgar kí pái jáegí. Maslan koí kahe,

Baz ádmí aqlmand haiṇ.
 Baz ádmí bewaqúf haiṇ.

proves nothing, for we have an undistributed middle and are not justified in saying,—

Therefore, Some foolish persons are wise.

This is the same as to say:—

Some X is Y.

Some X is Z.

Therefore, Some Z is Y.



which is not true.

Again, if we make one of the premisses negative and say,—

Some animals are sagacious.

Some quadrupeds are not sagacious,

we would have an “illicit process” to infer that—

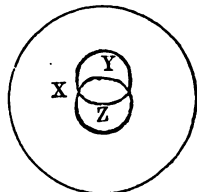
Some quadrupeds are not animals.

The same as to say—

Some X is Y.

Some Z is not Y.

Therefore, Some Z is not X.



There may be exceptions to this rule about particular premisses, in the case of affirmatives that distribute the predicate, as mentioned on page 78; *e. g.*—

Some animals are men.

Some men are wise.

Therefore, Some wise (beings) are animals.

Here the conclusion is correct, and the middle term, although the predicate of an affirmative proposition, is distributed because the “some animals” mentioned, includes all men, so that “men,” in fact is distributed.

RULE.—8. *If one premiss be particular, the conclusion must be particular.*

Is se kuchh natíja nahín nikaltá hai, is sabab se ki hadd i ausat juzí hai, aur bilfarz agar nikalá bhí jáe to yún hogá, ki “Baz bewaqúf ádmí aqlmand hai,” aur yih kahná sahíh nahín, balki aisá hai jaise koí kahe, ki

Baz A. B. hai.

Baz A. J. hai.



Pas, Baz J. B. hai.

Aur agar kubrá aur sugrá men ek sáliba ho, to misál yún hogí :

Baz haiwán hoshiyár hai.

Baz chaupáe hoshiyár nahín hai.

pas natíja nikálná in men se is tarah par, ki

“Baz chaupáe haiwán nahín,”

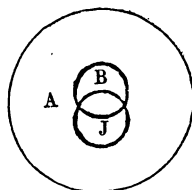
kulliyát ná-jáiz akbar kí hai.

Yih bhí kahná aisá hí hai, ki

Baz A. B. hai.

Baz J. B. nahín hai.

Pas, Baz J. A. nahín hai.



Is 8wen qáide se, hasb i bayán mundarja safhae 79, baz súraten mustasná bhí hai.

Maslan,

Baz haiwán, ádmí hai.

Baz ádmí aqlmand hai.

Pas, Baz aqlmand, haiwán hai.

Yahán natíja sahíh hai, aur hadd i ausat, hálánki qazie mújibe ká mahmúl wáqe húi hai, magar kullí hai, kyúnki “baz haiwán” se maqsúd kull afrád i insán hai, aur fil-haqíqat “ádmí” kullí pará hai.

ATHWÁN QÁIDA.—Agar ek muqaddama juziya ho to natíja zarúr juziya hogá.

The proof of this rule may be thus stated:—
The premiss must be either a particular affirmative, or particular negative.

First case.—Suppose it to be a particular affirmative. Now, as we cannot have two particular premisses in a syllogism (Rule 7), the other premiss must be a universal affirmative or universal negative. Suppose it to be a universal affirmative; then as this distributes only one term, it must be the middle, otherwise this term will not be distributed in the premisses, since the particular affirmative supposed, distributes neither term, (Rule 5). From this reasoning it follows that the major and minor terms, not having been distributed in the premisses, cannot be in the conclusion (Rule 6); and this requirement can only be met in a particular affirmative.

But suppose this universal to be negative, then with a negative premiss there must be a negative conclusion (Rule 2), and as the premisses are by this supposition a particular affirmative, distributing neither term, and a universal negative distributing either the major or minor term, but one term remains that may be distributed in the conclusion (Rule 6); hence it can only be a particular negative as stated in Rule 8th.

Second case.—Having exhausted the case of a particular affirmative, take the other alternative—a particular negative. Now, the other premiss must be affirmative (Rule 3) and universal (Rule 7), *i. e.*, it must be a universal affirmative. In this second case, then, the premisses must be a universal affirmative and a particular negative. These distribute but two of the three terms contained (major, minor, middle) and as one of these must be the middle (Rule 6), but one term is left that may be distributed in the conclusion, which must be

Subút is ká is tarah par hai, ki wuh muqaddama juziya, yá mújiba hogá yá sáliba. Farz karo, ki mújiba juziya ho. To chúnki ek qiyás men (qáida 7) donon muqaddame juziye nahín rakh sakte hain, is waste dúsra muqaddama zurúr mújiba kulliya yá sáliba kulliyá hogá. Farz karo, ki mújiba kulliyá ho, to us men faqat ek juz kullí hogá, aur wuh juz zurúr hadd i ausat honá cháhiye. Warna kisi muqaddame men hadd-i-ausat kullí na rahegá, kyúnki mújiba juziya mafrúza kisi juz kí kulliyat nahín záhir karegá. (Qáida 5.) Is bahs se yih natíja nikaltá hai, ki akbar o asgar donon muqaddamon men kullí wáqi na hone se natíje men kullí nahín á sakenge. (Qáida 6.) Yih bát faqat mújibe juziye men, yane jab ki natíja mújiba juziya ho, pái játí hai. Lekin farz karo, ki wuh qaziya sáliba kulliya ho, to muqaddame sálibe se natíja zurúr sáliba niklegá. (Qáida 2.) Chúnki súrat i mazkúra men do muqaddamat men se ek yane mújibe juziye men koí juz kullí na hogá, aur dúsre yane sáliba kulliyé men ek kullí hogá, khwáh akbar ho yá asgar, to faqat ek juz rah gayá jo natíje men kullí ho. (Qáida 6.) Is wáste wuh qaziya faqat sáliba juziya hí ho saktá hai, jaisá ki qáide 8 men mazkúr húa.

Dúsrí súrat.—Yane agar muqaddama mújiba juziya nahín hai, to sáliba juziya farz karo. Aur jab ek sáliba juziya hai to dúsra muqaddama zurúr mújiba (qáida 3) aur kulliya (qáida 7) yane mújiba kulliya honá cháhiye. Donon muqaddamat men ek mújiba kulliya aur dúsra sáliba juziya zurúr hogá, to donon muqaddame ke tén juzon (yane akbar o asgar o hadd-i-ausat) men se faqat do kí kulliyat záhir hogí. Aur chúnki ek in men se zurúr hadd i ausat honá cháhiye, (qáida 6) to faqat ek juz rah gayá, jo natíje men kullí ho, aur natíja zurúr sáliba hogá, kyúnki ek muqaddama sáliba hai; aur natíja juziya hogá is sabab se ki us

negative because of a negative premiss, and particular, to secure the distribution of but one term. Hence in every case we get Rule 8th as above.*

These eight Rules are for testing the validity of syllogisms. If they are violated by any syllogism, save in the exceptional cases mentioned, we may be sure that it involves an error. Although we cannot point it out clearly at the time, the syllogism may be rejected as faulty. We may not always be able to demonstrate the truth of each rule, just as one may forget the proof of a rule in arithmetic, but the rules should be well committed to memory for ready use in testing every syllogism.

RECAPITULATION.

Every syllogism contains three and only three propositions, called the—

- 1 Major premiss.
- 2 Minor premiss.
- 3 Conclusion.

Every syllogism contains three and only three terms, the—

- 1 Major.
- 2 Minor.
- 3 Middle.

AXIOMS.

1. If two terms agree with one and the same third, they agree with one another.
2. If one term agrees with, and another term disagrees with the same third, these two will disagree with one another.

**Note.*—It may be noted that exceptions to this Rule may occur from affirmatives that distribute the predicate as under Rule 7th. See page 78.

men faqat ek juz juzí honá cháhiye. Is wáste bahar súrat áthwán qáida bihasb i sadr, musallam hai.

Is áthwen qáide ke mustasniyát bhí un mújibát ke sabab se hote hain, jo bihasb qáida n. 7, mahmúl kulliyát bayán karte hain. (Dekho safha. 79.)

Yih áthon qawáid wáste daryáft karne sihhat qiyás ke hain; agar kói qiyás siwáe baz mustasniyát mazkúre qiyás ke, in qawáid ke bamújib na ho, to beshakk galat hogá; agarchi saríhí na ma'lúm ho, ki fulání galatí hai, magar táham galat samajhná cháhiye. Agar subút in qawáid ká har waqt yád na rahe to khair; lekin qawáid ko bakhúbí zihn-nishín karná cháhiye.

MUJMAL BAYÁN.

1.—Har qiyás men sirf tín hí qaziye hote hain, yane *kubrā, sugrā aur natīja*.

2.—Har qiyás men sirf tín hí juz hote hain, yane *akbar, asgar aur hadd i ausat*.

QIYÁS KE QÁNÚN I BADÍHÍ.

Pahle.—Agar do juz kisé tísre juz ke mutábiq hon, to ápas men bhí mutábiq honge.

Dústre.—Agar ek juz mutábiq ho, aur dúsrá gair-mutábiq ho kisé tísre juz ke, to yih donon ápas men gair-mutábiq honge.

RULES FOR SYLLOGISMS.

1. If both premisses of a syllogism are affirmative, the conclusion must be affirmative.
 2. If either of the premisses be negative, the conclusion must be negative.
 3. If both premisses be negative, we can draw no conclusion.
 4. The middle term must be univocal, *i. e.*, have but one meaning in the premisses.
 5. The middle term must be distributed at least once in the premisses.
 6. A term must not be distributed in the conclusion that was not distributed in its premiss.
 7. If both premisses are particular, no conclusion can be drawn.
 8. If one premiss be particular, the conclusion must be particular.
-

QIYÁS KE QAWÁ'ID.

Pahlá qáida.—Jis qiyás men kubrá aur sugrá mújiba hon, to natíja bhí mújiba hogá.

Dúsrá.—Agar kubrá aur sugrá men ek mújiba, aur ek sáliba ho, to natíja zurúr sáliba hogá.

Tísrá.—Agar kubrá aur sugrá donon sálibe hon, to kuchh natíja na niklegá.

Chauthá.—Hadd i ausat zurúr mufrad honá cháhiye, yane kubrá aur sugrá men us ke sirf ek hí mane hon.

Pánchwán.—Kubrá aur sugrá men se ek men hadd i ausat kullí honá cháhiye.

Chhathwán.—Agar kubrá yá sugrá men akbar yá asgar juzí hon, to natíje men bhí juzí honá cháhiye.

Sótwan.—Agar kubrá aur sugrá donon juziye hon, to kuchh natíja na niklegá.

A'hwán.—Agar ek muqaddama juziya ho, to natíja zurúr juziya hogá.

SECTION II.

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FIGURE.

I.—Special attention has not yet been called to the fact, that the syllogism may have a variety of forms, according to the position of the middle term. Sometimes it may seem best and most natural to make the middle term the subject of the major premiss and the predicate of the minor, sometimes the predicate of both premisses, &c. It is not required to be in any particular position, but may take its place in the premisses according to the way the argument strikes the mind of the reasoner. Thus, take the syllogism,—

Good men do not go to hell.
Liars go to hell.

Therefore, Liars are not good men.

This may be stated thus :—

None that go to hell, are good men.
Liars go to hell.

Therefore, Liars are not good men.

In these two syllogisms, the middle term “go to hell,” is the predicate of both premisses in the first example;—in the second example it is the subject of the major and the predicate of the minor premiss.

Figure, is the word used to denote the different positions of the middle term in syllogisms. The subject of figure may seem difficult to the learner, but by a little application it will become plain. It is important to be familiar with it in order to deal readily with the various forms taken by syllogisms.

FASL II.

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SHAKL.

I.—Abhí tak is bát ká kuchh liház na thá, ki bamújib mauqa, aur mahal hadd i ausat ke, qiyás kí kaí súraten hotí haiñ. Báz mauqa aisá hai, ki hadd i ausat ko mauzú gardánná kubrá men, aur mahmúl sugrá men sab se achohhá małúm hotá hai, aur báz mauqa aisá ákar partá hai, ki hadd i ausat kubrá aur sugrá donon men mahmúl hotá hai. Kóí jagah kháss hadd i ausat ke hone kí muáiyán nahín hai, balki jis já par us ká láná dalíl karnewále ke dil ko pasand áwe, wahín par láwegá. Maslan ek qiyás hai, ki

Nek log dozaḡh ko nahín jáwenge.

Jhúṡhe, dozaḡh ko jáwenge.

Pas, Jhúṡhe, nek log nahín hote haiñ.

Aur yún bhí ho saktá hai, ki

Jo log dozaḡh ko játe, nek nahín haiñ.

Jhúṡhe, dozaḡh ko játe haiñ.

Pas, Jhúṡhe, nek log nahín haiñ.

In do qiyás men, hadd i ausat “dozaḡh ko jáná,” pahlí misál men, kubrá aur sugrá donon men mahmúl pará hai. Dúsrí misál men, kubrá men mauzú, aur sugrá men mahmúl pará hai.

Shakl se murád mauqa, aur mahal wáqi hone hadd i ausat ká hai. Agarchi auwal, muṡadí ko shakl ká bayán zará mushkil małúm hogá magar thore hí mashq men baḡhúbí sáf ho jáwegá. Is kaifiyat se ágáh honá niháyat pur-zurúr hai, táki mukhtalif súraten qiyás kí, ba-ásáné tamám istiámál men áwen.

II.—It is plain that the middle term can have but four different positions in the syllogism.

1. It may be the subject of the major premiss and the predicate of the minor, which constitutes the first figure.

2. It may be the predicate of both premisses, which constitutes the second figure.

3. It may be the subject of both premisses, which constitutes the third figure.

4. It may be the predicate of the major premiss and the subject of the minor, which is the fourth figure.

Now, let M represent the middle term, and P the major term, (being the predicate of the conclusion) and S the minor term, (being the subject of the conclusion), and we may represent the four figures thus,—

<i>First Figure.</i>	<i>Second Figure.</i>	<i>Third Figure.</i>	<i>Fourth Figure.</i>
M is P	P is M	M is P	P is M
S is M	S is M	M is S	M is S
S is P	S is P	S is P	S is P.

A syllogism, illustrating each figure, may make this subject plainer. The middle term is enclosed in brackets.

First Figure.

Every (desire to gain by another's loss), is sin.
 All gaming, is a (desire to gain by another's loss.)
 Therefore, All gaming is sin.

Second Figure.

All intelligent men, are (friends to education.)
 Some wealthy men, are not (friends to education.)
 Therefore, Some wealthy men, are not intelligent men.

Third Figure.

Some (good men), are not learned.
 All (good men), are worthy of admiration.
 Therefore, Some who are worthy of admiration, are not learned.

II.—Yih zâhir hai, ki hadd i ausat châr mauḡa par á saktí hai.

Pahle.—Agar hadd i ausat mauzú ho kubrá meṅ, aur mahmúl ho sugrá meṅ, to shakl i auwal hogí.

Dústre.—Agar hadd i ausat kubrá aur sugrá donoṅ meṅ mahmúl wáqi ho, to shakl i doyum hogí.

Tísre.—Agar hadd i ausat donoṅ meṅ mauzú ho, to shakl i seyum kahenge.

Chauthe.—Agar hadd i ausat kubrá meṅ mahmúl ho, aur sugrá meṅ mauzú ho, to shakl i chahárum hogí.

Ab farz karo, ki H. hadd i ausat, aur A. akbar, aur S. asgar ho, to châr shakleṅ is tarah par hongí.

1 <i>Shakl.</i>	2 <i>Shakl.</i>	3 <i>Shakl.</i>	4 <i>Shakl.</i>
H. A. hai,	A. H. hai,	H. A. hai,	A. H. hai.
S. H. hai,	S. H. hai,	H. S. hai,	H. S. hai.
S. A. hai,	S. A. hai,	S. A. hai,	S. A. hai.

Har shakl meṅ ek misál dí játí hai, táki kaifiyat i kullí us kí khul jáwe. Hadd i ausat do lakíron ke bích meṅ hai.

Shakl i auwal.

(Auroṅ ke nuqsán se apná nafaḡ takná), gunáh hai.

(Júá auroṅ ke nuqsán se, apná nafaḡ takná), hai.

Pas, Júá gunáh hai.

Shakl i doyum.

Sab aqlmand ádmí, (ilm ko ázíz jánte haiṅ.)

Baḡe daulatmand, (ilm ko ázíz nahíṅ jánte haiṅ.)

Pas, Baḡe daulatmand ádmí, aqlmand nahíṅ haiṅ.

Shakl i seyum.

(Baz nek ádmí), álim nahíṅ hote haiṅ.

(Kull nek ádmí), qábil i tahsín hote haiṅ.

Pas, Baz ádmí jo qábil i tahsín haiṅ, álim nahíṅ hote haiṅ.

Fourth Figure.

No act of tyranny, is (beneficial to the state.)

Some (things beneficial to the state), are unsuccessful.

Therefore, Some unsuccessful things, are not tyranny.

III.—These four figures must be examined in order, and special rules for them deduced.

FIRST FIGURE.

It will be seen that the First Figure is in the form in which Aristotle's dictum applies to it directly, *i. e.*

Of a whole class, something is predicated.

Something else is included in that whole class.

Hence, Of this something else, the same is predicated.

By using the four categorical propositions according to their *quantity* and *quality*, it will be found that there can be but four variations of the syllogism in the first figure.

<i>First Figure.</i>	<i>Second Figure.</i>	<i>Third Figure.</i>	<i>Fourth Figure.</i>
All M is P.	All M is P	No M is P	No M is P
All S is M	Some S is M	All S is M	Some S is M
All S is P	Some S is P	No S is P	Some S is not P.

Now, the first figure being in the form of "*Aristotle's dictum*," we affirm or deny the predicate of the whole class which is the subject. Hence it is manifest that in the first figure, the major premiss is always a *universal*, consequently any syllogism in this figure with a particular major will be invalid.

Since the minor premiss, according to Aristotle's dictum, always *affirms* that something belongs to the given class, it is plain that in the first figure the minor premiss must always be affirmative, consequently any syllogism in this figure with a negative minor premiss will be invalid.

Thus, two rules have been obtained for the first figure, *i. e.*—

1. *The major premiss must always be universal.*
2. *The minor premiss must always be affirmative.*

Shakl i chahárum.

Koí kám zulm ká, kisi amaldári men nafa i khaláiq nahín.

Baz kám nafa i khaláiq ke jo haiṅ, nahín chalte haiṅ.

Pas, Baz kám jo nahín chalte haiṅ, zulm nahín haiṅ.

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III.—Ab in chár shaklon par ba tartíb gaur karná, aur un ke kháss qáide nikálná cháhiye.

BAYÁN SHAKL I AUWAL.

Záhir hai, ki pahlí shakl kí aisí súrat hai, ki Arastátá-lís ke qaul se fauran parkhí jáe. Maslan, pahlí shakl kí aisí súrat hai, ki us men—

Kullí kí nisbat kuchh kahá játá hai.

Baz chízeṅ us kullí men shámil kí játí haiṅ.

Pas, In baz chízeṅ kí nisbat bhí wuh bát kahí játí hai.

Aur yihí súrat Arastátá-lís ke qaul kí hai.

Qaziya i hamliya kí cháron súratoṅ ko kulliyat o juzi-yat, aur íjáb o salb ke bamújib banáne se ma'lúm hotá hai, ki shakl i auwal men qiyás kí sirf chár súratoṅ ho saktí haiṅ.

1.	2.	3.	4.
Sab H. A. hai,	Sab H. A. hai,	Koí H. A. nahín,	Koí H. A. nahín.
Sab S. H. hai,	Baz S. H. hai,	Sab S. H. haiṅ,	Baz S. H. haiṅ.
Sab S. A. hai,	Baz S. A. hai,	Koí S. A. nahín,	Baz S. A. nahín.

Is wáste ki shakl i auwal, bamújib qaul i Arastátá-lís hai, to mauzú ke kull afrád par mahnúl ká dawá hogá. Pas záhir hai, ki shakl i auwal men kubrá hamesha kulliya hotá hai, isí sabab se agar shakl i auwal men koí aisá qiyás ho, ki jis men kubrá juziya ho, to qiyás bátíl hogá.

Chúnki bamújib i qaul i Arastátá-lís, sugrá men dawá is bát ká hotá hai, ki mauzú us ká, kubrá ke mauzú men shámil hai, is sabab se záhir hai, ki shakl i auwal men sugrá mújiba honá cháhiye. Pas is shakl men koí qiyás kyún na ho, agar us ká sugrá sáliba hai, to wuh galat hogá.

Chunánchi is bayán ke bamújib pahlí shakl ke wáste do qáide haiṅ : (Safha. 145.)

Hence there can be but four forms of syllogism in this figure. The other figures, not being in the form to which Aristotle's dictum applies, must be tested by the axioms and rules for syllogisms.

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SECOND FIGURE.

Taking up the second figure, it is found that the conclusion of syllogisms in it must always be negative, because the middle term is the *predicate* of both premisses, and as it must be distributed in at least one of the premisses, this requires that one of the premisses be negative, since only negatives distribute the predicate. If, then, one of the premisses be negative the conclusion also must be negative according to rule. [p. 116, r. 2.] We may observe further, if the conclusion be negative it distributes its predicate, which in this figure is the subject of the major premiss; hence the major premiss with a subject distributed, will be a universal.

Three special rules are thus obtained for the second figure, *viz.*

1. *The major premiss must be universal.*
2. *One of the premisses must be negative.*
3. *The conclusion must be negative.*

Any syllogism in this figure, which violates these rules is invalid.

THIRD FIGURE.

This figure is of the form, M is P
 M is S
 S is P.

The syllogism as varied by *quantity* and *quality*, may have a greater variety of form in this figure than in any

1.—*Kubrā kā kulliya honā zarūr chāhiye.*

2.—*Sugrā kā mújiba honā zarūr chāhiye.*

Garaz ki is shakl men qiyás kí sirf chár súraten hain, jin kí sihhat Arastátális ke qaul se maḷúm hotí hai; magar aur shaklen chúnki ba súrat i qaul i Arastátális nahín hain, is jihat se zarúr hai, ki jo qawánin i badihí aur qawáid wáste sihhat aqsám qiyás ke, muqarrar hain, un se un kí sihhat daryáft kí jáwe.

BAYÁN SHAKL I DOYUM.

Maḷúm hotá hai, ki shakl i doyum men natíja qiyáson kā zarūr sáliba honā chāhiye, is sabab se, ki sugrā aur kubrá donon men hadd i ausat mahmúl wáqi hotá hai, aur agar kubrá o sugrā donon mújibe hon, donon men hadd i ausat juzí hogá, hálánki chāhiye yih thá, ki ek men kullí ho. Is wáste zarūr hai, ki ek qaziya sáliba ho, kyúnki sálibon kā mahmúl kullí hai. Pas agar kubrá aur sugrā men se ek sáliba ho, to natíja bhí bamújib qáide i mazkúra, zarūr sáliba hogá. [*Saf.* 117; *Q.* 2.]

Aur aláwa is ke agar natíja sáliba ho, to us kā mahmúl jo is shakl men kubrá kā mauzú wáqi húa thá, kullí hogá. Pas kubrá kulliya hogá. Liházá bamújib bayán i mazkúra e bálá, dúsrí shakl ke liye tín qáide nikalte hain, yane—

1.—*Kubrā zarūr kulliya honā chāhiye.*

2.—*Kubrā sugrā men se ek zarūr sáliba honā chāhiye.*

3.—*Natíja zarūr sáliba honā chāhiye.*

Jo kóí qiyás is shakl kā qawáid mazkúra e bálá ke khiláf hogá, galat hogá.

BAYÁN SHAKL I SEYUM.

Misál is shakl kí { H. A. hai.
H. S. hai.
S. A. hai.

Auron kí banisbat is shakl kí kái súraten hain. Is ke liye tín qáide hain. Auwal, *natíja juziyya hogá, jaisá ki*

other. Three rules are formed for it. First, *the conclusion must always be particular*, as will be seen by trying the syllogism in every form. Thus if both premisses be affirmative and we draw a universal conclusion, the minor term which is its subject, would be distributed; but, as the predicate of an affirmative minor premiss, it is not distributed, hence we would have an "illicit process" of the minor. The other possible cases are where one of the premisses is negative, as two negative premisses are not allowable according to the rule. Let the major premiss be negative, then the minor premiss being affirmative, does not distribute its predicate—the minor term—hence the conclusion of which it is the subject, cannot be universal, else we would have here also an illicit process of the minor. If the minor premiss be negative, the major must be affirmative and the conclusion negative, according to rule; hence if we draw a universal negative, the major term, which as predicate of an affirmative proposition was not distributed, would be distributed as the predicate of a negative conclusion, being an "illicit process" of the major. Thus the conclusion in every case in this figure must be particular.

Second, *the minor premiss must always be affirmative*, for it has just been proven that the conclusion in this figure must always be particular; but if the minor premiss be negative its predicate, the minor term, would be distributed, and hence would require a universal conclusion to avoid an "illicit process," and we have just seen that the conclusion cannot be universal in this figure.

Third, *one of the premisses must be universal*, because in this figure the middle term is the subject of both premisses, hence in order to secure its distribution (Rule 5, p. 122) one of the premisses must be universal. Hence the three rules:—(page 148.)

is shakl kí súraton se zâhir ho jáegá. Maslan agar kubrá aur sugrá donon mújiba hon, aur natíja kulliya nikálá jáwe, to asgar, jo us ká mauzú hai, kullí hogá; lekin chúnki yihí asgar ba báis wáqi hone mahmúl sugrá mújiba ke, kullí nahín hai, is jihat se agar natíja men ákar kullí ho jáe, to yih “kulliyat ná-jáiz asgar kí” hogí. Aur agar yún farz kiyá jáe, ki kubrá aur sugrá men se ek sáliba ho, kyúnki donon ká sáliba honá to hasb qáida i mazkúra ke, kisé tarah jáiz hí nahín hai, [*Saf.* 117. Q. 3.] to *auwal*, farz karo, ki kubrá sáliba ho, aur is súrat men sugrá chúnki mújiba hogá, is báis se us ká mahmúl asgar, juzí hogá. Pas natíja, jis ká mauzú wuhí asgar wáqi ho, jo juzí thá sugrá men, kyúnkar kulliya ho saktá hai? *Doyum*, farz karo, ki sugrá sáliba ho, to is súrat men, bamújib qáidon mazkúra ke, kubrá zarúr mújiba, aur natíja sáliba hogá. Pas agar natíja sáliba i kulliya nikálá jáe, to akbar ba báis wáqi hone mahmúl qaziya i mújiba ke, juzí hogá, aur yihí akbar, jo juzí hogá qaziya i mújibe men, natíja sáliba ká bhí mahmúl wáqi hogá. Pas agar yahán kullí qarár diyá jáe, to kaise ho saktá hai, kyúnki “kulliyat ná-jáiz akbar kí” thahartí hai. Garaz ki bahar súrat natíja is shakl ká juziya thahartá hai.

DOYUM, sugrá ká-mújiba honá hamesha zarúr hai. Zerá ki abhí sábit ho chuká hai, ki natíja is shakl ká hamesha juziya hotá hai, lekin agar sugrá sáliba ho, to mahmúl us ká asgar i kullí wáqi hogá, aur is súrat men táki mahfúz rahen, “kulliyat ná-jáiz” se, natíja kulliya nikálná paregá; hálánki abhí bayán ho chuká hai, ki natíja is shakl ká kulliya kisé tarah nahín átá hai.

TÍSRE, muqaddamát men, ek kulliya honá cháhiye, kyúnki is shakl men hadd i ausat donon muqaddamon ká mauzú hotá hai. Pas is liye ki us kí kulliyat qáim rahe, ek muqaddama kulliya zarúr hogá. Pas bayán i mazkúra se tín qáide nikalte hain :—(*Saf.* 149.)

- 1.—*The minor premiss must be affirmative.*
- 2.—*One of the premisses must be universal.*
- 3.—*The conclusion must be particular.*

FOURTH FIGURE.

The fourth figure is of the form,

P is M.

M is S.

S is P.

This figure is an inversion of the first figure. It was not used by Aristotle but has been adopted by some logicians in later days.* By some the fourth figure is rejected because it is supposed to be contrary to our natural order of thought. As, however, by some awkwardness of expression, an argument or syllogism may take this form, it is well to understand it and the rules according to which the fourth figure might be used. All the categorical propositions, except a universal affirmative, may be drawn as conclusions in this figure. It is observed in this figure, that *if the major premiss be affirmative the minor must be universal*. The reason is, that the middle term, which in this figure is the predicate of the major premiss and the subject of the minor, would not be distributed at all if the premisses violate this rule, while it must be distributed at least once. [Rule 5, p. 122]. Thus, if the major premiss is affirmative, its predicate, which is the middle term, is not distributed; hence the minor premiss of which it is the subject, must be universal to secure its distribution once.

Again, *if the minor premiss be affirmative the conclusion must be particular*; otherwise we would have

* The introduction of this figure, is attributed by the Moslem author Averroes, to Galen.

- 1.—*Sugrá zarúr mújibá honá cháhiye.*
- 2.—*Kubrá sugrá men se ek kulliyá honá cháhiye.*
- 3.—*Natíja zarúr juziya honá cháhiye.*

BAYÁN SHAKL-I-CHAHARUM.

Chauthí shakl kí súrát yih hai,

A. H. hai.

H. S. hai.

S. A. hai.

Yih shakl, pahlí shakl ká ultá hai, yane us shakl men hadd i ausat akbar ká mauzú, aur is men mahmúl hai, pahle men hadd i ausat asgar ká mahmúl hai, aur is men mauzú. Arastátálís ne is shakl ká istiamál nahín kiyá; lekin aur Mantiqín i mutaakkhhirín ne is ko ikhtiyár kiyá. Ek Musalmán álim, Ab-ul-walíd, sákin i Hispániá ne likhá hai, ki is shakl ká íjád, Galen se hai, jo Eshíá e Kuchak men San 130 Íswí men paidá húa. Baz is shakl ko nahín mánte hai kyúnki wuh samajhte hai ki yih shakl khiláf i aql ke hai; lekin chúnki ihtimál hai ki kahín par ba bájs be-tartíbí íbárat ke, kisí dalíl yá qiyás men yih súrát wáqi ho, is bájs se is ká aur un qáidon ká, jin kí rú se yih shakl i chahárum istiamál men áti hai, samajhná bihtar hai.

Siwá mújibe kulliyé ke, aur sab qaziye hamliye, natíja is shakl ká húa karte hai. Mújiba i kulliya sirf shakl i auwal ká natíja wáqi hotá hai. Is shakl par gaur karne se malúm hotá hai, ki *Agar kubrá mújiba ho, to sugrá zarúr kulliya hogá.* Wajh is kí yih hai, ki agar kubrá aur sugrá khiláf is qánún ke hote, to hadd i ausat, jo is shakl men mahmúl wáqi húa hai kubrá ká, aur mauzú sugrá ká, mutlaq kullí na hotá, hálánki yih cháhiye hai, ki donon men se ek men to kullí ho, [*Saf.* 123. Q. 5.] Garaz, agar kubrá mújiba ho, to mahmúl us ká, jo hadd i ausat hai juzí hogá, is liye kubrá, jis ká wuhí hadd i ausat mauzú pará hai, zarúr kullí honá cháhiye, táki us kí kulliyat ek men to zarúr ho jáe.

Agar sugrá mújiba ho, to natíja zarúr juziya hogá.
Agar aisá na ho to “kulliyat ná-jáiz asgar kí,” thahregí

an "illicit process" of the minor, as a moment's reflection will show.

Again, if either premiss be negative the conclusion also must be negative [Rule 2, p. 116], hence its predicate which is the major term, would be distributed [Rule 4, p. 80], and this term being the subject of the major premiss, requires this to be universal, otherwise the major term would be distributed in the conclusion but not in the premiss, involving, as said, an "illicit process." From this reasoning, we infer a third rule as given below. Thus, there are three rules to which syllogisms in this figure must conform, viz:—

1.—*If the major premiss be affirmative, the minor must be universal.*

2.—*If the minor premiss be affirmative, the conclusion must be particular.*

3.—*If either of the premisses be negative, the major must be universal.*

These rules of the four figures should be well stored in the memory for ready application.

IV.—It is worthy of note that each figure, excepting the fourth, which is merely an irregular or awkward form of argument into which the mind may accidentally stumble, has its own special use or fitness in certain cases or forms of argument. Thus, the first figure is that to which Aristotle's dictum applies directly, hence it is specially adapted for drawing conclusions from admitted universal or general principles or statements. For instance, if it be admitted as a general principle, that "All desire to gain by another's loss is sin," we may then go on to show that gaming is such a desire, and hence draw the just conclusion that all gaming is sin.

The second figure is specially adapted to disprove something that is maintained or believed to be true, or is likely to be accepted, although false and injurious. It

kyúnki agar sugrá mújiba ho, to us ká mahmúl asgar, juzí hogá, aur wuhí asgar ba báis wáqi hone mauzú natíja ke zurúr juzí honá cháhiye, táki “kulliyat ná-jáiz” na ho.

Agar kubrá aur sugrá men se ek sálíba ho, to zurúr hai, ki kubrá kullíya ho, warna “kulliyat ná-jáiz akbar kí” thahregí. Maslan in donon men se agar ek sálíba ho, to natíja bhí zarúr sálíba hogá, [Saf. 117. Q. 2,] aur us ká mahmúl, jo akbar hai kullí hogá, [Saf. 81. Q. 4,] aur yihí mahmúl natíje ká, kubrá men mauzú hai, pas zurúr hai, ki wahán bhí kullí ho, warna yih akbar natíje men kullí hogá, aur kubrá men nahín,—aur yih k̄hiláf i qáida hai.

Pas tín qáide hain, jin ke bamújib is shakl ke qiyás húa karte hain :—

- 1.—*Agar kubrá mújiba ho, to sugrá zarúr kullíyá hogá.*
- 2.—*Agar sugrá mújiba ho, to natíja zurúr juzíya hogá.*
- 3.—*Agar kubrá aur sugrá men se ek sálíba ho, to zurúr hai, ki kubrá kullíya howe.*

In chárón shaklon ke qáidon ko k̄húb zihn-nashín kar lená cháhiye, táki jis waqt mauqa pare, kám men áwen.

IV.—Gaur karná cháhiye, ki bajuz shakl chahárum ke, jo ittifaqiya dalíl i be-tartíb kí súrat men á partí hai, báqi tinoñ shaklon apne apne mauqa par istiamál men áti hain.

Maslan shakl i auwal bi-ainhí mutábíq qaul i Aras-tátáls hai, is jihat se is láiq hai, ki jahán kahín kulliyat i musallama, yane taslím kí húi se, yá ámm báton se natíja nikálná cháhén, so nikálén. Maslan agar koí is ámm bát ko máne; ki “auron ke nuqsán se apná nafa takná gunáh hai,” to agar ham sábit karen, ki júá khelná aisá fiál hai, jis men auron ke nuqsán se nafa takná hai, pas yihí natíja niklegá, ki júá khelná kaisá hí kyún na ho, gunáh hai.

Dúsrí shakl, apná dawá qáim karne ke liye itní káramad nahín hai, jitná ki dústre kí bát ko kátné ke liye. Misl shakl i auwal kí, is shakl ká kubra, qaziya kullíya

is thus useful in attacking and destroying the position of an opponent, rather than in building up one of our own. In this figure, just as in the first, the major premiss is a universal proposition, or contains a class to which the consent of an opponent has been gained. Then it is proved that the proposition advanced by him, cannot be true, because it either *wants* something that belongs to this admitted class, or *has* something of which that class is destitute, and hence can not be accepted. Thus, suppose it is maintained, or is likely to be believed, that "Jesus was an impostor, seeking to form a party for some selfish end." Now, we may set about refuting this by laying down the proposition that:—

No impostor seeking to form a party for selfish ends, would warn his followers that they would have to endure great persecutions.

We may then show that:—

Jesus did so warn his followers.

Hence, Jesus was not an impostor.

Suppose that some one is disposed to believe the Bible to be merely a human production, because many things in it appear merely human, or seem to be mixed up with human error. Now, perhaps the consent of no one would be withheld from a proposition like this:—

Any book containing a spirit and character superhuman, however hedged in by difficulties, must be divine.

We may incorporate this in a syllogism and complete the reasoning thus:—

The Bible appears to be just such a book.

Hence, The Bible must be divine.

The third figure is specially applicable for arguments in two cases. *First* where the *middle term*, is a proper name. A proper name, is not used as a predicate; hence in this figure, as the middle term is the subject of both premisses, a proper name, may be used. Thus:—

Cæsar was a tyrant.

Cæsar was a conqueror.

Therefore, Some conquerors are tyrants.

hotá hai, jis ko faríq i sání, jis se bahs kí jáe, taslím kar lewe. Phir yih sábit kiyá játá hai, ki dawá faríq i sání ká sahíh nahín ho saktá hai, is sabab se ki yá to us ke dawwe men ek bát nahín pái játí hai, jo qaziya i kulliya i musallama men hai, yá yih, ki us dawwe men pái játí hai, magar qaziya i musallama men nahín hai ; pas us ká dawá qábil i taslím nahín hai.

Maslan koí kahe, ki K̄hudáwand Ísá Masíh dagábáz thá, is wáste ki apne liye ek guroh ko mutíá karná cháhíthá thá, aur un kí bihtarí se kuchh sarokár na thá, to ham is ke radd men yih qaziya i kulliya láwen, ki “Jo dagábáz apne matlab ke wáste ek guroh ko mutíá kartá hai, is amr kí ittilá us guroh ko na detá ki tumháre úpar mere mutíá hone ke sabab se barí barí musibatén áwengí.” Jab ham donon is ko taslím karen, to sábit karná cháhiye, ki K̄hudáwand Ísá Masíh ne apne shágirdon ko is tarah kí ittilá dí ; pas natíja yih niklegá, ki wuh dagábáz na thá.

Dúsrí misál.—Farz karo, koí kahe ki Baibal insán kí banáí húi hai, kyúnki bahut báteñ us men insán kí małúm hotí hain, yá yih, ki bahut báteñ us men aisí hain, jin men insán kí galatí małúm hotí hai, to is súrát men sháyad har koí is qaziya i kulliya ko taslím karegá, ki

Koí kitáb, jis kí talím aur khássiyaat aisí ho, ki insán kí táqat se báhar ho, go ki báz maqámát men kaisí hí mushkil báteñ hon, zurúr ilhámí hogí.

Jab ham is qaziye ko qiyás men miláwen, to is tarah púrí dakíl baná sakte hain :—

Baibal dar haqíqat aisí kitáb małúm hotí hai.

Pas, Baibal zurúr ilhámí hai.

An argument must thus sometimes take the form of the third figure. *Secondly*, this figure is useful when we wish to offer and maintain an objection to an opponent's premiss, when he reasons from a particular premiss, while that premiss should be universal, in a valid argument. We then show that the argument in its legitimate form proves too much. Suppose one contend, that "a certain doctrine ought not to be believed because it cannot be explained or comprehended." His argument stated in full would be,—

Some doctrines that cannot be explained and
comprehended, ought not to be believed.

The doctrine in question, can not be explained
or comprehended.

Therefore, It is not to be believed.

This put in symbols is,—

Some X is not Y.

Z is X.

Therefore, Z is not Y.

which plainly contains an undistributed middle. The argument to be legitimate should be,—

Every doctrine that cannot be explained and comprehended,
ought not to be believed.

Shakl i seyum, kháss karke do mauqa par dalíl karne ke wáste istiamál kí játí hai. *Auwal*, jahán hadd i ausat, ism i kháss, yane ism i marifa hotá hai, kyúnki dar haqíqat ism i marifa mahmúl nahín hotá hai, aur chúnki is shakl men hadd i ausat mahmúl nahín wáqi hotá hai, balki kubra sugra donon men mauzú wáqi hotá hai, is jihat se agar hadd i ausat ism i marifa ho, to kuchh muzáyaqa nahín.—Maslan,

Qaisar zálím thá.
Qaisar bará námwar thá.
Pas, Báz námwar, zálím hote haiñ.

Pas is tarah par kabhí kabhí ek dalíl yá qiyás, shakl i seyum kí súrat men banána partá hai.

Doyum, yih shakl us mauqa par istiamál kí játí hai, jahán kisí ke dawe par iatiráz pesh karná cháhen, jab kí wuh, qaziye i juziye se bahs kare, jis hálat men, kí qaziya i kulliya se bahs karná cháhiye. To aisí jagah par ham sábit kareñge, kí agar yih dalíl ba sihat likhí jáwe, to faríq i sání ke matlab se bhí barhkar sábit hotá hai, yane khud us ke úpar iatiráz wárid hotá hai. Farz karo, koí shakhs kahe, kí fulání bát nahín mánní cháhiye, kyúnki samajh men nahín áti, aur koí use samjhá nahín saktá hai. Agar yih dawa ba tartíb qiyás ke likhá jáwe, to yún hogá, kí—

Báz bsten, jo samajh men nahín átiñ, un ko na mánná cháhiye.
Fulání bát, samajh men nahín áti.
Pas, Us ko na mánná cháhiye.

Aur yih misál ba zariya hurúf ke yún hogí kí—

Báz A. B. hai.
J. A. hai.
Pas, J. B. hai.

Is misál se sáf záhir hotá hai, kí is qiyás ká hadd i ausat juzí hai, is sabab se yih dalíl sahíh nahín hai. Agar sahíh taur par likhí jáwe, to yún hogí :—

The doctrine in question, cannot be explained or comprehended.

Therefore, It is not to be believed.

Now, the argument founded on this universal major premiss, proves too much, and we may urge an objection to it in the third figure, thus,—

The connection of soul and body, cannot be explained and comprehended.

The connection of soul and body must be believed.

Therefore, Some things that cannot be explained, must be believed.

From this it is seen, that the premiss of the opponent involves an error. On the question of the special fitness of one mood over another in certain cases, we may note that it is a more natural order of thought, to predicate the more extensive of the less extensive term, the genus of the species; thus we do not say "wise is James," "an animal is a horse," but "James is wise," "a horse is an animal." Hence, where the middle term would be the more extensive term in the premisses, it is natural to form the syllogism in the second figure, because it will then be predicate. But if the middle term be the less extensive term, it would naturally be the subject, and the syllogism would fall in the third figure.

The subject of *Figure*, and its rules, being well understood, we turn to another matter connected with syllogisms, *viz.*, *Mood*.

Har ek bāt, jo samajh men nahīn ātī, us ko nahīn mānnā chāhiye.

Fulānī bāt samajh men nahīn ātī.

Pas, Us ko nahīn mānnā chāhiye.

Yahān par kubrā kulliya se, jo dālī nikaltī hai, us dālī se, us se bhī barhkar sābit hotā hai, jitnā ki farīq sání ko manzúr thā, yāne khud us ke úpar tísri shakl kí rú se, iatiráz wárid hotā hai, Maslan :—

Rúh aur jism ke darmiyán ilāqa jo hai, samajh men nahīn ātā,

Rúh aur jism ke darmiyán ilāqa jo hai, ham us ko mánte hai,

Pas, Bāz bāten, jo samajh men nahīn ātī hai, ham mánte hai.

Is qiyás se alániya sābit hai, ki agar dawá farīq sání ká ba sihat likhá jae, to kubrā galat thahartā hai. Aur is bāb men ki khass mauqaon par ek zarb ko dúsri par tarjīh hai, yih liház rakhnā chāhiye, ki fikr yih chāhtī hai, ki wasīā lafz kam wasīā ká, aur jins nau ká, mahmúl wáqī ho. Maslan ham yún nahīn bolte hai ki “Haiwán ghorá hai,” balki “Ghorá haiwán hai,” yá “aqlmand Zaid hai,” balki “Zaid aqlmand hai.” Isí wáste jahān kahīn muqaddamát men hadd i ausat ziyáda wasīā ul mañe ho, to tartīb i qiyás dúsri shakl men achchhī mañum hotī hai, kyúnci usí súrat men mahmúl partī hai. Lekin hadd i ausat agar kam wasīā ho, to use mauzú dálná achchhá mañum hotā hai, aur tartīb i qiyás tísri shakl men ho jātī hai

Bayán shaklon aur un ke qawáid ká ho chuká. Ab ham ek aur bayán mutaalliq i qiyás, yāne zarb ká bayán shurú karte hai.

SECTION III.
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Mood.

1 By the *mood* of a syllogism is meant, the designation by symbols, of the *quantity* and *quality* of its three propositions in their order. It will be remembered that the four vowels A E I O, were used to designate the quantity and quality of all propositions, *viz.*, universal affirmative, universal negative, particular affirmative, particular negative. For example take the syllogism,—

Every desire to gain by another's loss, is sin. (A.)
Gaming, is a desire to gain by another's loss. (A.)
Therefore, All gaming is sin. (A.)

The three propositions of this syllogism, are all universal affirmatives, hence the mood of the syllogism as indicated by the appropriate symbols is A A A.

Now, it is manifest that the four categorical propositions A E I O, can be arranged in 64 combinations or *moods*, by the law of permutation. There are three propositions in the syllogism, and each of these may be varied in four different ways, as A E I O. Each of these symbols may be a major premiss, and each of these four majors may have in turn all the four categorical propositions as minors, giving sixteen sets, and to each of these sixteen sets, the four categoricals may be used as conclusions, making the 64 combinations of syllogism.

FASL III.
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BAYÁN ZARB KÁ.

1.—ZARB se murád hai, tīnon qazīon qiyás kí kulliyat o juziyat, aur íjáb o salb, yañe “*kam o kaif*.”

Yád rakhná cháhiye, ki chár álamaton, sab qazīon kí kulliyat o juziyat, aur íjáb o salb ke maḷúm karne ke wáste muqarrar kí gaí hain, yañe *Mk.* wáste mújiba i kulliya ke; *Sk.* wáste sáliba i kulliya ke; *Mj.* wáste mújiba i juziya ke; *Sj.* wáste sáliba i juziya ke. Har qiyás kí zarb, in cháron álamaton se likhte hain. Maslan, ek qiyás hai, ki

Mk. Jis fiál meñ ki auron ke nuqsán se apná nafa ho, gunáh hai.

Mk. Júá aisá fiál hai, jis meñ auron ke nuqsán se apná nafa hotá hai,

Mk. Pas, Júá khelná gunáh hai.

Tīnon qaziye is qiyás ke, mújibe kulliyate hain, pas zarb is qiyás kí, jis se murád hai batláná “*kam o kaif*” ká, ba zariá álamaton muaiyana ke yih hai, *Mk. Mk. Mk.* Wázih ho, jahán kahín aisí álamaton wáqi hon, auwal álamat se murád *kubrá*; doyum se *sugrá*; seyum se *natija* hogí. Záhír hai, ki cháron qazáyá e hamliya, yañe *Mk. Sk. MJ. Sj.* kí, iwaz muáwize ke qáide se, chaunsaṭh zarben ho saktí hain. Maslan, yih maḷúm hai, ki qiyás ke tīn qaziye hote hain, aur har qaziye kí chár súraton ho saktí hain, yañe *Mk. yá Sk., MJ. yá Sj.* Ab gaur karná cháhiye, ki *kubrá* in cháron meñ á saktá hai, aur har ek *kubrá* ke sáth *sugrá* kí chár súraton á saktí hain, yañe *Mk. Sk. MJ. Sj.*; pas *kubrá* aur *sugrá* ke solah joṛ húe, aur phir har joṛ ká *natija* bhí inhín chár súraton par á saktá hai, to is tarah chaunsaṭh zarben niklengí :—

Majors,	A	E	I	O.
Minors,	$\underbrace{A E I O.}$	ditto	ditto	ditto.
	⋮			
Conclusions,	$\underbrace{A E I O.}$			

This operation may be gone through with for each of the letters, and sixty-four moods, or forms of syllogism will be the result.

Now many of these moods are not allowable because they violate the rules laid down for syllogisms, and for the figures. Thus all moods having affirmative premisses with a negative conclusion, as A A E,—A I O, are inadmissible because they violate the first axiom. All moods with negative premisses as E E,—O O,—E O, &c., cannot be used because they violate a rule [p. 116, r. 3.] All moods with particular premisses are not allowable, as they violate a rule [p. 128, r. 7.] Some of the moods as I E O, must be rejected for an illicit process. Twenty-eight of the sixty-four moods, are rejected on account of negative and particular premisses alone. It will be found that out of the entire sixty-four moods, only eleven are allowable as not violating the rules for syllogism, *viz.*

Four affirmatives.

A A A.
A I I.
A A I.
I A I.

Seven negatives.

E A E.
A E E.
E A O.
A O O.
O A O.
E I O.
A E O.

2. As there are four figures, it might seem that by applying these eleven moods to all the figures, we would have forty-four in all, but some of the moods which are valid in one figure are not in an other, because they violate the rules against the “ undistributed

4 Kubre, 16 Sugre,	Mk.	Sk.	Mj.	Sj.
	Mk.	Sk.	Mj.	Sj.
	Aizan, Aizan, Aizan.			
	Aizan	Aizan	Aizan	
	www.libtool.com.cn			
64 Natije	Mk.	Mk.	Mj.	Mj.

In chaunsaṭh zarbən men bahut nādurust hain, is sabab se ki k̄hilāf hain un qāidōn ke, jo mazkūr ho chuke hain, wāste qiyās aur shaklon ke. Maslan jo zarb, ki jis kā kubrá aur sugrá mújiba ho, aur natija sáliba ho, jaise *Mk. Mk. Sk.* aur *Mk. Mj. Sj.* sahíh nahin, is wāste ki wuh k̄hilāf pahle qánún ke hogí, [*Saf.* 115. Q. 1.] Kull zarbən, jin kā kubrá aur sugrá sáliba hon, maslan *Sk. Sk.*, aur *Sj. Sj.*, aur *Sk. Sj.* qánún ke k̄hilāf hain, [*Saf.* 117. Q. 3.] Jin zarbōn ke kubrá o sugrá juziya hote hain, wuh zarbən bhí ba-bájs k̄hilāf i qáida hone ke gir jātí hain, [*Saf.* 129. Q. 7.] Chand zarbən, jaise *Mj. Sk. Sj.*, ba sabab “kulliyat nájáiz” hone ke gir jātí hain, [*Saf.* 127, Q. 6.] Chaunsaṭh men aṭhásis zarbən to sirf ba sabab sáliba aur juziya hone kubrá o sugrá ke, gir jātí hain. Garaz yih ki sirf gyárah sahíh rahtí hain; yañe,—

<i>Chár Mújibe,</i>		<i>Sát Sálibe.</i>
<i>Mk. Mk. Mk.</i>	<i>aur</i>	<i>Sk. Mk. Sk.</i>
<i>Mk. Mj. Mj.</i>		<i>Mk. Sk. Sk.</i>
<i>Mk. Mk. Mj.</i>		<i>Sk. Mk. Sj.</i>
<i>Mj. Mk. Mj.</i>		<i>Mk. Sj. Sj.</i>
		<i>Sj. Mk. Sj.</i>
		<i>Sk. Mj. Sj.</i>
		<i>Mk. Sk. Sj.</i>

2.—Agar cháron, shaklon men gyárah gyárah zarbən istiamál kí jātín, to kull chauálsis zarbən hotín, lekin yih bát nahin hai, balki bāz zarbən, jo ek shakl men sahíh hain dúsri men galat, ba bájs mukhálif hone un qawáid ke, jo dar báb na hone “juziyat hadd i ausat,” aur “kulliyat

middle" and "illicit process." Thus the mood I A I, which is valid in the third figure, cannot be used in the first figure, because it would involve an undistributed middle. Again A E E, is a valid mood in the second figure, but in the first it would have an illicit process of the major term. By thus testing these eleven moods in the four figures, it is found that there would be six in each figure, that is, twenty-four in all. Now of these twenty-four moods, five, though valid, are thrown aside as useless, giving a particular conclusion when a universal might have been drawn. For example, A A I, of the first figure is useless, as A A A is allowable and really contains it. Thus.

All human beings are mortal.
 All Hindus are human beings.
 Therefore, *some* Hindus are mortal.

This is a valid enough syllogism, but it is useless because we might draw here the universal conclusion.

All Hindus are mortal.

There will remain then nineteen moods in all, *viz.* four in the first figure, four in the second, six in the third, and five in the fourth. They may be arranged as follows :—

Fig. 1, A A A, E A E, A I I, E I O.
Fig. 2, E A E, A E E, E I O, A O O.
Fig. 3, A A I, I A I, A I I, E A O, O A O, E I O.
Fig. 4, A A I, A E E, I A I, E A O, E I O.

These symbols simply exhibit in order, the nineteen moods, and for greater facility in remembering them, and at the same time to aid in the *reduction* of the moods, a subject to be noticed hereafter, they have been worked up into mnemotechnic lines in Latin measure as below :—

nájáiz” ke bayán ho chuke haiñ. Pas yihí zarb *Mj. Mk.* *Mj.* jo hai, shakl i seyum men sahíh hai; magar auwal men nahín kyúñki wahán hadd i ausat juzí ho jáegí. Isí tarah *Mk. Sk. Sk.* kí zarb, shakl i doyum men sahíh hai, lekin auwal men nahín; kyúñki agar wahán istiamál men átí, to kulliyat nájáiz akbar kí hotí. Garaz ki is hí tarah par in gyárah zarbon ko cháron shaklon men jáñcho, to malúm hogá, ki har shakl men chha zarben, yane kull chaubís sahíh rahtí haiñ. Magar in chaubís men se bhí páñch agar-chi sahíh haiñ, lekin ba báis dene natíja juziya ke, jis hál men ki natíja kulliya nikal saktá hai, bekár haiñ. Maslan zarb *Mk. Mk. Mj.* kí shakl bekár hai; zera kí zarb *Mk. Mk. Mk.* kí bhí nikal saktí hai, jis men natíja zarb i auwal dákhil hai. Maslan:—

Kull insán fání haiñ.

Kull Hindú insán haiñ.

Pas, Báz Hindú fání haiñ.

Yih zarb bilkull sahíh hai, lekin jis hál men ki natíja kulliya, yane “Kull Hindú fání haiñ,” nikal saktá hai, to yih kis kám ká hai. Garaz ki is tarah par kull unnís zarben lóí rahtí haiñ; chár shakl i auwal kí; chár doyum kí; chha seyum kí; páñch chahárum kí. Chunán-chi sab zarben ba tartíb, zail men mundarij haiñ :—

Shakl 1. *Mk. Mk. Mk.,—Sk. Mk. Sk.,—Mk. Mj. Mj.—Sk. Mj. Sj.*

Shakl 2. *Sz. Mk. Sk.—Mk. Sk. Sk.—Sk. Mj. Sj —Mk. Sj. Sj.*

Shakl 3. *Mk. Mk. Mj.—Mj. Mk. Mj.—Mk. Mj. Mj.—Sk. Mk. Sj.—Sj. Mk. Sj.—Sk. Mj. Sj.*

Shakl 4. *Mk. Mk. Mj.—Mk. Sk. Sk.—Mj. Mk. Mj.—Sk. Mk. Sj.—Sk. Mj. Sj.*

Fig. 1, bArbArA, cElArEnt, dArII, fErIOque, prioris.

Fig. 2, cEsArE cAmEstrEs, fEstInO, bArOkO. secundae.

Fig. 3, tertia, dArAptI, dIsAmIs, dAtIsI, fElAptOn, bOkArDO, fErIsO, habet: quarta insuper addit.

Fig. 4, bRAmAntIp, cAmEnEs, dImArIs, fEsApO, frEsIsOn.

It must be noted that in these lines the moods are represented by the large vowels. The consonants have a use to be explained when treating of reduction. The Latin words have nothing to do with these subjects, but make up the verses.

Perhaps these lines will be much more easily committed to memory by most students, if put in a uniform type without the Latin additions, thus:—

Barbara, celarent, darii, ferio.

Cesare, camestres, festino, baroko.

Darapti, disamis, datisi, felapton, bokardo, ferison.

Bramantip, camenes, dimaris, fesapo, fresison.

These are the only valid moods, and any syllogism not found in the moods of this table is to be rejected. If the table be committed to memory, the validity of any syllogism proposed in an argument, may be found at once.

By looking at this table of moods it will be seen, that a universal affirmative can be proved only in the first figure, in which every other proposition may be proved also. In the second figure negatives only can be proved, in the third, particulars only.

3. REDUCTION.—The moods of the first figure have been called perfect moods, because Aristotle's dictum, the law on which alone some have claimed that the syllogism is founded, can be applied directly to any syllogism in this figure. The moods of the other three figures, can all be reduced to the first figure, by what is called "*reduction*," so that we can prove the same conclusion, in the figure to which Aristotle's dictum immediately applies.

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Sirf yihí zarbēn saḥíh hain, aur jo qiyás zurúb i mundarja e naqsha i bálá ke ḵhiláf hogá, nájáiz hogá. Agar naqsha zurúb ká baḵhúbí yád kar liyá jáe, to jo koí qiyás kisí bahs men pesh kiyá jáwe, us kí siḥhat fauran maḷúm ho jáwegí.

Naqsha e zurúb ke dekhne se maḷúm hotá hai, ki mújiba e kulliya [sirf shakl i auwal hí ká natíja wáqi hotá hai, aur báqi aur qaziye bhí is ke natíje hote hain. Shakl i doyum ká natíja sirf sáliba átá hai, aur seyum ká sirf juziya,

3.—KHULF. Baḷ mantiqín shakl i auwal kí zarbōn ko zurúb i baiyana aur kámila kahte hain. Is kí wajh yih hai, ki qaul i Aristátális yaṇe wuh qánún, jis par biná qiyás kí hai, is shakl ke jitne qiyás hain, un sab par bil mutábaqat saḥíh átá hai. Tín aur shaklēn jo rahín, un kí zarbēn bamújib qánún “*ḵhulf*” ke, shakl i auwal men láte hain, yahán tak ki wuhí natíja is shakl men bhí nikal átá hai. *Khulf*, kisí zarb kí tartíb ke badalne aur pahilí shakl men láne ko kahte hain. Aur yih do tarah par hai :—

Reduction consists in, either changing, by conversion and transposition, the form of the syllogism in the 2nd, 3rd, and 4th figure, into a mood of the first figure, so that the same conclusion can be drawn, or a conclusion which becomes the same by conversion, as we had in the mood from which the change was made; which is called "ostensive reduction;" or the conclusion of a syllogism in the second, third, or fourth figure may be shown to be correct by proving in the first figure that its contradictory is false. If we thus prove in the first figure that the contradictory is false, of course the original conclusion must be true. This is called, "*reductio ad impossibile*."

Some writers on logic, proceed at length to show how the truth of a conclusion in a syllogism of any of the last three figures, can be proved by "*reduction*" of the syllogism to the first figure, but the subject hardly repays the labour of mastering it, since the rules given for testing the validity of syllogisms, are sufficient for all practical purposes. Lambert claimed that the reduction of syllogisms in the last three figures to the first, is "strained and unnatural." Some of the ablest modern writers as Thomson, discard the whole subject as useless. Each figure has its own sufficient tests. An advantage claimed for the Hamiltonian system is that the quantifying of the predicate, dispenses with reduction.

But for the satisfaction of those who may be desirous to study this subject, a brief account with illustrations of it, is given. As has been mentioned, there are two kinds of reduction.

First, we may notice "*ostensive*" or direct reduction. A scheme of symbols will illustrate the reduction of moods in the last three figures to the first figure.

Ek to yih, ki láná kisé qiyás ká, bamújib qáida i áks ke [aur kabhí kubrá ko sugrá aur sugrá ko kubrá karná,] shakl i auwal kí kisé zarb kí súrat men táki wuhí natíja nikal áwe, jo us qiyás men niklá thá. Yá aisá natíja nikle, ki áks karne se wuhí hojáe, jo us qiyás men thá.

Dústre yih, ki shakl i doyum, yá chahárum ká koí qiyás ho, us ke natíje kí sihhat shakl i auwal men jákar is tarah par sábit karná, ki naqíz is natíje kí galat hai. Pas agar shakl se sábit ho jáwe, ki naqíz is natíje kí galat hai, to albatta wuh natíja sahíh hogá.

Pas małúm hotá hai, ki tín aur shaklon kí zarben jo rahín, un ke natíjon kí sihhat, shakl i auwal se bhí daryáft ho játí hai.

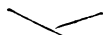
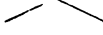
Baz mantiqn is Ḳhulf ká bahut túl tawíl bayán karte hain; lekin yih mihnát fuzúl hai, jis hál men, ki har qiyás kí sihhat daryáft karne ke wáste, qawáid i káfi maujúd hain.

Lambert sáhib ká dawá yih hai ki Ḳhulf ke qáide se, aḳhír kí tín shaklon ke qiyását ko, shakl i auwal men láná fuzúl hai. Baze hál ke bare láiq máqúlí jaise Thomson sáhib hain, is kull bahs ko bekár jánte hain. Wuh kahte hain ki Ḳhulf kí kuchh zarúrat nahín. Har shakl ke liye álahda álahda sihhat o adam sihhat ke daryáft ke qáide káfi maujúd hain. Aur yih bhí kahá játá hai ki Hamilṭon sáhib ke qáida e kamíyat i mahmúl se, Ḳhulf kí kuchh zarúrat nahín rahtí.

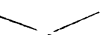
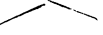
Lekin jo log is báb men kuchh waqifiyat hásil karná oháhte hain, unki taskín ke wáste muḳhtasar bayán maá misál kiyá játá hai. Jaisá ki úpar zikr á chuká hai, dalíl i Ḳhulf kí do qismen hain.

Qism i auwal Ḳhulf kí yih hai ki sugrá ko áks i mus-tawí ke qáide se badalkar kubrá kí jagah rakhen. Zail se małúm hotá hai ki aḳhír kí tín shaklon kí zurúb ko, isí qism ke Ḳhulf se kis tarah ba shakl i auwal badlá hai.

Mood fig. 2 Reduced to fig. 1

A	all X is Y		no Y is Z. (By simple conversion.)
E	no Z is Y		all X is Y.
E	no Z is X		no X is Z.
			no Z is X. (By simple conversion.)

Mood fig. 3 Reduced to fig. 1

I	some Y is X		all Y is Z.
A	all Y is Z		some X is Y. (By simple conversion.)
I	some Z is X		some X is Z.
			some Z is X. (By simple conversion.)

Mood fig. 4 Reduced to fig. 1

E	no X is Y		no Y is X. (By simple conversion.)
A	all Y is Z		some Z is Y. (Conversion by limitation.)
O	some Z is not X		some Z is not X.

The cross lines \times show that the premisses are transposed in forming the new syllogism. A single illustration by propositions, of the mood A E E given above, must suffice. It will be a good exercise for the student to work out some illustrations for himself. Example:—

Every covetous man is discontented.
 No happy man is discontented.
 Hence, no happy man is a covetous man.

This syllogism may be reduced to the mood E A E of the first figure by converting the minor premiss by simple conversion and then transposing it to the place of the major premiss, thus:—

No discontented man is a happy man.
 Every covetous man is a discontented man.
 Hence, no covetous man is a happy man.

This conclusion becomes by simple conversion, "No happy man is a covetous man," the same as before reduction.

Shakl i duwam.

Mk. kull A. B. ha

Sk. koí J. B. nahín

Sk. koí J. A. nahín

Shakl i suwam.

Mj. bəz B. A. hai

Mk. kull B. J. hai

Mj. bəz J. A. hai

Shakl i auwal.

koí B. J. nahín. Aks i mustawí se.

kull A. B. hai.

koí A. J. nahín.

kull B. J. hai.

bəz A. B. hai. Aks i mustawí se

bəz A. J. hai.

bəz J. A. hai. Aks i mustawí se

Shakl i chahárum.

Sk. koí A. B. nahín

Mk. kull B. J. hai

Mj. bəz J. A. nahín

koí B. A. nahín. Aks i mustawí se

bəz J. B. hai. Aks i mustawí se

bəz J. A. nahín.

Terhe khutút se × małúm hotá hai ki muqaddamát badalkar naí súrat i qiyás men ho gae haiñ. Ek misál ibáratí, shakl i duwam kí zarb (*Mk. Sk. Sk.*) mazkúráe sadr ko káfi hogí. Tálíb i ilm ko achchhá mashq hol jáegá, agar apní taraf se chand misálen tajwíz karke isí tarah amal kare.

Misál—

Har táme, be-sabr hotá hai.
Nek log, be-sabr nahín hote.
Is liye, Nek ádmí, táme nahín hote.

Is qiyás ko, shakl i auwal kí zarb (*sk. mk. sk.*) kí súrat men is tarah badal sakte haiñ ki sugra ko aks i mustawí se badalkar kubrá kí jagah rakhen :—

Maslan—

Koí be-sabr, nek nahín.
Har táme, be-sabr hai.
Is liye, Koí táme, nek ádmí nahín.

Is natíje ká aks yih hai ki, “nek ádmí táme nahín hai, jaisá pahile húa.

Second, it remains to illustrate the *reductio ad impossibile*, or indirect reduction. By this mode of reduction, we prove that our conclusion is true, because when the contrary of this conclusion is inserted as a premiss in a syllogism of the first figure, a conclusion manifestly false is drawn. Take the mood A O O, of the 2nd figure:—

All good men are contented.
Some rich men are not contented.
Therefore, Some rich men are not good men.

Now if this conclusion is not true, then substitute the contrary of it as a premiss in a syllogism of the first figure thus:—

All good men are contented.
All rich men are good men.
Therefore, All rich men are contented.

Now this conclusion is not only manifestly false, but it is untrue because it is contrary to the minor premiss of the original syllogism in which the premisses are supposed to be true. Hence one of the premisses in this syllogism must be false, or the fault must be in the form of the syllogism. But the reasoning or form of the syllogism being in the first figure, we know to be correct, hence one of the premisses must be false, and it is the minor, because the major is granted in the original syllogism.

We may work this out in symbols thus:—

All X is Y.
All Z is not Y.
Therefore. Some Z is not X.

This conclusion must be true, but if it is claimed that it is not, then its contradictory must be, true *i. e.*, all "Z is X." By using this as a premiss, we may form a syllogism in the first figure thus:—

All X is Y.
All Z is X.
Therefore, All Z is Y.

Dúsrí qism i khulf se, yih sábit kiyá játá hai ki natíja sahíh hai, kyúnki jab naqíz i natíja, shakl i auwal ke qiyás ká ek muqaddama banákar rakhá játá hai, to natíja saríh galat níkaltá hai. Maslan dúsrí shakl kí zarb *Mk. Sj. Sj.* ko lo :—

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Tamám nek, qánj haiḡ.

Baz daulatmand, qánj nahíḡ.

Pas, Baz daulatmand, nek nahíḡ.

Farz karo ki agar yih natíja sahíh nahíḡ hai, to naqíz i natíja ko, shakl i auwal ke qiyás ká ek muqaddama banáo is tarah par ki—

Tamám nek, qánj haiḡ.

Kull daulatmand, nek haiḡ.

Is liye, Kull daulatmand, qánj haiḡ.

Yih natíja na faqat saríh galat hai, balki khiláf i wáqi hai kyúnki asl-qiyás jiske muqaddamat sahíh farz kiye haiḡ sugrá is qiyás ká uske mukhálif hai. Is wáste qiyás ke muqaddamat men se ek zurúr galat hogá, yá tartíb i qiyás men kuchh qusúr hogá. Lekin chúnki yih dalíl yaḡe tartíb i qiyás ba-shakl i auwal hai, ham jánte haiḡ ki sahíh hai. Is wáste ek muqaddama zurúr galat hogá aur wuh muqaddama sugrá hai, kyúnki kubrá asl qiyás se sahíh farz kar liyá gayá hai. Hurúf i Hijá se is kí misál is tarah hai

Kull A. B. hai.

Kull J. B. nahíḡ.

Baz J. A. nahíḡ.

Yih natíja zurúr sahíh hai. Agar na ho, to naqíz iski sahíh hogí yaḡe kull J. A. hai. Is qaziye ko shakl i auwal ke qiyás ká ek muqaddama banákar rakheḡ, to misál yih hogí, ki

Kull A. B. hai.

Kull J. A. hai.

Kull J. B. hai.

But from the premisses of the former syllogism, we see that some "Z is not Y," and this being the contradictory of the conclusion just drawn, both cannot be true. Now as the premiss "all Z is not Y," of the former syllogism is assumed to be true, the conclusion "all Z is Y" must be false. If then this conclusion is false, either the error is in the form of the syllogism, or one of the premisses is false. But the form of the syllogism according to the first figure is valid, hence one of the premisses must be false, and it cannot be the major, because this in the original syllogism is assumed to be true. Hence the minor, "all Z is Y," must be false, and its contradictory "some Z is not Y," is true in the first syllogism.

The verses constructed to aid in remembering the valid moods of the four figures, are also arranged, as was intimated, to facilitate reduction. The student is referred to these lines, (page 164) with this explanation that in the scheme, the consonants b, c, d, f, in the beginning of the words in the 2nd, 3rd, and 4th figure, show to which mood of the first figure the reduction may be made. To illustrate, *festino* (E I O) of the 2nd figure, *felapton*, *feriso* (E A O, E I O) of the third, and *fesapo*, *fresison* (E A O, E I O) of the fourth, may be reduced to *ferio* (E I O) of the first figure. The letter m. shows that the premisses are to be transposed. Thus, in reducing from *camestres* of the second figure, to *celerent* of the first, the premisses A E become E A. The letter s shows that the proposition for which the preceding vowel stands, is to be converted simply; p shows that the proposition, indicated by the preceding vowel, is to be converted "per accidens" or by limitation. The letter k shows that the mood is to be reduced *ad impossibile*, i. e., the premiss immediately preceding k. is to be substituted by the contradictory of the conclusion, and then the proof of the original conclusion be worked out, as was shown in illustrating this form of reduction. It will be seen that *barako* of the second, and *bokardo* of the third figure, are to be reduced thus. Other letters in the scheme not mentioned, have no meaning in it.

Lekin pahle qiyás ke muqaddamát se yih ma'lúm hotá hai ki "báz J. B. nahín hai." Aur chúnki yih muqaddamá, mukhálif natíje "kull J. B. hai" ke hai, is wáste donon sahíh nahín rah sakte hain. Lekin "kull J. B. nahín," pahle qiyás ká muqaddama sahíh farz kar liyá gayá hai, is wáste yih natíja ki "kull J. B. hai," galat honá cháhiye. Agar galat hai, to yá to tartíb i qiyás men yá kisi muqaddame men galatí hai. Lekin tartíb i qiyás bi-hasb i shakl i auwal durust hai. Is wáste koí muqaddama galat hai. Lekin kubrá galat nahín ho saktá kyúnki asl qiyás men sahíh farz kar liyá gayá hai. Is ísabab se sugrá, "kull J. B. hai" zurúr galat hai, aur uskí naqíz pahle qiyás men ki "kull J. B. nahín hai" sahíh hai.

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SECTION IV.

OF HYPOTHETICAL ARGUMENTS.

THE HYPOTHETICAL SYLLOGISM.

So far we have considered only purely categorical arguments and syllogisms, that is, such as are formed from categorical propositions. We come now to consider hypothetical forms of argument, and the syllogisms formed from them. An argument containing a hypothesis may be called a hypothetical argument.

A syllogism containing a pure hypothetical proposition, or more than one, is called a hypothetical syllogism, and the syllogism will take its name as "*conjunctive*" or "*disjunctive*," from the proposition contained in it, [see page 66]. In the hypothetical syllogism, the hypothetical proposition is the major premiss, the minor is a categorical, and the conclusion is also categorical. In the hypothetical proposition, the first member is called the *antecedent*, the second member the *consequent*. The antecedent and consequent may be inverted, as "John will be fit to travel, if he is not sick." We first examine:—

I. THE CONJUNCTIVE SYLLOGISM, which in its most common form, has for its major premiss a conjunctive proposition and for its minor a categorical. For example:—

If Zaid has a fever, he is sick.
Zaid has a fever.

Therefore, He is sick.

FASL IV.

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BAYÁN QIYÁS SHARTIYA KÁ.

YAHÁN tak ham ne un qiyáson ká, jo murakkab hain hamliyát se, bayán kiyá, aur jin ko *qiyás hamliya* kahte hain; ab ham bayán karte hain un qiyáson ká, jo murakkab hain shartiyát se.

Wázih ho ki jis qiyás men qaziya i shartiya páyá játá hai, use *shartiya* kahte hain, aur jaisá qaziya jis qiyás men páyá játá hai, waisá hí us ká nám hotá hai. Agar qaziya muttasila páyá jáwe, to *qiyás i ittisáli*, aur agar qaziya munfasila páyá jáwe, to *infisáli*, kahenge. Qiyás shartiya men, kubrá qaziya i shartiya, aur sugrá hamliya hotá hai, aur natíja bhí hamliya nikaltá hai. Qaziya i shartiya ke juz i auwal ko "*muqaddam*," aur dúsre ko "*táli*" kahte hain, aur baz jagah muqaddam píchhe á játá hai aur táli auwal. Misál qaziya i shartiya—

Agar Zaid ko bukhár hai, to wuh bímár hai.

Yahán par, "agar Zaid ko bukhár hai" *muqaddam*, aur "to wuh bímár hai" *táli* hai; aur muqaddam agar táli kí jagah á jáe, to yún hogá, ki—

"Zaid bímár hai, agar us ko bukhár hai."

Upar bayán ho chuká hai, ki qiyás shartiya, yá *ittisáli* hotá hai, yá *infisáli*.

I. QIYÁS ITTISÁLÍ.

Auwal, ham bayán karte hain *ittisáli* ká, jis ká kubrá shartiya muttasila hotá hai, aur sugrá, hamliya. Misál is kí,—

Agar Zaid ko bukhár hai, to bímár hai.

Lekin Zaid ko bukhár hai.

Pas, Wuh bímár hai.

Or

If A is B, A is C.

But A is B.

Therefore, A is C.

In this example it is plain that if we affirm the antecedent, the affirmative of the consequent necessarily follows, and we get the first rule for conditional propositions.

1.—*If the antecedent be granted the consequent must be granted also.*

But if we deny the antecedent, we cannot therefore deny the consequent; thus—

Zaid has not a fever.

Therefore, He is not sick.

For it is plain that he may be sick from some other cause than fever.

If we deny the consequent, we may deny the antecedent also, thus—

Zaid is not sick.

Therefore, He has not a fever.

For it is plain that if Zaid is not sick, he cannot have a fever, hence the second rule:—

2.—*If the consequent be denied, the antecedent must be denied also.*

But it must be observed, that if the consequent be affirmed, we cannot therefore affirm the antecedent and say,

Zaid is sick.

Therefore, He has a fever;

for he may be sick from some other cause.

Putting these two rules together we may draw from them a third rule:—

3.—*If the consequent be affirmed or the antecedent denied no conclusion can be drawn.*

Wuhí misál ba zariā hurúf,—

Agar A. B. hai, to A. D. hai.

Lekin A. B. hai.

Pas, A. D. hai.

Is misál se bakhūbi roshan hai, ki agar muqaddam taslīm kiyá jāe, to tálí ko bhí taslīm karná paregá. Pas yih pahlá qáida niklá, ki—

1.—*Agar muqaddam taslīm kiyá, jāwe, to tálí ko bhí taslīm karná paregá.*

Lekin agar muqaddam ká inkár kiyá jāe, to kuchh zarúr nahín, ki tálí ká bhí inkár kiyá jāe. Maslan,

Zaid ko bukhár nahín hai.

Pas, Wuh bímár nahín hai.

Yih kuchh zarúr nahín hai, ki agar bukhár na ho, to bímár bhí na ho. Sháyad kisí aur sabab se bímár ho.

Agar tálí ká inkár kiyá jāwe, to muqaddam ká bhí inkár karná paregá. Maslan,—

Zaid bímár nahín hai.

Pas, Us ko bukhár nahín hai.

Sáf záhir hai ki agar Zaid bímár nahín hai, to us ko bukhár bhí nahín hai. Pas dúsrá qáida yih niklá ki,—

2.—*Agar tálí ká inkár kiyá jāe, to muqaddam ká inkár bhí karná paregá.*

Lekin gaur karná cháhiye, ki agar tálí taslīm kí jāwe, to kuchh zarúr nahín, ki muqaddam bhí taslīm kiyá jāwe. Maslan, yún na kahná cháhiye,

Zaid bímár hai.

Pas, Us ko bukhár hai.

Kyúnki sháyad kisí aur sabab se bímár ho.

Donon qáidon mazkúra e bálá se tísrá qáida nikaltá hai :—

3.—*Agar tálí taslīm kí jāe, yá muqaddam ká inkár kiyá jāwe, to kuchh natíja nahín niklegá.*

When from the affirmation of the antecedent, we pass to the affirmation of the consequent, the argument is called *constructive*, and when we pass from the denial of the consequent to the denial of the antecedent, the argument is called *destructive*. For the constructive syllogism then, we take the whole of the conjunctive proposition as the *major* premiss, the affirmative of the antecedent for the *minor*, and from these premisses, we draw the affirmative of the consequent as a conclusion. The following is a constructive syllogism.

If this man is a sinner, God is displeased with him.
He is a sinner.
Therefore, God is displeased with him.

In the destructive syllogism, we take the whole of the conjunctive proposition as before, for the major premiss, the *denial* of the consequent, as the minor, and draw the *denial* of the antecedent, as the conclusion.

Thus—

If this man is a sinner, God is displeased with him.
God is not displeased with him.
Therefore, He is not a sinner.

Again,—

If just law prevails, the rights of the weaker are secured.
But the rights of the weaker are not secured.
Therefore, Just law does not prevail.

As we have seen, the conjunctive proposition may have various forms, (p. 66) and the syllogism will be varied accordingly. For example—

If A is B; C is D.
A is B.
Therefore, C is D.

If the rains are scanty, the crop will be light.
The rains are scanty.
Therefore, The crop will be light.

Jab muqaddam ko sádiq qarár dekar tálí ko sádiq thahráwen, to dawá qáim hotá hai, aur jab ki tálí ko qarár dekar muqaddam ko qázib thahráwen, to us waqt men dawá bátíl ho játá hai. Auwal súrát ko musbita, aur dúsri ko *manfi yá* kalná cháhiye. Auwal súrát ke qiyás men wáste qáim karne dawé ke kull qaziye muttasile ko kubrá gardánte hai, aur uske áin muqaddam ko sugrá; pas áin tálí us ká natija niklegá. Chunánchi misál is kí zail men likhí hai :—

Agar yih shaḡhs gunáhgár hai, to Ḳhudá us se ná-ḡhush hai.
Lekin yih shaḡhs gunáhgár hai.
Pas, Ḳhudá us se ná-ḡhush hai.

Wáste bátíl karne dawé ke, kull qaziye i muttasile ko, jaisá pahlí súrát men thá, kubrá karte hai, aur naqíz i tálí ko sugrá. Pas naqíz i muqaddama, natija nikaltá hai. Maslan—

Agar yih shaḡhs gunáhgár hai, to Ḳhudá us se ná-ḡhush hai.
Lekin Ḳhudá us se ná-ḡhush nahín hai.
Pas, Wuh gunáhgár nahín hai.

Dúsri misál :—

Agar insáf ká qánún jári ho, to garíb gurbon ká haqq, ḡhikáne rahtá hai.
Lekin garíb gurbon ká haqq, ḡhikáne nahín rahtá hai.
Pas, Insáf ká qánún jári nahín hai.

Jaisá ki maḡlúm ho chuká hai, [saf. 67] qaziya muttasila, kaí súrátan par átá hai, aur waisí hí súrát qiyás ittisálí kí bhí badal játí hai, maslan

Agar A. B. hai, to J. D. hai. A. B. hai. Pas, J. D. hai.		Agar barsát thoḡi hai, to faal halkí hogí. Barsát thoḡi hai Is liye, Faal halkí hogí.
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Other examples conforming to the form of the conjunctive proposition can be made up by the student.

There may be cases of conjunctive syllogisms in which both premisses are conjunctive, *e. g.*

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 If A is B, C is D.
 If C is D, E is F.
 Therefore, If A is B, E is F.

We may remark here that a conjunctive proposition is really a universal affirmative, whether the antecedent and consequent be universal or particular, affirmative or negative. For instance, "if a man is sick he is not fit to travel." Here the antecedent is a universal affirmative and the consequent a universal negative, yet the *entire* sentence is a universal affirmative proposition. The truth or falsity of the conjunctive proposition depends on the consequent, that is, if the consequent follows from the antecedent the proposition is true, otherwise it is false. The conjunctive proposition may be true as a proposition, and yet the antecedent and consequent be false, thus—

"If science is a bad thing, it should be neglected."

This proposition is true, although both its members are false.

The conjunctive syllogism may be reduced to a simple categorical one by removing the conditional character of the major premiss.

The form of condition may be removed by the phrases "The case of" put in place of the conditional "if." The proposition then becomes categorical, with the antecedent for its subject and the consequent for its predicate; thus,

The case of Zaid having a fever is a case of his being sick.
 Zaid has a fever.

Therefore, Zaid is sick.

Qaziye muttasile ke bamújib, aur misálen tálíb i ilm baná saktá hai. Qiyás i ittísálí kí aisí súraten bhí ho saktí hain ki donon muqaddame muttasile hon. Maslan—

Agar A. B. hai, to J. D. hai.

Agar J. D. hai, to R. S. hai.

Is liye, Agar A. B. hai, to R. S. hai

Jánná cháhiye ki qaziya i muttasila dar haqíqat mújiba kulliya hotá hai, khwáh us ká muqaddam aur tálí kullí ho yá juzí, mújiba ho yá sálíba. Maslan,—

Agar koí shakhs gunáh kare, K̄hudá us se khush na hogá.

Dekho, agarchi yahán par muqaddam mújiba kulliya aur tálí sálíba kulliya hai, táham kull qaziya, mújiba kulliya hai.

Sidq aur kizb qaziye muttasile ká, us kí tálí par mauqúf hai, yane agar tálí muqaddam ko lázim hai, to qaziya sachhá, warna jhúthá. Maslan,—

Agar Zaid ko bukhár hai, to wuh bímár hai.

Yih qaziya muttasila sachhá hai kis wáste ki tálí muqaddam ko lázim hai.

Lekin agar koí kahe ki—

“Agar yih ádmí chor hai, to Hindú hai,”

qaziya jhúthá hai kyúnki is kí tálí muqaddam ko mutlaq lázim nahín hai, zeráki tálí aur muqaddam ke darmiyán kuch iláqa zarúrí nahín hai. Aur aisá bhí hotá hai, ki kull qaziya mattasila sádiq hotá hai, lekin muqaddam aur tálí donon kázib hote hain. Maslan,

Agar ilm burí chíz hai, to ohhor dená cháhiye.

Is qaziye ke sádiq hone men kuchh kalám nahín, magar donon juz is ke kázib hain, yane na to ilm burí chíz hai, na yih, ki us ko ohhor dená cháhiye.

Qiyás ittísálí ko hamliya kí taraf pherte hain, yane qiyás hamliya banáte hain, is tarah par ki kubrá kí alámat-i-ittísál “agar” ko dúr karke us kí jagah lafz “jis mauqe par”, yá “jis hálat men”, aur “is mauqe par”, yá “is hálat men”, barháte hain. Maslan,

Jis hálat men Zaid ko bukhár hai, wuh bímár hai.

Is hál men, Zaid ko hálat bukhár kí hai.

Par, Is hál men, wuh bímár hai.

The same rules apply for testing the validity of conjunctive syllogisms as for categorical.

II.—DISJUNCTIVE SYLLOGISMS.

The disjunctive syllogism is one, the major premiss of which is disjunctive, and the minor categorical. It is of the form,

Either A is B, or it is C.

A is B.

Therefore, A is not C.

Example.

This metal is either gold or it is silver.

It is not silver.

Therefore, It is gold.

It will be seen that the major premiss consists of an alternative between two members. The minor premiss affirms the one, and the conclusion denies the other, or, as in the second example, the minor denies the one, and the conclusion affirms the other.

We may have instead of two alternatives, three or more ; thus,

Either A is B, or C, or D.

A is not B or C.

Therefore, It is D.

Example.

Either the world is eternal, or it produced itself, or it is the work of an intelligent Being.

But the world is not eternal, nor produced by itself.

Therefore, It must be the work of an intelligent Being.

Again—

The angle A must be equal to, or greater, or less, than the angle B.

But it is neither equal to, nor less than B.

Therefore, It must be greater than B.

The simple rule for disjunctives is that,—

If one or more of the alternatives be denied, the remaining one, or some one of those that remain, may be affirmed, and vice versa.

Qiyás ittisálí kí sihhat daryáft karne ke wáste yihí qawáid mustaamal hain, jo hamliya ke wáste the.

II. QIYÁS-I-INFISALÍ.

Qiyás infisálí wuh hai, jis ká kubrá qaziya munfasila aur sugrá hamliya ho. Súrat us kí yih hai :—

Yih A. yá B. hai, yá J. hai.

Yih A. B. hai.

Pas, Yih A. J. nahín hai.

Dúsrí misál.—

Yih dhát yá soná hai, yá chándí.

Lekin yih chándí nahín hai.

Pas, Yih soná hai.

Názirín ko maḷúm hogá, ki kubrá men do juz infisálí hote hain, aur sugrá men donon men se ek mújiba hotá hai, aur natíje men dúsrá sáliba yá baráks is ke, jaisá ki dúsrí misál se záhir hai.

Aur jánná oháhiye ki yih kuchh zurúr nahín ki do hí juz infisálí hon, balki tén hon, yá ziyáda. Maslan—

Yih A. yá B. hai yá J. hai yá D. hai.

Yih A. na B. hai na J. hai.

Pas, Yih A. D. hai.

Dúsrí misál.

“Álam qadím hai, yá az khud ban gayá hai, yá kisí hakím ká banáyá hai.

Lekin álam na to qadím hai na az khud ban gayá.

Pas, Kisí hakím ká banáyá hai.”

Tísrí misál.

Záviya A. yá barábar hogá, yá bará hogá, yá kam hogá, záviya B. se.

Lekin záviya A. na barábar hai, na kam hai, záviya B. se.

Pas, Záviya A. zurúr bará hogá záviyá B se.

Ek sahl sá qáida wáste qiyás infisálí ke yih hai, ki

Agar ek juz kázib qarár diyá jae to dúsrá sádiq qarár diyá jáegá.

This rule, however, is not without exception, for in some instances by affirming one alternative, we are not authorized deny the other ; thus,

“ Virtue tends to procure us, either the esteem of mankind, or the favour of God.” Here both parts of the proposition may be true. In such cases we must determine from the context, whether the two members are intended to exclude one another or not.

III. THE DILEMMA.

THE *dilemma* is a hypothetical argument or syllogism of which the major premiss is a compound conjunctive proposition, and the minor premiss a disjunctive proposition.

In the dilemma there are in reality two or more conjunctive syllogisms blended into one, so that the statement is briefer than if each syllogism were separately unfolded in the argument.

The dilemma has several forms, as,

Simple dilemma.

If A is B, or C is D, then E is F.
But either A is B, or C is D.

Therefore, E is F.

Another form of the simple dilemma is,

If A is B, then C is D, or E is F.
But C is not D, nor E is F.

Therefore, A is not B.

Complex dilemma.

In this there are several antecedents each with its own consequent ; thus,

If A is B, G is H ; and if C is D, L is M ; and if E is F,
X is Y.

But either A is B, or C is D, or L is M.

Therefore, G is H, or L is M, or X is Y.

Jánná cháhiye ki kabhí is ámm qáide ke khiláf bhí wáqi húá kartá hai. Maslan—

Basabab neki ke, ham yá insán kí nazar meñ pasand áte,
yá Kḥudá kí nazar meñ.

Yahán par mumkin hai, ki donon juz sádiq hon. Jis bayán meñ aisá qaziya wáqi ho to wahán par tarz i bayán se maḷúm ho jáegá ki donon juz sádiq hain, yá sirf ek.

III. QIYÁS MURAKKAB SHARTIYA.

Qiyás murakkab shartiya us ko kahte hain, jis ká kubrá qaziya muttasila murakkab hotá hai, aur sugrá qaziya munfasila.

Is qiyás meñ dar haqíqat do yá is se ziyáda qiyás ittisálí hote hain, jin sab ko ikhtisár ke liye milákar ek kar dete hain.

Qiyás murakkab shartiya kí kaí súraten hain, maslan *awwal súrát* wuh jis meñ kaí ek muqaddam hote hain, aur táli ek hotí hai, yá táli kaí ek aur muqaddam sab ká ek.

Mísál 1.

Agar A. B. hai, yá J. D. hai, to R. S. hai.
Lekin yá to A. B. hai, yá J. D. hai.
Pas, R. S. hai.

Mísál 2.

Agar A. B. hai, to J. D. hai, yá R. S. hai.
Lekin na to J. D. hai, na R. S. hai.
Pas, A. B. nahín hai.

Dúsrí súrát wuh hai, jis meñ kaí ek muqaddam hote hain, aur har muqaddam kí táli judá hotí hai,—Maslan:—

Agar A. B. hai, to J. D. hai, aur agar R. S. hai, to F. K. hai, aur agar L. M. hai, to N. W. hai.
Lekin yá A. B. hai, yá R. S. hai, yá F. K. hai.
Pas, J. D. hai, yá F. K. hai, yá N. W. hai.

These examples as given are in the *constructive* form, but if we wish we can reason in the *destructive* form.

An illustration of the first form or simple dilemma is,—

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- Major*, If the blest in heaven have no desires, or have them fully gratified, they will be perfectly happy.
- Minor*, But they will either have no desires, or have them fully gratified.
- Con.*, Therefore the blest in heaven will be perfectly happy.

It was remarked, that the dilemma is in reality two or more disjunctive syllogisms, blended into one with a disjunctive minor. In illustration of this statement, we may unfold this dilemma into the two syllogisms contained in it; thus,—

If the blest in heaven will have no desires, they will be perfectly happy.
But they will have no desires.

Therefore, The blest in heaven will be perfectly happy.

Again,

If the blest in heaven will have their desires fully gratified, they will be perfectly happy.
But they will have them fully gratified.

Therefore, The blest in heaven will be perfectly happy.

An example of the second form of the simple dilemma is,

If man cannot make progress towards perfection, he is either a brute, or divine.
But man is neither a brute nor divine.

Therefore, He can make progress towards perfection.

This also may be resolved into two syllogisms.

If man cannot make progress towards perfection, he is a brute.
But man is not a brute.

Therefore, He can make progress toward perfection.

Yih sab misálen mazkúra, musbita hain; agar ham cháhen, manfiya baná sakte hain,

Auwal súrat kí misál yih hai, ki—

Agar pák logon ko bihisht men kisi bát kí khwáhish nahín hotí hai, yá hotí hai aur púri ho játi hai, to un ko kamál ráhat hogí.

Lekin un ko yá to khwáhish nahín hotí, yá hotí hai to púri ho játi hai.

Pas, Pák logon ko bihisht men kamál ráhat hogí.

Upar mazkúr ho chuká hai, ki *Qiyás i murakkab shartiya* dar haqiqat do yá is se ziyáda qiyás hote hain, jin ko milákar ek kar dete hain, aur sugrá jin ká munfasila hotá hai. Chunánchi wáste záhir karne is bát ke, donon qiyás, jo is qiyás i murakkab men milákar ek kar diye hain, judá judá karke likhe játe hain :—

1.—Agar pák logon ko bihisht men cháh kisi bát kí nahín hogí, to we kamál ráhat men hongé.

Lekin un ko cháh nahín hogí.

Pas, Pák log bihisht men kamál ráhat men hongé.

2.—Agar Pák logon kí cháh bihisht men púri ho jáegí, to we kamál ráhat men hongé.

Lekin un kí cháh bihisht men púri ho jáegí.

Pas, Pák log bihisht men kamál ráhat men hongé.

Dúsrí misál.—Tálikí kái ek, aur muqaddam ek.

Agar insán neki o ilm kí taraqqí nahín kar saktá hai, to wuh nirá haiwán hai, yá Kḥudá ke barábar hai.

Lekin na wuh nirá haiwán hai, na Kḥudá ke barábar hai.

Pas, Wuh neki o ilm kí taraqqí kar saktá hai.

Is ke bhí do qiyás ho sakte hain, Maslan—

1.—Agar insán neki o ilm kí taraqqí nahín kar saktá hai, to wuh nirá haiwán hai.

Lekin wuh nirá haiwán nahín hai.

Pas, Wuh neki o ilm kí taraqqí kar saktá hai.

2.—Agar insán neki o ilm kí taraqqí nahín kar saktá hai to wuh Kḥudá ke barábar hai.

Lekin wuh Kḥudá ke barábar nahín hai.

Pas, Insán neki o ilm kí taraqqí kar saktá hai.

Again,

If man cannot make progress towards perfection, he is divine.

But man is not divine.

Therefore, He can make progress towards perfection.

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An example of the *second* or *complex form* of the dilemma, in which there are several antecedents each with its own consequent, is—

Major. If this man were wise he would not speak irreverently of God in jest, and if he were good, he would not do so in earnest, and if he were a well-wisher of humanity, he would not do so in forgetfulness even. ¶

Minor. But he either does it in jest, or in earnest, or in forgetfulness.

Con. Therefore he is either not wise, or not good, or not a lover of humanity.

This dilemma may be resolved into the three syllogisms contained in it,—

1 If this man were wise, he would not speak irreverently of God even in jest.
He does speak irreverently of God in jest.
Therefore, He is not wise.

2 If this man were good, he would not speak of God irreverently in earnest.
He does speak irreverently in earnest.
Therefore, He is not good.

3 If this man were a well-wisher of humanity, he would not speak irreverently of God in forgetfulness.
He does speak irreverently of God in forgetfulness.
Therefore, He is not a well-wisher of humanity.

The difference between the dilemma then, and any simple conjunctive syllogism, is that the dilemma really contains in a contracted form, two or more conjunctive syllogisms.

The dilemma may be stated also in a categorical form, and the rules for testing the validity of the syllogism applied directly to it. Just as in reducing a con-

Qiyás i murakkab kí dúsrí súrát kí misál, jis ke kaí muqaddam hote hain, aur har muqaddam kí táli judá hotí hai :—

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Agar yih ádmí aqlmand hotá, to K̄hudá kí nisbat be-tamízí ká kalima t̄hat̄the se zabán par na látá, aur agar nek hotá, to haqíqat men aisá na kartá, aur agar k̄hair-k̄hwáh insán ká hotá, to bhúlkar bhí aisá na kartá.

Lekin wuh yá to t̄hat̄the se yá haqíqatan, yá bhúlkar aisá kartá hai.

Pas, Wuh yá to aqlmand nahín, yá nek nahín, yá insán ká k̄hair-k̄hwáh nahín.

Is qiyás men bhí t̄inon qiyás judá judá ho sakte hain :—

1. { Agar yih ádmí aqlmand hotá, to K̄hudá kí nisbat be-tamízí ká kalima t̄hat̄the se zabán par na látá.
Lekin wuh be-tamízí ká kalima t̄hat̄the se zabán par látá hai.
Pas, Wuh aqlmand nahín hai.

2. { Agar yih ádmí nek hotá, to K̄hudá kí nisbat be-tamízí ká kalima haqíqat men zabán par na látá.
Lekin wuh be-tamízí ká kalima K̄hudá kí nisbat zabán par látá hai.
Pas, Wuh nek nahín hai.

3. { Agar yih ádmí k̄hair-k̄hwáh insán ká hotá, to K̄hudá kí nisbat be-tamízí ká kalima bhúlkar zabán par na látá.
Lekin wuh K̄hudá kí nisbat be-tamízí ká kalima bhúlkar zabán par látá hai.
Pas, Wuh k̄hair-k̄hwáh insán ká nahín hai.

Qiyás i murakkab shartiya do t̄in qiyáson shartí se, jo ikhtisár ke sáth hon, milkar bantá hai.

Qiyás i murakkab shartiya bhí qiyás i hamliya kí súrát men ho saktá hai, aur wáste daryáft karne sihat is qiyás ke bhí wuhí qawáid, jin ká bayán úpar á chuká, istiamál kiye jáwen, aur jaisá ki qiyás i ittisálí ko hamliya kí taraf pherne ke wáste, lafz “jis mauqa par,” aur “is mauqa

ditional syllogism to a categorical the phrases, "the case of", and "the present case," are used, thus:—

The case of A being B, or of E being F, are cases of X
being Y.

The present is a case of A being B, or of E being F.
Therefore, This is a case of X being Y.

If the premisses are admitted, of course the conclusion must follow, and the rules for testing syllogisms must be applied to ascertain the validity in this case also.

par,' wg. mustamal hain, isí tarah is men bhí honá cháhiye,
Maslan :—

Jis mauqa par A. B. hotá yá J. D. hotá hai, us mauqa pa

R. S. hotá hai. www.libtool.com.cn

Is mauqa par A. B. hai, yá J. D. hai.

Pas, Is mauqa par R. S. hai.

Agar muqaddamat taslim kiye jaein, to jo natija in se
niklega, us ko zurur manna chahiye.

SECTION V.

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OTHER FORMS OF ARGUMENT.

IRREGULAR AND COMPOUND SYLLOGISMS.

THE ENTHYMEME.

THE *enthymeme* is a syllogism with one premiss omitted. It is thus a contracted syllogism. As was remarked in another part of this work on the syllogism, (page 110, 5) in reasoning, some propositions in the chain of argument are usually suppressed because the mind readily takes in the argument without unfolding all its steps at length. The enthymeme is a common form of abridged argument. Either premiss may be omitted from the syllogism. For example,

All men are mortal.
Cæsar is a man.
Therefore, Cæsar is mortal.

In this we may omit the major premiss, thus,—

Cæsar is a man.
Therefore, Cæsar is mortal.

Or we may write it thus, suppressing the minor premiss,—

All men are mortal.
Therefore, Cæsar is mortal.

Now, both these statements are satisfactory, because the suppressed proposition is readily supplied in the mind.

FASL V.

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QIYÁS I BE-TARTÍB O MURAKKAB.

QIYÁS I MUḤHAFFAF.

Jis qiyás ká ek qaziya yañe kubrá yá sugrá muqaddar ho, us ko *qiyás i muḥhaffaf* samajhná cháhíye. Jaisá ki i kitáb meñ bayán ho chuká hai (*Saf.* 111, V.) aksar yún húa kartá hai, ki dalíleñ meñ mufassal bayán nahín hotá hai, is liye ki us dalíl ko ham waisá hí samajhte hain, agarchi baz qaziye chhor-te jáen. Muḥhaffaf dalíleñ aksar isí sú-rat meñ húa kartí hain. Aur yih ikhtiyár hai, ki kubrá sugrá meñ se jaun sá cháhēñ muqaddar karen. Maslan ek dalíl hai, ki—

Kull insán fání haiñ.

Zaid insán hai.

Pas, Zaid fání hai.

Ab agar ham cháhēñ, to kubrá ko is dalíl meñ na zikr karen, Maslan,

Zaid insán hai.

Pas, Zaid fání hai.

Donoñ tarah dalíl púrí hai, kyúnki qaziya i muqaddara : ihnan samjhá játá hai, go ki lafzan maujúd na ho.

The completed syllogism may be easily constructed from the given enthymeme, which always contains the three terms of the syllogism. By examining the conclusion of the enthymeme we know at once what the major and minor terms of the syllogism are, since the conclusion always contains these terms. Hence, since the subject of the conclusion is always the minor term, and its predicate the major, we may know which premiss is given in the enthymeme, from the term it contains.

Thus, in the first example of the enthymeme given, we see that the given premiss must be the minor because it contains the subject of the conclusion, and in the second example the given premiss must be the major, because containing the predicate of the conclusion. Having thus ascertained what premiss is wanting, the syllogism can at once be constructed, and its validity tested by the rules for testing syllogisms. It may be remarked, that ordinarily, in speaking or writing, the major premiss is suppressed, because being generally some fact or principle to which the mind yields ready assent. Thus, in the example given, it would be more natural to suppress the major premiss, "all men are mortal," because this is a fact so established by observation as to command our assent. Hence we would simply say,—

Cæsar is a man.
Therefore, He is mortal.

Sometimes the enthymeme is not in the syllogistic form, thus,—

Cæsar is mortal.
Because, Cæsar is a man.

When the causal conjunction "because," thus unites the propositions of an enthymeme, they may be invert-

Jánná cháhiye ki muḥhaffaf qiyás se púra qiyás ba ásaní ban saktá hai, kyúnki tinoṅ juz qiyás ke yaṅe akbar aur asgar aur hadd i ausat maujúd haiṅ. Qiyás i muḥhaffaf ke natíje ke dekhne se maḷúm ho játá hai, ki akbar aur asgar yih haiṅ, kyúnki natíje meṅ hamesha yih juz maujúd hote haiṅ. Pas chúnki mauzú natíje ká asgar hotá hai, aur us ká mahmúl akbar, yih maḷúm ho játá hai, ki yih qaziya qiyás i muḥhaffaf meṅ kubrá hai yá sugrá. Maslan pahlí misál i mazkúra e qiyás i muḥhaffaf meṅ maḷúm hotá hai, ki pahlá qaziya jo hai, sugrá hai, is sabab se ki natíje ká mauzú us meṅ páyá játá hai; aur dúsrí misál meṅ, jo qaziya páyá játá hai zarúr kubrá hogá, kyúnki natíje ká mahmúl us meṅ maujúd hai. Pas jab maḷúm ho játá hai, ki fulána muqaddama is qiyás meṅ maujúd nahín hai, us hí ko láke púra qiyás baná lete haiṅ, aur us kí sihat ba zariya un qawá'id ke, jo wáste parakhne qiyás ke muqarrar haiṅ, daryáft kar lete haiṅ.

Jánná cháhiye ki aksar dalíl meṅ, kubrá muqaddar húa kartá hai, is wajh se ki wuh ek aisá mashhúr o maṛúf qaziya hai ki dil bagair zikr karne ke ba ásaní use taslím kar letá hai. Maslan agar koí bayán kare, ki Zaid fání hai, to kubrá, yaṅe *kull insán fání haiṅ*, is ko muqaddar karegá, kyúnki adná aur álá is haqíqat se wáqif haiṅ, ki sab ádmí marnewále haiṅ. Pas wuh yún kahegá ki—

Zaid insán hai.
Pas, Wuh fání hai.

Baz mauqa par qiyás i muḥhaffaf, qiyás kí súrat par nahín hotá hai, jaisá koí kahe:—

Zaid fání hai,
Kyúnki, Wuh fání hai.

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J ahán kahín koí harf illat ká, jaisá “chúnki,” kyúnki,” “is báis se,” wg. kísi qiyás i muḥhaffaf ke qaziyon ko báham-dígar rabt de, to agar ham cháhen, un ká aks yaṅe n uqaddam ko muakḥkhar, aur muakḥkhar ko muqaddam kareṅge, aur harf i illat ko dúr karke ákhir ke qaziya meṅ

ed and joined by the conjunction "therefore," and then the syllogism can be constructed from them. Thus with the above,—

Caesar is a man.
Therefore, Caesar is mortal.

The rule for constructing the syllogism from the enthymeme is,

If the premiss given, contains the subject of the conclusion, it is the minor, if the predicate of the conclusion it is the major.

THE SORITES.*

The *Sorites* is a string of contracted syllogisms of the first figure. It has already been remarked that in reasoning we do not usually unfold an argument in its full logical or syllogistic form, but suppress some of the propositions. Now, if we have a string of syllogisms in the first figure, so arranged that the conclusion of each becomes a premiss in the next, these syllogisms may be contracted into the *Sorites*, in which the predicate of the first proposition is made the subject of the next, until the predicate of the last proposition is predicated of the subject of the first proposition. This is a very common form of argumentation. The following is the form of the *Sorites* :—

A is B.
B is C.
C is D.
D is E.
E is F.

Therefore, A is F.

Or by substituting propositions for these letters—

The mind is a thinking substance.
A thinking substance is a spirit.
A spirit is incorporeal.
That which is incorporeal is indissoluble.
That which is indissoluble is immortal.

Therefore, The mind is immortal.

* From the Greek word *Soros*, meaning a heap.

Iafz *pas* barhá dēnge, to is hálat men púrá qiyás banne ke láiq hogá. Pas úpar kí misál ko agar is súrát men láwen, to yún hogí,—

Zaid insán hai,—

Pas, Zaid fání hai.

Qiyás i mukhaffaf se púrá qiyás banáne ká qáida yih hai :—

Agar kisi muqaddame men mauzú natije ká póyá jáwe to wuh sugrá hai, aur agar mahmúl páyá jáe to kubrá.

QIYÁS I MUSALSAL.

Qiyás i Musalsal shakl i auwal ke kaí qiyáson mukhtasar ke silsile ko kahte haiñ. Yih úpar zikr ho chuká hai, ki bahs mubáhise men har dalíl ko bajinsihí ba súrát i qiyás alahida alahida karke nahín bayán karte haiñ, balki baz qaziye aise mauqa par muqaddar karte haiñ. Agar kaí ek qiyás silsilewár is tartíb se bayán kiye jáwen, ki natíja har qiyás ká dúsre ká muqaddama wáqi ho, to aise ikhtisár ko *Qiyás i musalsal* kahte haiñ. Aur yád rakhná cháhíye, ki qiyás i musalsal men mahmúl qaziya i auwa ká, dúsre qaziye ká mauzú hotá hai, aur tísre ká mahmúl, chauthé ká mauzú wáqi hotá hai; hattá ki sab se ákhir ke qaziye ká mahmúl, qaziya i auwal ká mahmúl partá hai. Yihí qáida aksar dalíl láne ká hai. Misál qiyás i musalsal kí, zail men mundarij hai :—

A. B. hai.

B. J. hai

J. D. hai.

D. R. hai.

R. S. hai.

Pas, A. S. hai.

Aur agar in hurúf ke iwaz men qaziye qáim kiye jáen, to misál yún hogí :—

Zihn, ek qúwat i darráka hai.

Qúwat i darráka, rúh hai.

Rúh gair jism hai.

Jo chíz gair jism hai, gair-fání hai.

Jo chíz gair-fání hai, abad tak rahegi.

Pas, Zihn abad tak rahegá.

Now this abridged argument can be unfolded into the syllogisms contained in it, thus,—

1		2		3		4
B is C.		C is D.		D is E.		E is F.
A is B.		A is C.		A is D.		A is E.
A is C.		A is D.		A is E.		A is F.

Or if we substitute the propositions given for the letters then we will have,—

- 1 { A thinking substance is a spirit.
The mind is a thinking substance.
Therefore the mind is a spirit.
- 2 { A spirit is incorporeal.
The mind is a spirit.
Therefore the mind is incorporeal.
- 3 { That which is incorporeal is indissoluble.
The mind is incorporeal.
Therefore the mind is indissoluble.
- 4 { That which is indissoluble is immortal.
The mind is indissoluble.
Therefore the mind is immortal.

Now, it may be seen that these are all syllogisms in the first figure, and by comparing them with the sorites it will be observed that it contains as middle terms, B. C. D. E., which are used twice, that is the sorites has as many middle terms as there are propositions between the first and the last, and consequently is an abridgment of so many syllogisms. It will be further seen from a comparison of these syllogisms with the sorites from which they are formed, that it contains but one minor premiss, *viz.*, A. B. The other, are all majors. Hence it is plain that in the sorites we simply take the only minor term given and by passing from middle term to middle term, link it with the final major term in a conclusion, as if we had but one syllogism. Thus, in the example given, the minor A was joined to the major through B. C. D. E.

Agar is dalíl i muḵhtasar meṇ jitne qiyás dáḵhil haiṅ, un sab ko judá judá karke rakheṅ to dalíl yún hogí :—

B. J. hai.	J. D. hai.	D. R. hai.	R. S. hai.
A. B. hai.	A. J. hai.	A. D. hai.	A. R. hai.
Pas, A. J. hai.	Pas, A. D. hai.	Pas, A. R. hai.	Pas, A. S. hai.

Yih misál hurúf kí húi. Qazíon kí misál yih hai :—

1. { Qúwat i darráká rúh hai.
Zihn ek qúwat i darráka hai.
Pas zihn rúh hai.
2. { Rúh gair i jism hai.
Zihn rúh hai.
Pas zihn gair i jism hai.
3. { Jo chíz gair i jism hai, gairfání hai.
Zihn gair i jism hai.
Pas zihn gair-fání hai.
4. { Jo chíz gair-fání hai, abad tak rahegí.
Zihn gair-fání hai.
Pas, zihn abad tak rahegá.

Ab dekhna cháhíye, ki yih sab qiyás shakl i auwal ke haiṅ, aur qiyás i musalsal se muqábala karne se maḷúm hotá hai, ki B. J. D. R., jo qiyás meṅ do do bár áe haiṅ hadd i ausat haiṅ. Aur maḷúm hogá, ki qiyás i musalsal meṅ utne hadd i ausat hote haiṅ, jitne auwal qaziye aur natíje ke bích meṅ qaziye hote haiṅ. Pas záhir hai, ki jitne hadd i ausat haiṅ, utne hí qiyáson se iḵhtisár karke qiyás i musalsal baná hai. Aur aláwa is ke in qiyáson ko qiyás i musalsal se muqábala karne se maḷúm ho játá hai, ki is meṅ sugrá sirf ek hotá hai, yaṅe “A. B. hai,” aur báqí sab kubrá hote haiṅ. Garaz ki yih záhir hai, ki qiyás i musalsal meṅ asgar ko leke ek hadd i ausat ko dústre se silsilawár miláte chale áte haiṅ; hattá ki natíje meṅ ákar us hí asgar ko sab se áḵhírí qaziye ke mahmúl se nisbat dete haiṅ, is tarah goyá ki sirf ek hí qiyás hotá hai. Chunañchi misál i mazkúra e bálá se záhir hai, ki asgar B akbar S., se ba zariá hadd i ausat B. J. I. R. ke, nisbat. diyá gayá hai.

Since the sorites is an abridgment of syllogisms in the first figure, it is plain that its first proposition, and that alone, may be particular, because it is a minor premiss, and in the first figure the minor premiss may be particular but not the major (p. 142, r. 1.), and in the sorites all the other propositions are majors. It is further manifest that in the sorites there can be one, and only one, negative premiss and that the last; if any other premiss were negative, one of the syllogisms contained in the sorites besides the last would have a negative conclusion which becomes the minor premiss of the following syllogism, but in the first figure the minor premiss cannot be negative. (p. 142, r. 2.) We may then lay down the following rule:—

In the sorites, except the conclusion, the first proposition alone may be particular, and only the proposition preceding the conclusion can be negative.

A sorites violating this rule is not valid. When the sorites is resolved into syllogisms, these may be tested by the rules formed for this purpose. A rule for resolving the sorites may be thus stated,—

Take the second proposition of the sorites for the major premiss of the first syllogism, the first proposition for the minor, and use the conclusion thus drawn for the minor premiss of the second syllogism, with the third proposition of the sorites as a major, and so on, as long as any middle term remains.

There is an inverted form of the sorites called, from the name of its inventor, the *Goclenian sorites*. In it the propositions are reversed, thus,—

E is F.

D is E.

C is D.

B is C.

A is B.

Therefore, A is F.

Jab ki yih bát qarár pái, ki qiyás i musalsal qiyáson shakl i auwal ká ikhtisár hai, to maḷúm húa ki qiyás i musalsal meṇ bajuz qaziya i auwal ke, aur koí juziya nahín hotá hai, is sabab se ki pahlá qaziya sugrá hotá hai, aur shakl i auwal meṇ sugrá hí juziya átá hai na yih ki kubrá; (Saf. 145, 1.) aur báqí sab kubrá hote hain. Aur yih bhí maḷúm húa, ki is qiyás meṇ sirf ek hí qaziya i sáliba hotá hai, aur wuh ákhirí hai, kyúnki agar aur koí qaziya i sáliba ho, to aláwa qiyás ákhirí ke, ek aur qiyás, qiyás i musalsal meṇ aisá hogá, ki jis ká natíja sáliba niklegá, aur yih natíja qiyás meṇ sugrá wáqí hogá, lekin shakl i auwal meṇ sugrá sáliba nahín hotá hai. (Saf. 145, 2.) Pas ek qáida zail meṇ likhte hain :—

Qiyás i musalsal meṇ siwá natíje ke, sirf pahlá qaziya juzia hotá hai, aur sirf ákhirí yane natíje ke úpar jo hotá hai, sáliba hotá hai.

Jo qiyás i musalsal is qáide ke k̄hiláf hogá, sahíh nahín hogá. Jab qiyás i musalsal ke sab qiyás alag alag karke likhe jáen, to un kí sihhat un qáidon se daryáft karná cháhiye, jo is maqsad ke wáste muqarrar hain. Qáida wáste judá karne qiyás ke yih hai :—

Qiyás i musalsal ke dúsre qaziye ko pahlá qiyás banáne ke wáste kubrá, aur pahle qaziye ko sugrá gardánte hain, aur phir un donon muqaddamát se, jo natíja nikaltá hai, us dúsre qiyás ká sugrá karte hain, aur ishí qiyás ká kubrá, qiyás i musalsal ke tísre qaziye ko qáim karte hain. Isí tarah par karte chale játe hain, jab tak sab hadd i ausat tamám na ho jáwen.

Qiyás i musalsal ká áks bhí ho saktá hai, chunáñchi misál i zail se záhir hai :—

R. S. hai.
 D. R. hai.
 J. D. hai.
 B. J. hai.
 A. B. hai.
 Pas, A. S. hai.

The same in proposition, thus,—

That which is indissoluble is immortal.
 That which is incorporeal is indissoluble.
 A spirit is incorporeal.
 A thinking substance is a spirit.
 The mind is a thinking substance.

Therefore, The mind is immortal.

It will be observed here, that the conclusion reached is just the same as before, although the order of the propositions is reversed. It will be seen also, that in this form we begin with the most extensive proposition first, and reason from the general to the particular. It may often best suit the argument to do so.

The sorites may also be composed of conditional propositions, and is then called the *hypothetical sorites*. The hypothetical sorites, consists of a string of conditional propositions so arranged that the consequent of each becomes the antecedent of the succeeding one, and the conclusion is drawn by either affirming the first antecedent with the last consequent, or by denying the last consequent with the first antecedent. For example,—

If A is B, then C is D.	If A is B, then C is D.
If C is D, then E is F. or	If C is D, then E is F.
But A is B.	But E is not F.
Therefore, E is F.	Therefore, A is not B.

If God is holy then He is not the author of sin.
 If He is not the author of sin, then the doctrine of fate is false.
 But God is holy, therefore the doctrine of fate is false.

The second example is a destructive hypothetical sorites.

If gaming is a good thing, the practice of it is right.
 If the practice of it is right, it will result in good.
 But it does not result in good, therefore the practice of it is not right.

Misál qazíon kí yih hai,—

Jo chíz gair-fání hai, abad tak rahegí.

Jo chíz jism nahín, gair-fání hai.

Rúh, jism nahín hai.

Qúwat i darráka, rúh hai.

Zihn, qúwat i darráka hai.

Pas, Zihn abad tak rahegá.

Yahán par dekhná cháhiye, ki is súrát men bhí wuhí natíja níklá, jo pahlí súrát men níkalá thá, go kí qaziye qiyás ke, sab ulṭe ho gae hain.

Yih bhí maḷúm karná cháhiye, ki is áks kí súrát men pahlá qaziya jo láte hain, us ke afrád aur qazíon se ziyáda hote hain, aur kullí se juzí kí taraf dalíl láte hain. Aksar mauḡa ákar partá hai, kí yúnhín dalíl láná achchhá hotá hai.

Qiyás i musalsal, qaziyon muttasila se bhí murakkab hotá hai, aur tab *qiyás i musalsal shartiya* kahte hain. Qiyás i musalsal shartiya, qaziyon muttasilon ke silsile se murakkab hotá hai, aur wuh qaziye is tarah par áte hain, kí tálí har qaziya i auwal kí, apne má baḡ ká muqaddam wáqi hotí hai, aur natíja yá to pahle muqaddam ko ákhirí tálí ke sáth nisbat i isbát dene se hásil hotá hai, yá ákhirí tálí ko pahle muqaddam ke sáth nisbat i nafí dene se. Maslan,

Agar A. B. hai, to J. D. hai.

Agar A. B. hai, to J. D. hai.

Agar J. D. hai, to R. S. hai. Yá Agar J. D. hai, to R. S. hai.

Lekin A. B. hai; Pas, R. S. hai. Lekin R. S. nahín; Pas, A. B. nahín

Misál i auwal, qiyás i musalsal shartí bil íjáb kí :—

Agar Kḡudá pák hai, to Bání gunáh ká nahín hai.

Agar wuh Bání gunáh ká nahín hai, to qismat ká masla galat hai.

Lekin Kḡudá pák hai, pas qismat ká masla galat hai.

Misál dúsrí, qiyás i musalsal shartí bis salb kí :—

Agar júá khelná achchhí bát hai, to us ká khelná durust hai.

Agar khelná durust hai, to us ká anjám bihtar hogá.

Lekin us ká anjám bihtar nahín hotá, pas us ká khelná durust nahín hai.

The hypothetical sorites may be reduced to the categorical one, by the rule for reducing hypothetical to categorical propositions (p. 180). It may then be tested by the rules for the sorites, or it can be resolved into hypothetical syllogisms and then tested by the method for trying the validity of hypothetical syllogisms. [p. 180.]

We may now briefly recapitulate the whole subject of hypothetical, compound, and abridged syllogisms.

Qiyás i musalsal shartiya ko usí qáida kí rú se, jo shartiya ko hamliye men lane ke wáste muqarrar hai, hamliya bhi kar sakte hain, [*Saf.* 181 ;] aur phir sihhat us kí, qáidon qiyás i musalsal se malúm ho játí hai ; yá yih ki us qiyás i musalsal men jitne qiyás i shartiya dá-
 khil hain, un sab ko judá judá karke phir un kí sihhat usí qáida kí rú se jo qiyáson shartiya kí sihhat malúm karne ke wáste muqarrar hai, daryáft kí jáwe. [*Saf.* 181.]

Ab ham kull bayán *qiyáson* ká, bil-ijmál likhte hain:—

RECAPITULATION.
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Syllogisms are divided thus,—

Syllogisms	{	Categorical	{	Conjunctive.	
		Hypothetical...		Disjunctive.	
				Dilemma.	{ Simple.
					Complex.
Irregular and Compound syllogisms,	{	Enthymeme			
		Sorites			

RULES.

1.—For the conjunctive syllogism.

First. If the antecedent be granted, the consequent must be granted also.

Second. If the consequent be denied, the antecedent may be denied also.

Third. If the consequent be affirmed, or the antecedent be denied, no conclusion can be drawn.

2.—For the disjunctive syllogism.

If one or more of the alternatives be denied, the remaining one, or some one of those that remain may be affirmed.

3.—For constructing a syllogism from the Enthymeme.

If the premiss given contains the subject of the conclusion, it is the minor, if the predicate of the conclusion, it is the major.

4.—For the Sorites.

In the Sorites, except the conclusion, the first proposition alone may be particular, and only the proposition preceding the conclusion may be negative.

BAYÁN I MUJMAL.

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Qiyás is tarah par munqasim hai :—

$Qiyás, \left\{ \begin{array}{l} \text{Hamaliya,} \\ \text{Shartiya, ...} \end{array} \right\} \left\{ \begin{array}{l} \text{Ittisáli.} \\ \text{Infisáli.} \\ \text{Murakkab.} \end{array} \right.$

$Aur\ qism\ ká\ qiyás, \left\{ \begin{array}{l} \text{Qiyás\ i\ Mukhaffaf.} \\ \text{Qiyás\ i\ Musalsal.} \end{array} \right.$

QAWÁID.

1.—*Qiyás i Ittisáli ke liye.*

PAHLÁ.—Agar muqaddam taslím kiyá jáwe, to tálí bhí zurúr taslím karní paregí.

DÚSRÁ.—Agar tálí ká inkár kiyá jáwe, to muqaddam ká bhí inkár karná paregá.

TÍSARÁ.—Agar tálí taslím kí jáwe, yá muqaddam ká inkár kiyá jáwe, to kuchh natíja nahín niklegá.

2.—*Qiyás i Infisáli ke liye.*

Agar ek juz kázib qarár diyá jáwe, to dúsrá sádiq qarár diyá jáwegá.

3.—*Qiyás i Mukhaffaf ke liye.*

Agar kisi muqaddama men, mauzú natíje ká páyá jáwe, to wuh sugrá hai, aur agar mahmúl páyá jáwe, to kubrá hai.

4.—*Qiyás Musalsal ke liye.*

Qiyás i Musalsal men, siwá natíja ke, sirf pahlá qaziya, juziya hotá hai, aur sirf ákhirí qaziya, yane natíje ke úpar jo hotá hai, sálíba hotá hai.

PART IV.

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APPLIED LOGIC.

By applied Logic is meant the practical use of the science for general purposes, as distinguished from a mere knowledge of the science in the abstract, *i. e.*, a mere knowledge of the laws and rules of logic, without any special reference to their use and application. It is one thing to have merely a knowledge of the nature and structure, so to speak, of a science, and quite another thing to be familiar with its practical use in every day life. For instance, one may know the names of all the implements used in carpentering, and the mode of using them, and have a knowledge of the rules used in that useful art, and yet may not be able to make furniture. The knowledge required for this, is quite different from a mere acquaintance with names and rules. Again, by studying a book, one may gain a knowledge of the nature and rules of surveying, but a practical or "applied" use of the science of surveying, is obtained in the field and by observing, how under different circumstances, these rules are applied. Having gone over the laws, rules, and terms, that constitute the science of Logic, we propose in this part of our book to treat more of a practical application of the science, showing how it is applied in every day life. We will first classify the different forms of error commonly met, and illustrate the mode of treating them, and then explain some modes or forms in which arguments are commonly used.

HISSA IV.

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MANTIQ I ISTIAMÁLÍ.

MANTIQ I Istiamálí se yih murád hai, ki is ilm ko, jahár kahín hájat pare, amal men lāwen. Chunānchi mantiq i istiamálí us ilm i mantiq se, jo sirf zihn men ho, faqt isí bāt men mukhtalif hai. Kisí ilm ká ján lená aur bāt hai, aur us ká mashq rakhná is tarah par ki roz-marra kám men áwe, aur bāt hai. Maslan, yih mumkin hai ki koí shaḡhs jitne hathyár barḡhaí ke kám karne ke hon, sab ká nám baḡhúbí jántá ho, aur is bāt se bhí wáqif ho, ki fuláná hathyár fuláne kám men átá hai, aur is ko is tarah istiamál men láná cháhiye. Garaz ki sab kám barḡhaí ká jántá ho, magar báin hama, cháhiye ki koí chíz un hathyáron se barḡhaí kí tarah baná le to kabhí na banegí; pas mashq rakhná barḡhaí ke kám ká aur bāt hai, aur sirf ján lená us ká apne zihn men aur bāt hai. Isí tarah agar koí shaḡhs ek kitáb ko parḡkar, paimáish ke qáidon se waqif ho jáwe to ho jáwe, magar mashq jo ek chíz hai, wuh, jab tak kheton kheton náptá na phire, aur tarah tarah kí báten us kí nazar se na guzren, kabhí nahín hásil hogá.

Bayán qawáid aur qawánín, aur istiláhát i mantiq se farágat páí. Ab iráda hai, ki áge chalkar is kitáb men mufassal bayán istiamál i mantiq ke tariqon ká likhen, aur batlāwen, ki kis tarah is ko roz-marra amal men láná cháhiye. Auwal bayán mukhtalif súraton mugálte ká jo aksar áke parte hain, likhenge; aur phir tariqa un mugáلتon ke rafa karne ká, ba zariya misálon ke batlāwenge; aur phir chand tariqe dalíl lāne ke samjhāwenge.

SECTION I.

FALLACIES.

Having described the various forms of argument and syllogism, it is important that we now consider more at length, the various kinds of fallacy that may be used intentionally in reasoning, or into which one may inadvertently fall. A fallacy is an invalid argument. As much of the practical usefulness of logic depends on the ready detection and exposure of fallacies, it is very important that the subject be well understood. The learner should strive to get a thorough acquaintance with all forms of fallacy. We are not simply to guard against the false weapons of others, but also against the mistakes into which we ourselves are liable to fall in reasoning. The fallacy may be in one, or all, of the three parts of the argument or syllogism. Some *word* or *term* may be used in a doubtful or double sense, or a *proposition* may be false, or the form of the *syllogism* may be invalid.

Now, it is plain that all fallacies may be divided into two great classes, *first*, where the error is in the form of the reasoning, *i. e.*, where the conclusion does not follow from the premisses; *second*, where the error is not in the form of the reasoning, *i. e.*, where the conclusion does follow from the premisses, notwith-

FASL I.

BAYÁN MUĞÁLTON KÁ.

Dalíl aur qiyás kí sab súraton ke bayán se faráगत páí, ab zarúr hai, ki mugálta, jo aksar dalíl láne men partá hai, us kí mukhtaliq qismon ká bayán bit-tashríh likhen. *Mugálta*, ná-durust dalíl ko kahte hai. Chunanchi istiamál ilm i mantiq ká is bát par bahut munhasar hai, ki mugálte ko baqhubí pakar len, aur malúm kar len, is wáste bayán mugálte ká qhub samajh lená niháyat zarúr hai. Is ilm ke síkhnewálon ko mugálte kí sab súraton se wáqifiyat i kámil paidá karní cháhiye. Mugálte se wáqif honá sirf isí kám men nahín átá hai, ki auron kí galat dalíl se mahfúz rahen, balki apní galatían, jo bar waqt dalíl láne ke ho jáyá kartí hai un se mahfúz rahne ke wáste bhí kám átá hai. Mugálta tín jagah partá hai, maslan jab koí *lafz* mashkúk ho, yane do manon men istiamál kiyá jáwe, yá koí *qaziya* galat ho, jáwe, yá *tartib qiyás* kí ná-durust ho jáwe.

Yih záhir hai, ki sab galatían do qism par ho saktí hai. *Auwal*, jahan ki tartib i qiyás galat ho, yane wuh natíja muqaddamat se nahín hásil hotá hai. *Doyum*, jahan tartib i qiyás galat nahín hai, yane sahíh natíja muqaddamat se hásil hotá hai, lekin us qiyás ke kísi lafz yá qaziye

standing an error in some term or proposition of the syllogisms. Here the error is in the *matter* of the syllogism. The first are called "*logical or formal fallacies*," the second "*non-logical or material fallacies*." The first great class will now be described.

I. LOGICAL OR FORMAL FALLACIES.

The fallacies of this class include all violations of Aristotle's dictum, and the rules for syllogisms. They are of five kinds:—

1. Undistributed middle.
2. Illicit process of the major or minor term.
3. Negative premisses.
4. Affirmative conclusion from a negative premiss, or *vice versa*.
5. More than three terms in the argument.

In all these forms of fallacy, the error is manifest from the form of expression, when the syllogism is fully stated. But in practice, frequently the difficulty of detecting the error, arises from the argument being elliptical, *i. e.*, one of the propositions may be suppressed, or the fallacy may be so covered up in a volume of words, that the error does not readily appear. In such case, if the argument is drawn out to its full form, or stripped of its verbosity and put in the syllogistic form, the error becomes manifest. These errors were illustrated to some extent in drawing out the rules for testing the validity of syllogisms, and we need do but little more here than classify them as above, and give an additional illustration of each. Let it be well borne in mind, that in these fallacies, *the conclusion does not follow from the premisses*. Even if the conclusion be true, the argument is yet a vicious one.

men galatí wáqi hai. Pahlí qism ke mugálte ko, yane jab ki qiyás kí tartíb men galatí wáqi hotí hai, *Mugálta i Súri* kahte hain, aur dúsrí qism ke mugálte ko, yane jab ki qaziye ke mañon men galatí wáqi hotí hai, *Mugálta i Mana-wí*, kahte hain. www.libtool.com.cn

QISM AUWAL, MUĞÁLTA I SÚRÍ.

Is qism men wuh mugálte dákhil hain, jo ba báis k̄hiláf hone qaul i Arastátális ke, aur qáidon qiyás ke, wáqi húá karte hain. Aur yih páñch tarah par hain :

1.—Hadd i ausat juzí.

2.—Kulliyat i nájáiz, akbar yá asgar kí.

3.—Muqaddamát sálíbe.

4.—Natíja i mújiba muqaddame sálíbe se, yá baráks is ke.

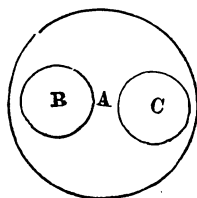
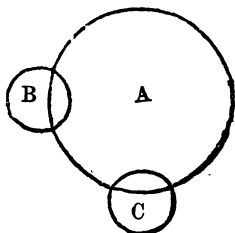
5.—Ek qiyás men tín juzon se ziyáda ká honá.

In sab súraton kí galatí, súrat i qiyás se mañum ho játi hai, jab ki apní súrat men bayán kiyá jáwe. Lekin galatí ke pakarne men aksar mushkil us waqt áke partí hai, jab dalíl mukhaffaf ho, yane koí qaziya wahán muqaddar ho, yá yih ki bahut se lafzon kí tah men galatí aisí chhip gaí ho, ki ba ásání na mañum hotí ho. Aise waqt men agar dalíl ko púrí súrat men láwen, yá yih ki un bahut se lafzon ke janjál ko dúr karkar ba tartíb i qiyás rakhen, to us waqt galatí sáf záhir ho jáegí. Galatíon ká kuch hál, qiyás kí sihhat daryáft karne ke qáide nikálte men, ham ne bayán kiyá hai, is wajh se yahán kuchh ziyáda bayán kí hájat nahín hai, sirf mugálte kí qismon ká bayán likhá jáwegá, aur har bayán ke sáth misálen hongí. Yád rakhná cháhiye, ki is qism ke mugálte men jo natíja nikaltá ho, agarchi ba iatibár apne mañe ke sahíh ho, lekin muqaddamát se wuh natíja na nikaltá ho, to dalíl náqis rahegí.

1. UNDISTRIBUTED MIDDLE.

Form of the fallacy.

Some A is B. ~~Some A is B.~~ All B is A.
 Some A is C. All C is A.
 Therefore, Some C is B. Therefore, All is C B.



Here it will be observed, that neither the major nor minor term is compared with the whole of the middle term, *i. e.*, the middle term is not distributed, hence the argument is not valid, as the conclusion does not follow from the premisses. Suppose one should argue, that the religion of the Hindu is true because believed and taught by some good men ; his argument would contain an undistributed middle as may be seen by unfolding it thus,—

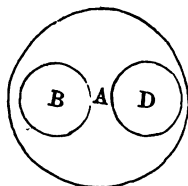
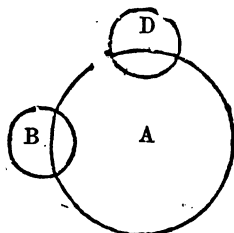
True religions, are believed and taught by good men.
 The Hindu religion, is believed and taught by
 good men.
 Therefore, The Hindu religion is true.

Here the middle term, “believed and taught by good men,” being the predicate of two affirmatives is undistributed (p. 76, r. 3), hence the conclusion is an error.

1.—*Hadd i ausat juzí.*

Súrat mugálte kí yih hai :—

Baz A. B. hai,	Sab B. A. hai.
Baz A. D. hai,	Sab D. A. hai.
Pas, Baz D. B. hai,	Pas, Sab D. B. hai.



Dekho is misál men na akbar aur na asgar, hadd i ausat ke kull afrád se muqábala kiyá gayá hai, yane hadd i ausat, kullí nahín hai, juzí hai; pas is sabab se dalíl galat hai, aur isí wajh se yih natíja jo yahán par likhá hai, muqaddamát se nahín nikaltá hai. Farz karo, koí shaḵhs dalíl láwe, ki Hindúon ká mazhab haqq hai, kyúnki baz achhe ádmí us par ímán láe hain, aur us kí talím dete hain. Yahán hadd i ausat juzí hogí, jaisá kí qiyás ko púrí súrat men likhne se záhir hai. Maslan,—

Haqq mazhab ko, achhe ádmí qabúl karte hain,
aur us kí talím dete hain.

Hindúon ke mazhab ko, achhe ádmí qabúl karte
hain, aur us kí talím dete hain,

Pas, Hindúon ká mazhab haqq hai.

Is misál men, hadd i ausat “achhe ádmí qabúl karte hain,” ba báis wáqi hone mahmúl do mújibon ke juzí hai, [Saf. 77, Q. 3,] is sabab se natíje men galatí hai.

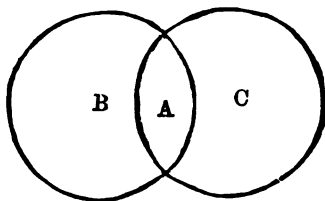
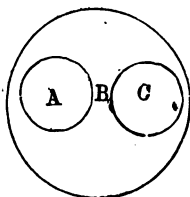
2. *Illicit process of the major or minor term.*

Form of the fallacy.

All A is B.
 No C is A.
 Therefore, No C is B.

Or:—

All A is B.
 All A is C.
 Therefore, All C is B.



Suppose some one should argue that a certain man was not a bad king, because he was not a tyrant. His argument unfolded would be,

All tyrants are bad kings.
 Zaid was not a tyrant.
 Therefore, Zaid was not a bad king.

Here the major term "bad king" is distributed as the predicate of a negative [p. 78, r. 4] in the conclusion but not in the major premiss, because the predicate of an affirmative. [p. 76, r. 3.]

Again, suppose some one should argue that all instruction of women in science is bad, because certain bad women were instructed. His argument when written in full, would show an illicit process of the minor ; thus,—

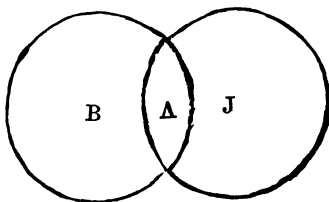
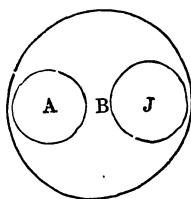
Certain women were bad.
 They were women instructed in science.
 Therefore, All instruction of women in science is bad.

Here the minor term "instruction of women in science," is distributed in the conclusion but not in the minor premiss, because it is the predicate of an affirmative, hence the argument is not valid.

2.—*Nájáiz kulliyat akbar yá asgar kí.*

Súrat is qism ke mugálte kí yih hai :—

Sab A. B. hai,	Yá	Sab A. B. hai.
Koí J. A. nahín,		Sab A. J. hai.
Pas, Koí J. B. nahín,		Pas, Sab J. B. hai.



Farz karo, koí shakhs dalíl láwe, ki fuláná bádsháh burá na thá, kyúnki wuh zálím na thá. Yih dalíl agar ba tartíb i qiyás likhí jáwe, to yún hogí :—

Sab zálím bádsháh bure bádsháh, hote.hain.
Zaid bádsháh, zálím na thá.
Pas, Zaid burá bádsháh na thá.

Is misál men akbar, “bure bádsháh,” kullí hai natíje sálíbe men, kyúnki us ká mahmúl pará hai, [*Saf.* 79, Q. 4;] lekin kubrá men kullí nahín hai, kyúnki qaziya i mújibe ká mahmúl pará hai, [*Saf.* 77, Q. 3,] pas *kulliyat nájáiz akbar kí húí.*

Misól i doyum.—Farz karo, koí shakhs dalíl láwe, ki talím kisé tarah kí kyún na ho, auraton ko talím dená burá hai, kyúnki fulání fulání kharáb auraton ne talím páí thí. Yih dalíl agar púrí súrat men likhí jáwe, to kulliyat nájáiz asgar kí záhir ho jáwegí. Maslan,

Fulání auraton burí thín.
Un auraton ne ilmón kí talím páí thí.
Pas, Kisé tarah ká ilm kyún na ho, auraton ko sikhána burá hai.

Is misál men asgar “auraton ko ilm sikhlná,” natíje men kullí hai, lekin sugrá men kullí nahín hai, kyúnki mújibe ká mahmúl pará hai, pas dalíl sahíh nahín hai.

3. *Negative premisses.*

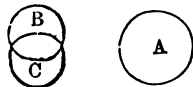
The form of this error is as if one would say,

No A is B.
 Therefore No C is B.



It is manifest that A, the middle term, is no medium of comparison between the other two terms, and although in this instance the conclusion is true, there might be instances in which B and C, while not being A, would still have some connection with each other as shown by this diagram.

Hence, this is an erroneous form of argument. Suppose one were



to argue that education has no connection with virtue and goodness, because a certain nation was not an educated nation neither was it a wicked nation. This would be an example of negative premisses from which one would not be justified in drawing any conclusion. The argument stated in full would be,

A certain nation was not a wicked nation.

That nation was not an educated nation.

Therefore, An uneducated nation is not a wicked nation.

4. *Affirmative conclusion from a negative premiss, and vice versâ.*

First case.—If one of the premisses is negative, we cannot draw an affirmative conclusion, because this would be declaring two things to agree in the conclusion when one of them had been declared not to agree with the same third in the premisses. This is contrary to the axiom for the syllogism [p. 114 a. 2.] Hence any syllogism or argument, in which an affirmative conclusion follows where one of the premisses is negative, must be erroneous.

3.—*Muqaddamát sálíbe.*

Yih aisí galatí hai, jaise koí kahe,—

Koí A. B. nahín hai.
 Koí J. A. nahín hai.
 Pas, Koí J. B. nahín hai.



Yih zahir hai, ki hadd i ausat “A”, muqábala karne ká wásta, in donon juzon ke darmiyán men nahín hai; aur agarchi is súrát men yih natíja sahíh hai, magar mumkin hai, ki koí súrát aisí ákar pare, ki B. aur J. A. men ná dákhil hon, magar táham ápas men iláqa rakhen. Maslan,—



Pas yih dalíl galat thahrí.

Farz karo, koí shakhs dalíl láwe ki ilm aur nekí men kuchh iláqa nahín, kyúнки fulání qaum tarbiyat-yáfta na thí, aur phir bhi badzát qaum na thí. Yih misál muqaddamát sálíbon kí hai, is liye kuchh natíja nikálná sahíh nahín hai. Agar yih dalíl ba tartíb i kámil likhí jáwe, to yún hogí:—

Fulání qaum badzát na thí.

Wuh qaum tarbiyat-yáfta na thí.

Pas, Gair talím-yáfta qaum badzát nahín hotí hai.

4.—*Natíja i mújiba nikálná jab ki muqaddamon men se ek sálíba hai, aur baraks is ke.*

Súrát i auwal.—Agar koí muqaddama sálíba ho, to natíja mújiba nahín niklegá, aur agar niklegá, to goyá aisá hogá ki do juz jin men se ek juz tísre juz, yane hadd i ausat se nisbat nafí kí rakhtá thá, natíje men ákar báham-dígar nisbat is bát kí rakhenge, aur yih bát qiyás ke qánún i badhí ke khiláf hai, [*Saf.* 115. Q. 2 ;] pas koí dalíl yá qiyás jis ká natíja mújiba nikle, jis hálat men ki us dalíl yá qiyás ke muqaddamát men se ek sálíba ho, zarúr galat hogá.

Second case.—We cannot draw a negative conclusion from affirmative premisses, for this would be declaring things not to agree in the conclusion that had agreed with the same third in the premisses, which is contrary to the axiom for syllogisms [p. 114 a. 1.] Hence any syllogism in which the conclusion is negative from affirmative premisses may be pronounced erroneous.

5. *More than three terms in the argument.**

It is plain that a correct argument which may be put into the form of a valid syllogism must have only three terms, hence any argument containing more than three terms must be erroneous.

This form of fallacy may arise in two ways; either from ambiguity in the major or minor term, or from ambiguity in the middle term. In either case, where the word does not preserve the same meaning throughout the argument, there will be really more than three terms in the syllogism. An example of this kind of fallacy in the minor premiss would be,

A certain person was treated unjustly.
He was wrongly imprisoned.
Therefore, A prison is a place of injustice.

Here the fallacy lies in assuming that “wrongly imprisoned” and “prison” have the same meaning, *i. e.*, that the minor term of the minor premiss, is the same as the minor term of the conclusion.

Again,

Hindus have a religious faith.
Hindus are often guilty of falsehood.
Therefore, Some guilty of falsehood are often faithful persons.

* This has been humorously called the *logical quadruped*, as it makes the reasoning go on four legs instead of three.

Dúsrí súrāt.—Muqaddamát mújibon se natíja sáliba nahín nikaltá hai, aur agar nikle to goyá aisá hogá, ki do juz jo kubrá sugrá men tísre juz, hadd i ausat se nisbat isbát kí rakhte the, natíje men ákar ek dúsre ke munáfí ho jáwenge, aur yih bát qiyás ke qánún i badíhí ke k̄hiláf hai, [*Saf.* 115, Q. 1; pas jo koí qiyás aisá ho, jis ke muqaddamát mújibon se natíja sáliba nikle, galat hogá.

5.—*Ek qiyás men tîn juzon se ziyáda ká honá.*

Yih zâhir hai, ki jo koí dalíl, ba tartíb i qiyás sahíh likhí játí hai, to zarúr us men sirf tîn juz hote hain, Pas jis dalíl men tîn juz se ziyáda hongē, wuh dalíl zarúr galat hogí.

Is qism ká mugálta do súrāt men ákar partá hai, yá to yih ki akbar yá asgar mushtarak ul maṇa hon, yá hadd i ausat mushtarak ho. In donon súrāton men se jis kisí súrāt men hadd i ausat ke ek hí maṇe kull qiyás men qáim na rahen, to be-shakk qiyás men tîn juz se ziyáda ho jáwenge. Misál is qism ke mugálte kí, jo sugrá men ákar partá hai, is tarah par hai,—

Fuláne ádmí par zulm húa.

Us ko ná-haqq, qaid-kháne men dál diyá.

Pas, Qaid-khána, zulm kí jagah hai.

Yahán par is sabab se galatí wáqi húi hai, ki “ná-haqq qaid-kháne men dál diyá” ke, aur “qaid-kháne” ke, ek hí maṇe liye hain, yaṇe is dawá karne se ki jo sugrá ká asgar hai, wuhí natíje ká bhí asgar wáqi húa hai, lekin dar haqíqat aisá nahín hai. Dúsrí misál,—

Hindú ek tarah ká ímán rakhte hain.

Hindú gunáh aksar karte hain.

Pas, Bāze gunahgár, ímándár hote hain.

Here the major term "faith" of the major premiss, is really a different term from the major term "faithful," of the conclusion.

The major and minor term then must preserve the same meaning in the premisses and conclusion, otherwise there will be more than three terms in the syllogism.

But the most common form of the fallacy of having more than three terms in the syllogism, arises from the "*ambiguous middle*;" hence this requires more careful guarding. Some word is used as a middle term having a different meaning in the premisses, hence there are in reality four terms in the syllogism. The middle term should be the same word in both premisses and be understood in the same sense, for if the word be the same, but have a different meaning in each premiss, there are four terms in the syllogism.

In every language there are a number of words which have various senses. Words which spring from the same root as *noun*, *adjective*, *verb*, &c., often differ widely in meaning, hence sometimes in use lead to an ambiguous middle. Thus *faith* and *faithful* though from the same root do not always convey the same meaning; thus,

The faithful will be saved.

John was firm in the faith.

Therefore, John will be saved.

One may be resolute and firm in his religion without being faithful, hence the fallacy of this syllogism.

There are many ways in which words come to have various meanings, and hence are liable to mislead in argument. (1), There may be an *accidental resemblance* in the words, as "light" opposed to darkness and "light" opposed to heavy. (2), There may be some *resemblance* between the different things for which the

Yahán akbar kubrá ká, yañe “ímán rakhte haiñ,” us akbar se, jo natíje men áyá hai, yañe “ímándár,” muḵhtalíf hai. Garaz akbar aur asgar ke muqaddamát men aur natíje men ek hí mañe raheñ, warna us qiyás men tñ juz se ziyáda ho jáweñge.

Lekin aksar is tarah ká mugálta, yañe ek qiyás men tñ juz se ziyáda ká honá us súrat men ákar partá hai, jab ki hadd i ausat mushtarak hai; pas hadd i ausat par ḵhúb liház rakhná cháhiye, táki galatí na pare. Bāz lafz jo hadd i ausat men wáqi hotá hai, us ke muḵhtalíf mañe muqaddamát men liye játe haiñ, yañe ek hadd i ausat men kabhí shirkat mañe kí, á partí hai. Maslan, agarchi ímán aur ímándár, donoñ ká masdar ek hí hai, lekin in ke mañe hamesha ek hí nahíñ rahte haiñ; maslan,—

Ímándár naját páweñge.
Zaid ímán men puḵhta hai.
Pas, Zaid naját páwegá.

Mumkin hai ki Zaid apne mazhab ká puḵhta aur ḵhúb saḵht ho, lekin ímándár na ho; pas yihí wajh mugálte kí hai.

Ek lafz ke kaí mañe hone ke chand sabab haiñ. *Auwal* yih, ki mushábahat i lafzí ho, jaise lafz “ág” ká, ki wáste daraḵht aur ág, donoñ ke mustámal hai, yá lafz “lahsan” ká, ki wáste us chíz ke, jo per se paidá hotí hai, aur wáste us dag ke jo larakpan men ádmíon ke badan par kahíñ na kahíñ hotá hai. *Doyum* yih, ki ba sabab mushábahat súrat ke ek hí lafz do muḵhtalíf chízon ke wáste bolá jáwe, jaise lafz “bhále” ká, ki hal men lagá hotá hai, us ko bhí kahte haiñ, aur charḵhe men jo hotá hai, use bhí kahte haiñ. Yá lafz “kamán” ká, ki wáste kamán ke aur gárfi ke kahte haiñ. *Seyum* yih, ki ba sabab

same word is used. Thus, "spear" is used for a weapon and for a blade of grass. (3), There may be some *analogy* in the purpose for which the word is used. Thus, we speak of the "leg" of a chair and of the "leg" of an animal because both are used as support; of "sweet" food and of "sweet" sound, because both are pleasing somewhat in the same way. (4), *Association* again leads to calling different things by the same name; thus, "shot" may mean the *ball* used, the *effect* of the ball or the *person* shooting. (5), In the same way by *ellipsis* the same word comes to mean different things: thus, we use a person's name either to indicate the man or his writings. A careful study of this matter will lead to a proper discrimination and aptitude in detecting and exposing the ambiguous middle. The way to remove the ambiguity and detect the error, is to *fix on some uniform meaning for the word used as middle term, and then see that it remains the same in both premisses.*

There are two more forms of fallacy that should be discussed here, as the error lies in the middle term. The first of these is:—

The Fallacia Accidentis.

This error consists in *arguing from the general to the special in a way not justified.* The error arises where the middle term is considered in one premiss in reference to its *essence* or general nature, and in the other premiss is considered in reference to some *accident* or something incidental to it, so that incongruous or incompatible things are compared in the conclusion. A stock illustration of this error, which it is the fashion to give in almost all the books, hence we do not pass it by, runs thus,—

Things bought in the market, are what we eat.

Raw meat, is a thing bought in the market.

Therefore, Raw meat is what we eat.

mushábahat maqsad ke, ek hí lafz bolá jáwe, jaise lafz “páyá” ká, ki wáste páya i chaukí, aur wáste páya i shámiyána, donon ke bolá játá hai. Donon páe ek hí maqsad ke waste hain, yane ek chaukí thámne ke wáste, aur dúsrá shámiyáne ke thámne ke wáste; yá maslan “míthí” chíz, aur “míthí” áwáz, donon men yih mushábahat hai, ki tabíat ko khush kartí hain. Aur *chahárum*, kahín par ba sabab qarábat ke ek nám mukhtalíf chízon ke wáste bolá játá hai, jaise lafz “sawárí” ká ki wáste chíz ke jo baiṭhne ke liye hotí hai, aur wáste us fiál ke jo sawár se hotá hai, yane donon ke wáste mustámal hai; maslan koí kahe, ki baggí ek sawárí hai, yá yún ki fulána shakhs achchhí sawárí kartá hai; alá ház-al-qiyás lafz “gárí” ká. Agar is bayán par bagaur, liház rahe, to hadd i ausat mushtarík ká jánná aur záhir karná ájáegá. Tariqa rafa karne mushtarika mane aur pakarne galatí ká yih hai, ki *jo lafz hadd i ausat waqí ho, us ke ek hí mane muqarrar kiye jden ; aur phir yih dekhá jae, ki áyá in donon muqaddamon men wuhí mane qáim rahte hain yá nahín ?*

Do súraten aur mugálte kí hain, jin ká bayán yahán par zarúr karná cháhiye, kyúnki un ke sabab se hadd i ausat men galatí par játí hai.

AUWAL, MUĞÁLTA I ÁRIZÍ.

Jab ámm se har kháss ko sábit karen to is qism kí galatí kabhí waqí hotí hai.

Yih galatí us súrát men bhí áke partí hai, jab ki ek muqaddame men hadd i ausat ke *zátí* mane liye jáwen, aur dústre men *árizí* mane, yane mana i ittifáqiya, yahán tak kí natíje men ákar do aisí báten, jo ek dústre ke munáfí hotí hain, jama ho játí hain. Ek sahl sí misál is qism kí galatí kí yahán par dí játí hai:—

Bázár se wuh chízen kharidí játí hain, jo ham kháte hain.

Kachhá gosht ek chíz hai, jo bázár se kharidá játá hai.

Pas, Kachhá goslit ek chíz hai, jo ham kháte hain.

In the major premiss the middle term "things bought in the market," is considered in reference to its essence or general use, and in the minor term it is considered in reference to one of its accidents, that is, that meat bought in the market is raw." The middle term in one premiss has a general meaning and in the other an accidental or specific meaning; hence there are in reality two middle terms, involving a fallacy in the conclusion.

Another illustration of this error may be thus given:—

Food is necessary to sustain life.

Potatoes are food.

Therefore, Potatoes are necessary to sustain life.

"Food" in the minor premiss here, is restricted to a special thing, of which we cannot affirm that it is necessary to life, as may be affirmed of the general term "food" of the major premiss.

Again,

Civil law is necessary to the existence and control of human society.

Tyrannical law, is also civil law.

Therefore, Tyrannical law, is necessary to the existence of human society.

Here there is an erroneous argument from the general meaning of the term "law" as a necessity to the existence of society, to special law which is not a necessity. The check to this error is to see that the middle term have the same use in both premisses, that is, if it is used in the major premiss with reference to its essence or general nature, the same be preserved in the minor premiss.

Kubrá men hadd i ausat, yañe “bázár se wuh chízen kharídí játí hain” jo hai, us ke zátí mañe liye hain, aur sugrá men us ke árizí mañe; pas jab ek muqaddama men ámm mañe hadd i ausat ke, aur dúsre men mañe itti-fáqí, yañe kháss mañe liye, to dar haqíqat do hadd i ausat ho gae, jin ke sabab se natíje men mugálta partá hai. Is galatí kí ek aur misál yih ho saktí hai ki,—

Khurák qiyám i hayát ke liye zarúr hai.

Alú khurák hai.

Is sabab se, Alú qiyám i hayát ke liye zarúr hai.

Khurák sugrá men juzí mañe par hai, yañe ba mañe maḡhsús chíz ke ho gayá. Is sabab se jis tarah us lafz i khurák ko, jo kubrá men wáqí hone se kasír ul afrád hai qiyám i hayát ke wáste zarúrí kah sakte hain, is tarah is ko nahín kah sakte.

Dúsrí misál :—

Qánún, rifáh o qiyám i khaláiq ke liye zarúr hai.

Qánún i zulm bhí, qánún hai.

Is liye, Qánún i zulm, rifáh o qiyám i khaláiq ke liye zarúr hai.

Is misál men dalíl kí galatí yih hai ki ek jagah qánún ká lafz ámm mañe se rifáh o qiyám i khaláiq ke liye zarúrí gardána gayá hai, aur dúsrí jagah kháss mañe se, ki wuh zarúrí nahín. Aisí galatí rafa karne ke wáste yih liház rakhná cháhiye, ki hadd i ausat ke ek hí mañe donoḡ muqaddamon men qáim raheñ, yañe agar kubrá men hadd i ausat ke zátí mañe liye hoñ, to cháhiye, ki wuhí mañe sugrá men qáim raheñ.

THE FALLACY OF DIVISION AND COMPOSITION.

This error arises where the middle term is used in a *collective* or *additive* sense in one premiss, and in a *distributive* sense in the other. If it is first used in the major premiss in a collective sense, and then in a distributive sense in the minor premiss, this is the "fallacy of division." If the middle term is used in a distributive sense in the major premiss, and in a collective sense in the minor, this is the "fallacy of composition." Familiar examples follow.—

Hindus are idolaters. (collectively)

Rám Chandar is a Hindu. (separately)

Therefore, Rám Chandar is an idolater.

This is the fallacy of division, for in the major premiss, Hindus are considered collectively or as a people, and as such are idolaters; but in the minor premiss they are considered as individuals, and hence it cannot be said of all that they are idolaters, and Rám Chandar may not be an idolater.

Again,

Zaid, Amr, Bakr are Mohammedans. (separately.)

Mohammedans were engaged in the mutiny. (collectively.)

Therefore, Zaid, Amr, Bakr were engaged in the mutiny.

Here we have the "fallacy of composition," for in the major premiss the middle term "Mohammedans" is considered separately, or as referring to certain individuals, but in the minor premiss the term "Mohammedans" is used collectively for a people who were generally engaged in the mutiny. Hence, as the middle term is used in a distributive sense in the major premiss, and in a collective sense in the minor, there arises the "fallacy of composition" in saying that Zaid, Amr, Bakr were engaged in the mutiny, for they may have had nothing to do with it.

This error is checked by seeing that the middle term be used in the same collective or distributive sense in both premisses.

DÚSRÁ MUĞÁLTA I TAQSÍM AUR JAMA.

Yih galatí us súrát meṇ wáqí hotí hai, jab ek muqadda-
ma meṇ hadd i ausat ba maṇí jama istiamál kí jáwe, aur
ek meṇ bataur i taqsím. Pas agar kubrá meṇ ba maṇí
jama istiamál kí jáwe, aur sugrá meṇ bataur i taqsím,
to us ko “*mugálta i taqsím*” kahte hain; aur agar hadd
i ausat kubrá meṇ bataur i taqsím istiamál kí jáwe, aur
sugrá meṇ bamaṇí jama, to us ko “*mugálta i jama*” kahte
hain. Ek sahl sí misál yahán par dí játí hai:—

Hindú butparast hain.	(ba maṇí i jama)
Rám Chandar Hindú hai.	(ba maṇí i taqsím.)
Pas, Rám Chandar butparast hai.	

Yih “*mugálta i taqsím*” hai, kyúnki kubrá meṇ Hin-
dú ba maṇe jama istiamál kiye gae hain, yaṇe ba liház
qaumiyat butparast hain, magar sugrá meṇ bataur i taqsím,
is wajah se yún nahín kah sakte hain, kí sab Hindú but-
parast hain, kyúnki mumkin hai, kí Rám Chandar but-
parast na ho.

Dúsrí Misál,—

Zaid, Amr, Bakr, Musalmán hain.
Musalmánon ne gadar par kamar bándhí thí.
Pas, Zaid, Amr, Bakr ne gadar par kamar bándhí thí.

Yih “*mugálta i jama*” hai, kyúnki kubrá meṇ hadd i
ausat “*Musalmán*” bataur i taqsím ke áí hai, yaṇe fard fard
ke wáste áí hai; lekin sugrá meṇ hadd i ausat “*Musalmán,*”
ba maṇe jama mustamal hai, wáste ek qaum ke, jis ne
gadar macháne par kamar bándhí thí. Pas jab kí hadd i
ausat kubrá meṇ ba taur i taqsím, aur sugrá meṇ ba maṇe
jama istiamál kí jáwe, to wahán *mugálta i jama* par játá
hai; pas yih kahná, kí Zaid, Amr, Bakr ne gadar par
kamar bándhí thí, galat thahartá hai; sháyad unhoṇ ne
kuchh bhí na kiyá ho.

Another simple example of both errors is,—

Five is one number.

Three and two are five.

Therefore, Three and two are one number—

making the fallacy of division.

Three and two are two numbers.

Five is three and two.

Therefore, Five is two numbers

making the fallacy of composition.

II.—NON-LOGICAL OR MATERIAL FALLACIES.

Non-logical fallacies are those, as was remarked, where the fallacy is not in the *form* of the argument, but in the *matter of the propositions* that make up the argument. In this kind of fallacies, the conclusion does follow from the premisses, so that the error is not in the *form* of reasoning but, as said, is in the *matter* of the propositions which are, in the case of the premisses, either false or unduly assumed, or the error may be that the conclusion is irrelevant, *i. e.*, not the one required. Non-logical fallacies then may be divided into—

Fallacies in the premisses.

Fallacies in the conclusion.

First, where the error is in the premisses. There are several forms of this error, as a premiss may either depend on the conclusion, or be in itself entirely false. We notice,—

1. *The Petitio Principii*, in which a premiss depends on the conclusion. This is the fallacy called "begging the question" and consists in proving the

Ek aur sahl sí misál donon qism ke mugálte kí yih hai—

Páñch ek ádad hai.
 Tín aur do páñch hote hain.
 Pas, Tín aur do ek ádad hai.

Yih “mugálta i taqsím” hai.

Tín aur do, do ádad hain.
 Páñch, tín aur do hote hain.
 Pas, Páñch do ádad hain.

Yih “mugálta i jama” hai.

Is qism ká mugálta rafa karne ke wáste, is amr par liház rakhná cháhiye, ki *agar hadd i ausat ba mane jama mustamal ho, to donon muqaddamon men ba mane jama rahe, aur agar ba taur i taqsím ho, to donon muqaddamon men ba taur i taqsím rahe.*

BAYÁN MUĞÁLTA I MAÑAWÍ KÁ.

ÚPAR zikr ho chuká hai, ki “mugálta i mañawí” us ko kahte hain, jahán tartíb i qiyás men galatí na wáqi ho, balki un qazion ke mañon men galatí ho, jin se wuh qiyás baná ho. Is qism ke mugálton men natíja to muqaddamat se nikaltá hai, aur qiyás ke súrat men koí galatí nahín mañúm hotí hai, lekin qaziya ke mañon, yane mádde men galatí par játí hai; aur galatí mádde men, yá yih ki muqaddamat galat hon, yá be-mauqa istiamál kiye gae hon, to partí hai; yá yih, ki wuh natíja nikalá jáwe jo gair matlúb ho. Garaz ki mugálta i mañawí kí do súraten hain:—

Mugálta muqaddamat men.
Mugálta natíje men.

PAHLE.—Bayán us mugálte ká, jo muqaddamat men partá hai. Is kí kaí súraten hain, yá to yih ki koí muqaddama aur natíja donon ek hí hon, yá muqaddamat khud bilkull galat hon.

1.—*Muqaddama aur natíja ek hí honá.*

Is qism ke mugálte men yih bát hai, ki natíja nikaltá hai aise muqaddamat se jo mauqúf hon natíje ke subút par,

conclusion from a premiss that depends on the truth of the conclusion, or is the same in sense as the conclusion. It is an attempt to support a proposition by itself as a proof. The point or question to be proved is thus "begged," because it is *assumed* in fact, in the premisses, while a conclusion should not be thus assumed but be proved by independent propositions. Suppose one should attempt to prove the proposition (conclusion) that God is eternal, and offer as proof the statement that he is without beginning or end. Here the proof and the conclusion to be drawn, are in reality the same, and the argument put in the form of a syllogism would be,

Any being without beginning or end of existence,
is eternal.

God is without beginning or end of existence.

Therefore, God is eternal.

Here the premisses are true enough, but the argument is invalid, because they unduly assume the conclusion.

As a further example of this form of error, suppose that one should argue that a certain religion is true because its sacred books are from God. Here the proposition offered in proof of the truth of the religion, really assumes that the religion is true, for if its sacred books are from God, it follows that the religion is true, but all of this is the point to be proven by independent propositions. This error will be detected by observing carefully whether the premisses unduly depend on the conclusion itself, or assume its truth.

2. *Arguing in a circle*, is another form of fallacy in which the premiss is unduly assumed, because depending on the conclusion. It differs from the "petitio principii" under which it is sometimes classed, in this

yá aise muqaddamát se jo mañe men natíje ke muwáqif ho; pas jab natíja aise muqaddamát se nikle, jo us par mauqúf hain, yá mañe men ek hí hain, to natíja kyá sábit hogá. Balki cháhiye, ki natíje ke subút men aise muqaddamát áwen, jo us se álahda hain. Is qism ke mugálte men yih bát hai, ki natíja nikaltá hai aise muqaddame se, jo mauqúf ho natíje ke subút par, yá aise muqaddame se, jo mañe men natíje ke muwáqif ho. Farz karo ki koí shakhs is qaziye ko, ki “K̄hudá azalí hai,” is tarah par sábit karná cháhe, ki wuh bagair ibtidá aur intihá ke hai, to subút natíje ká, aur natíja jo niklá hai, donon fil-wáqai ek hí ho-jáwenge. Yih dalíl agar ba súrat i qiyás likhí jáwe, to yún hogí:—

Jo zát ki be-ibtidá aur be-intihá hai, azalí hai.

K̄hudá be-ibtidá aur be-intihá hai.

Pas, K̄hudá azalí hai.

Is misál men muqaddamát bilá-shrubha sahíh hain, lekin qiyás ná-durust hai, kis wáste ki muqaddamát natíje ke mañon men hain, aur yih dalíl sahíh nahín hai. Ek aur misál is qism kí galatí kí dí játí hai. Farz karo, koí shakhs dalíl láwe, ki fulána mazhab bar haqq hai, kyúnki us mazhab kí kitáben K̄hudá kí taraf se áí hain. Is dalíl men sihhat i mazhab ke subút men, jo qaziya áyá hai, us ke mañe haqíqat men yih hain, ki mazhab barhaqq hai; kyúnki agar mazhabí kitáben K̄hudá kí taraf se hain, to yih bát bhí nikaltí hai, ki mazhab barhaqq hai. Lekin is súrat men dawá aur dalíl donon ek hí hain, hálánki yih cháhiye thá ki dawá sábit hotá aise muqaddamát se, jin men na to koí natíje par mauqúf ho, aur na koí mañon men muttahid ho. Agar is bát par bakhúbí liház rahe, ki áyá yih muqaddamát natíje par mauqúf hain, yá natíje ke mañon men hain, to is qism kí galatí záhir ho jáwegí.

2.—*Daur i tasalsul*, us mugálte ko kahte hain, jahán muqaddamát bejá istiamál kiye jáwen, yane natíje par mauqúf hon; magar mugálta i mazkúra i bálá se is men itná farq hai, ki is ke muqaddamát aur natíje yih kuchh

that the premiss and conclusion need not be the same in import. It consists in making the premiss and conclusion prove each other. Thus one proposition (premiss) is offered in proof of another (the conclusion), and when the proof of that proposition is demanded the conclusion is offered; the same as to say,—A is true because B is true, and B is true because A is true. Suppose that one should argue that female education should not be maintained because it is wrong, and then argue that it is wrong because it is female education; this would be reasoning in a circle and the same as to say,—A is not true because B is not true, and B is not true because A is not true. This error is checked by demanding an independent proof for both propositions.

The wider the circle, that is, the more propositions involved before reaching the last which depends on the first, the more difficult is the error of detection, because the fallacy may be thus lost sight of in the lengthened argument. Thus, A is true because B is true, B is true because C is true, C is true because D is true, D is true because E is true, E is true because A is true, is a wider circle in which the mind might lose sight of the unfair dependence of the last proposition on the first. Of course the way to check the error would be to demand proof for the last proposition independent from anything given in the circle.

3. "*Non causa pro causa.*" This is the assigning of a false cause or reason for some effect or conclusion. In this case the premiss is false, or at least unsupported. There is no more common form of fallacy than this. Some event occurs, or some fact is stated, for which a cause is assigned that has no connection with it. Thus ignorant people especially are ever ready

zurúr nahín, ki mané men muwáfíq hon, jaisá ki úparwále mugálte men thá. Garaz ki daur i tasalsul us waqt hotá hai, jab ki muqaddama aur natíja báham-dígar sábit kiyá jáwe, yané is tarah par, ki natíja ke subút ke wáste muqaddama láyá jáwe, aur agar muqaddama ká subút talab kiyá jáwe, to natíja láyá jáwe, jaisá A. sahíh hai, kyúnki B. sahíh hai; aur B. sahíh hai, kyúnki A. sahíh hai. Yá maslan koí kahe, ki auraton ko talím dená na cháhiye, kyúnki ná-durust hai, aur phir dalíl láwe ki wuh ná-durust hai, kyúnki wuh auraton kí talím hai, to yih daur i tasalsul hogí. Yih kahná aisá hai, jaise koí kahe, ki A. sahíh nahín hai, kyúnki B. sahíh nahín hai, aur B. sahíh nahín, hai, kyúnki A. sahíh nahín. Is tarah kí galatí men muqaddamát aur natíja donon ke wáste alag alag subút talab karná cháhiye.

Jitná bará daur hogá, yané pahle qaziye se pichhle tak jo auwal par mauqúf hai, jitne bahut se qaziye hongé usí qadar galatí pakarne men diqqat ziyáda hogí, kyúnki, túl tawíl dalíl men mumkin hai, ki galatí k̄hiyál se utar jáwe. Maslan A. sahíh hai, kyúnki B. sahíh hai; B. sahíh hai, kyúnki J. sahíh hai; J. sahíh hai, kyúnki D. sahíh hai, aur D. sahíh hai, kyúnki A. sahíh hai. Yih bahut bará daur hai, aur sháyad is bát ká k̄hiyál na rahe, ki ákhirí qaziya, qaziya i auwal par mauqúf hai, ba taríq i ná-jáiz; pas is galatí men qaziya i ákhirí ke wáste koí aisá subút talab karná cháhiye, jo daur ke qazíon se bilkull judá ho.

3.—“*Wajh gair muwajjih*,” kisi bát, yá natíje kí galat wajh láne ko kahte hain. Is hál men wuh wajh yá to galat hogí, yá musallam na hogí. Yih mugálta aksar wáqi húa kartá hai. Bazá muámala aisá wáqi hotá hai, yá koí haqíqat aisí bayán kí játí hai, jis ke wáste ek aisá sabab muqarrar kiyá játá hai, ki kuchh us se iláqa nahín rakhtá hai. Jáhil ádmí hamesha jhúthe sabab qaht ke, aur tarah

to assign false causes for famine and various calamities. For instance, eclipses are supposed to be the cause of numerous effects with which they have no possible connection. A man gets sick or dies, and it is attributed to the displeasure of some god or evil spirit. A certain king was beheaded and his son ascended the throne. This son once met a man, then blind, who had opposed his father to whom he said, "Do you not think your crimes against my father were very great, since you have been punished by God with the loss of your eyes?" "Nay your majesty," replied the blind man, "if my crimes on that account may be considered great, how much greater the crimes of your father, seeing that he was punished by God with the loss of his head, while I have lost only my eyes" The king must have felt the force of this reply to his "*non causa pro causa*" and he must have seen that the cause assigned was as good in one case as the other. An example of the *non causa pro causa* is found in the statement sometimes made that the tyranny of the English Government was the cause of the rebellion in India; when in reality the real cause was something else, as the fanaticism and political ambition of the natives.

Sometimes the *non causa pro causa* takes the form of a question which assumes unduly that something is so, the interrogatory form aiding in concealing the undue assumption. The question was once asked, why a vessel of water is no heavier after a fish is put in it than before. Efforts were made to determine the reason, without reflecting that the question assumes an error, for the vessel is heavier with the fish in it. The way to meet this form of error is to demand that the *cause* itself be proven, and not to accept it till some satisfactory proof be given that it is the real cause of the event or

tarah kí áfaton ke batláte haiñ. Maslan gahan ko, báis batláte haiñ tarah tarah kí tásiñon ká, jin ká iláqá gahan se mutlaqan nahín hai. Koí ádmí bímár ho jáwe yá mar jáwe, to kahte haiñ, fulána deotá yá bhút us se ná-ḡhush thá, is sabab se aisá huá. Ek bádsháh ká sar kaṭ gayá, aur us ká betá takht par baiṭhá. Ek martaba aisá ittifáq huá, ki is beṭe ne us shaḡhs ko, jis ne us ke báp ká muqá-bala kiyá thá, dekhá ki andhá ho gayá hai, to kahne lagá, Kaho ab tum nahín jánte, ki tum ne kaisí barí ḡhatá mere báp ke sáth kí thí, jis ke sabab se ḡhudá ne tum ko aisí sazá dí, ki tumhári áñkhen játí rahín. Us andhe ne jawáb diyá, ki Nahín ḡhudáwand i niāmat, jahán-panáh, agar is ḡhatá ke sabab se merí áñkhen játí rahín, to maḡlúm hotá hai, ki áp ke báp ne koí is se bhí barí bhári ḡhatá kí hogí, jo ḡhudá ne aisí sazá dí, ki us ká sar kaṭ gayá, merí to sirf áñkhen hí gaín. Bádsháh apní wajh gair muwajjih ke jawáb ká sawáb ko sunkar bahut qáil huá, aur dekhá, ki jo iātiráz main is par kartá hún, wuh ḡhud mere úpar áid hotá hai. Isí tarah ek misál “wajh gair muwajjih” kí yih hai, ki aksar log Sarkár i Angrez par ittihám rakhte haiñ, ki báis bagáwat ká Hindustán meñ Angrezon ká zulm thá; agarchi dar haqíqat sabab is ká kuchh aur hí thá, yañe harárat i díní, aur hawass mulḡgírí kí. Bāz mauḡa par wajh gair muwajjih ká, jab ba súrat suwál áke partá hai, to galatí ohhip játí hai. Ek martaba ek shaḡhs ne suwál kiyá, ki pání bhare bartan meñ machhlí ḡálo, to wuh bartan banisbat qabl ke kyún nahín bhári hotá hai? Dúsrá shaḡhs is ká sabab daryáft karne lagá, magar yih na sochá, ki yih suwál hí galat hai, kyúnki machhlí ḡálne se wuh bartan bhári ho jáwegá. Is galatí ke pakarne ká yih qáida hai, ki maḡlúm karná ki áyá yih sabab durust hai yá nahín; aur jab tak dalíl i sháfi is bát kí na dí jáwe,

effects produced. In case of a question, the fact assumed should not be accepted till proved.

These three—"petitio principio," "arguing in a circle" and "non causa pro causa" are the principal forms of "non-logical fallacy" where the error is in the premisses. We now turn to non-logical—

Fallacies in the Conclusion.

The common term for this form of error is "ignoratio elenchi," or "irrelevant conclusion." The conclusion established is not the one required, but something that conceals or appears to be it, or diverts attention from the required "elenchus" or conclusion. *Elenchus* is a Greek word which means the contradictory of an opponent's assertion.

The "irrelevant conclusion" then is the establishment, either from ignorance or design, of a conclusion not required in the argument. Thus, suppose the question is, whether a man committed a certain theft or not. Now the one that undertakes to prove it, finding it difficult to establish the theft, sets about proving the man a rascal at any rate, which is not the point to be ascertained, but is an "irrelevant conclusion." There are various forms of this error. Sometimes the question is dexterously changed to something else. Sometimes an effort is made to bring an opponent into a state of mind to accept a conclusion not proven, by arousing in him some passion or feeling. The way to meet this error is to settle clearly the *point of dispute or inquiry*, and keep this well in view. Any diversion or conclusion "irrelevant" to this should be promptly rejected.

Some common forms of this fallacy are enumerated below.

1. *Argumentum ad hominem*, or "personal argument." This is an unfair appeal to the passions, pre-

ki yihí haqíqí sabab hai is muámale yá tásír ká, us waqt tak use taslím karná na cháhiye. Kisí suwál ke dawe ko taslím na karná cháhiye, jab tak sábit na ho. Mugálta i manawí, jo muqaddamát men par jáyá karte hain, aksar yih tín hain, yane “*Muqaddama natíje par mauqúf,*” “*Daur i tasalsul*” “*Wajh gair muwajjih!*” www.muqaddamat.com.cn

DOYUM, bayán un múgáton ká natíje men hote.

Is qism kí galatí ko aksar “*Mugálta i natíja i gair matlúba ká*” kahte hain. Jo natíja cháhiye, wuh nahín nikálá játá hai, balki koí aur aisá hotá hai, jo natíja i matlúba kí tarafse dhyan ko hatá letá hai. Garaz ki “*mugálta natíja gair matlúb ká*” us ko kahte hain, ki us dalíl men wuh natíja muqarrar kiyá jáwe, jo matlúb na ho, khwáh wuh natíja ná-samjhí se nikal áwe, yá ján bújhkar nikálá jáwe. Maslan farz karo koí shaḡhs suwál kare, ki is ádmí ne fulání chorí kí. Aur dúsrá shaḡhs jawáb denewálá dekhe, ki chorí sábit nahín hotí, to idhar udhar kí báten lákar sábit kare, ki agar chor nahín hai, to bahar hál bad-maash to hai. To yih “*mugálta natíja i gair matlúb ká*” hogá, kyúñki us kí bad-maashí par bahs na thí, balki bahs us kí chorí par thí. Is mugálte kí kaí, ek súraten hain, jin ká zikr áge chalkar likhá jáwegá. Báz martaba aisá hotá hai, ki dawe ko chálákí se badalkar kuchh ká kuchh kar dete hain. Aur kabhí jawáb denewálá bahs karnewále ke dil men aisí báten dál detá hai, ki galatnatíje ko wuh shaḡhs qubúl kar lewe. Pas is qism ke mugálton se mahfúz rahne ke wáste, cháhiye ki jis bát par bahs ho usí par qáim rahe, aur agar koí bát bahs se judá yá natíja gair matlúb páwe, us ko bilá taammul radd kare. Is mugálte kí chand súraten, jo aksar áke partí hain, zail men likhí játí hain :—

1.—*Mugálta i tamalluq-ámez*, wuh hai, jis men jawáb denewálá bad muámali se bahs karnewále kedil ko, yá jis

judices, personal opinions, vanity, modesty, &c., of an opponent or those whom it is desired to convince. An unfair effort may be made to arouse the anger or ridicule of persons against the truth. A "laugh" sometimes brings the truth into contempt. A few simple illustrations of this error will make it plainer.

It an unworthy beggar appears before your door, and to your statement that he is not a fit subject for alms, replies by an appeal to your feelings of charity and compassion for the poor, and sense of duty in alms-giving, this would be a fair example of the "argumentum ad hominem." The conclusion of the beggar's argument would be "irrelevant," because the propriety of manifesting feelings of charity and compassion for the poor, or the duty of alms-giving in general is not the question, but rather, *is this particular person a fit subject for charity.* The beggar avoids the question but tries to gain his point by a personal appeal.

Again, many persons in India who object to female education, do not attempt to prove directly that the things in itself would be an injury, either to females or to the country generally, but try to arouse the prejudices of people against it by saying that it is not the custom and that they will bring discredit upon their families by sending their daughters to school. All attempts then to gain some point by passing by the real question at issue, and appealing to passion, prejudice, vanity, &c., constitute the "argumentum ad hominem." When this appeal to passion, &c. is to an assembly or number of persons, it is sometimes called "argumentum ad populum."

This error should be met by calmly referring to the question at issue and keeping attention on that.

It may be observed that any proper appeal to passion or feeling to establish the real question at issue is not an error, and may be justly employed.

kisí ko qáil karná manzúr ho, aisí targíb de, ki us ke dil men josh yá taassub paidá ho jáwe, yá us ke dil kí sí kahne lage, yá us ko barháwe ki áp aise hain, aur waise hain, yá hayá wg. diláwe. Aksar haqíqat kí bát par gussa diláte hain, yá tháthe men uráte hain. Tháthe se bhí haqíqat kí bát chhip játi hai, yá us se nafrat paidá ho játi hai. Chand misálen sahl sí is galatí kí yahán par likhí játi hain, jin se us ká hál baḡhúbí khulegá.

Agar koí faqír jis ko dená munásib nahín hai, tumháre darwáze par áwe, aur tum us se kaho, ki tú is láiq nahín hai, ki tujh ko ḡhairát dí jáwe, to wuh faqír is ke jawáb men yih kahe, ki “Bábá, garíb-parwarí aur rahm karná garíbon par farz hai, ḡhairát dená sab par farz hai.” Yih misál mugálta i tamalluq-ámez kí hai. Faqír kí dalíl ká natíja gair matlúb hai; kyúnki garíb-parwarí, aur rahm karná, ḡhairát dená, ʻumúman farz hai. Is men kalám na thá, balki is men thá ki áyá yih faqír ḡhairát ke láiq hai yá nahín? Wuh faqír suwal ká jawáb nahín detá, balki tamalluq-ámez dalílon se tumháre dil ko lubhátá hai, táki tum rahm khákar us ko ḡhairát de do.

Dúsrí misál.—Bahut log Hindustán ke, jo ʻauraton kí talím men muzáhimat karte hain, subút i kámil is amr ká nahín dete, ki talím se ʻauraton ko yá mulk ko kyá nuqsán hotá hai, balki logon ko talím kí taraf se pherte hain, aur kahte hain, ki yih dastúr nahín hai. Apní larḡion ko iskúl men bhejne se hamáre ḡhándán kí badnámí hogí. ḡaraz ki yih sab báten, ki bahs men asl matlúb ko chhor dená, aur josh o taassub paidá karná, aur sheḡhí diláná “mugálta i tamalluq-ámez” men dáḡhil hain. Is mugálte se mahfúz rahne ke wáste yih cháhiye, ki asl matlúb ko bar waqt mubáhise ke, háth se na de, balki usí par dhyán rakhe.

Yih jánná cháhiye, ki bar waqt mubáhise ke aisá josh o targíb diláná, ki bahs karnewálá rástí par áwe, aur sahíh natíja nikále, kuchh galatí nahín hai.

2. *The fallacy of shifting ground.* Let it be kept in mind that we are discussing the "irrelevant conclusion", *i. e.*, cases where the required conclusion is not drawn but something foreign to it, and which, if established, gives the appearance only, of having gained the point in dispute. The fallacy of shifting ground is a common artifice for this purpose. Often during a discussion, when one finds that he cannot maintain his point, he slyly shifts the discussion to some other proposition different from the one under consideration in whole or in part. Thus, suppose one is trying to prove that the drinking of a single drop of ardent spirits is wrong, but failing in this, he quietly sets about proving that the drinking ardent spirits in excess is wrong, which is quite another question. This fallacy is effected in various ways. Sometimes an ambiguous or general term is used, and when it cannot be maintained in one meaning, a second or third meaning is claimed for it. Thus, an attempt may be made to prove that a certain people have faith in God in the sense of knowing him aright and obeying him, but on failing in this, an attempt may be made to prove that they have faith in the *existence* of one God, which is a different conclusion or "ground." Sometimes a *particular* is proved when a *universal* should be proved. Thus, some persons on failing to prove that the Christian religion is not good, "shift" their "ground" by showing that particular persons are not good, which is not the required conclusion, and if it be proved even, the real question is not touched.

Sometimes the discussion is shifted from one to the other of an opponent's premisses alternately. The attack on failing on one is changed to the other, and on failing there, is shifted back again without settling finally any one point. No fallacy is more common than this in a

2.—*Mugálta i tagaiyur i mazmún.* Is bāt ko yād rakhná cháhiye, ki yih bahs natíja i gair matlúb kí hai, yañe natíja i matlúb na nikálá jáwe balki koí aur aisí bāt gair matlúb, ki agar qáim kí jáwe, to ba záhir mañám ho ki yih wuhí hai. Garaz yih fareb yañe, “tagaiyur i mazmún,” jawáb denewálá aksar is maqsad ke wáste kartá hai, ki mubáhise men jab wuh dekh^{tá} hai, ki main apní bahs par qáim nahín rah saktá hún, to us bahs ko chhoṛkar aur bāt par, jo bilkull mukhtalif ho, yá bilkull na ho balki kuchh ho, bahs karne lagtá hai. Maslan farz, karo koí shaḵhs sábit karná cháhe, ki sharáb ká ek qatra bhí píná gunáh hai, magar sábit na kar sake, to cháláki se bahs ko badalkar kahne lage ki sharáb ká bahut sá píná gunáh hai. To yih bahs auwal se bilkull mukhtalif hogí. Yih mugálta kaí tarah áke partá hai. Maslan baz jagah lafz i mushtarak istiamál kiyá játá hai, aur jab ek mañe qáim nahín rah sakte hain, to muqábilwálá dúsre tísre mañe istiamál karne lagtá hai. Maslan koí sábit karná cháhe ki fuláne log Kḥudá par is tarah ímán láe hain, ki us ko bakhúbí jánte hain, aur us ke ahkám ko mánte hain; lekin is ko sábit na kar sake, to kahne lage ki we Kḥudá ke wujúd par ímán rakhte hain, to yih bahs bilkull judí ho jáwegí. Baz jagah aisá hotá hai, ki qaziya i juziya sábit kiyá játá hai, jab ki kulliya sábit karná cháhiye. Maslan bañe log jab yih nahín sábit kar sakte hain, ki Ísáí mazhab² achchhá nahín hai, to is bahs ko chhoṛkar kahne lagte hain, ki baz shaḵhs is mazhab ke, achchhe nahín hain: pas yih wuh natíja nahín hai, jo nikálná cháhiye thá, aur agar yih sábit bhí ho jáwe, ki baz shaḵhs is mazhab ke achchhe nahín hain, to asl dawé se yih bāt bilkull alag hai.

Baz dafa muqábilwálá barwaqt mubáhise ke, ek muqaddame ko chhoṛkar, dúsre par bári bári se bahs karne lagtá. Jab ek muqaddame par iatiráz nahín ho saktá hai, to dúsre par iatiráz karne lagtá hai, aur jab dúsre par bhí iatiráz nahín ho saktá hai, to phir pahle par á játá hai. Garaz

weak disputant, of shifting the discussion from one proposition to another in a perpetual round or flight without fully settling any one point. Thus, often in religious disputes we will find persons combating first one and then another of an opponent's doctrines with a great noise and clamour of words, but not waiting for a full reply on any point, nor delaying to either disprove it or acknowledge defeat.

The effective way to deal with the fallacy of shifting ground is to fix some meaning on doubtful or general terms and settle the "ground" of dispute fairly and clearly in the beginning, and demand that the dispute remain there; and in case an opponent "shifts" his attack from premiss to premiss alternately, or from one proposition to another, the demand should be made that a proposition taken in hand be settled before passing to another.

3. *The fallacy of objections.* This consists in raising some objection against a proposition or science or proposed improvement, and then because this objection can be urged, concluding that the proposition, science, or proposed improvement, or whatever the point may be against which the objection is urged, is erroneous or not to be maintained. The "fallacy of objections" is put under the division of "irrelevant conclusion" because, simply the conclusion that objections can be urged against a proposition, is not the conclusion to be drawn, but rather it should be shown *whether the objections have greater weight against the proposition than the reasons which can be urged for it.* This is the point to be proved and not simply that some objections can be urged against the proposition. Many truths have such a weight of evidence in their favour that no one should hesitate for a moment to accept them, and yet there may be some plausible objections urged against them. An

ki kisí bahs ko púrā nahīn kartá hai. Agar bahs karne-wálá kam aql ho, to us ko is se baṛhkar aur koí muğálta nahīn partá hai, ki ek qaziye ko chhoṛkar dúsre par chalá jatá hai, hamesha idhar udhar ghúmtá phirtá hai kisí bahs par baḁhúbí qáim nahīn rahtá hai. Mazhabí muḁahison men ham ne aksar dekhá hai, ki muqábilwálá ek masle par iati-ráz kartá hai, aur phir dúsre masle par baṛe shor o gul ke sáth. Zará ṭhahartá nahīn, ki púrā jawáb páwe yá áp radd kare, yá iqrár apne qáil hone ká kare. Pas aise muğálte se mahfúz rahne ke wáste yih ḁhúb tariqa hai, ki agar koí lafz mushtarak ho yá ámm ho, to auwal us ke maṇe muqarrar kiye jáwen, aur auwal hí auwal ḁhúb jatá diyá jáwe ki isí par bahs rahe; aur phir agar muqáбилe-wálá ek muqaddame yá qaziye ko chhoṛkar dúsre muqadda-me yá qaziye par bári bári se jáne lage, to use muttalá kartá rahe, ki jab tak ek bát par bahs púrí na ho jáwe, dúsrí ko na pakre.

3.—*Muğálta iatirázon ká.* Muğálta iatirázon ká us ko kahte hai, jab ki iatiráz kisí qaziye par, yá jo koí bát jis par bahs ho rahí ho wárid howe, aur ba sabab wárid hone iatiráz ke, us bát ko galat qarár diyá jáwe.

Muğálta iatirázon ká bhí “natíja i gair matlúb” kí qism se hai, kyúnki sirf is qadr natíja nikálná, ki fuláne qaziye par iatiráz ho sakte hai, natíja i matlúba nahīn hai balki yih batláná cháhiye, ki fuláne qaziye par iatiráz ziyá-da yá us kí isbát i sihhat kí dalílen ziyáda hai, yaṇe yihí bát sábit karná cháhiye, ki *óyá iatiráz, dalílon se ziyáda hai ya nahīn?* Bahut báten aísí hai, jin ke subút men us qadr dalílen hai, ki koí un ke qabúl karne men kisí tarah ká taam-mul nahīn kar saktá hai; magar baín hama un ke úpar kuchh iatiráz ho sakte hai. Agar koí muqábilwálá un báton par baṛe shor o gul ke sáth iatiráz uṭháke záhir kare

opponent of these truths by making a noisy parade of the objections, might make it appear that they should be rejected and in this lies the fallacy.

For instance, a medicine has been useful in scores of instances, but in a few cases failed; now it would be erroneous to urge that because in a few instances it had failed, the medicine is not a good one. The Bible has many and weighty arguments to prove that it is God's book, and that it has remained uncorrupted through ages down to the present time. Yet because some objections or difficulties can be urged against it, some persons claim that it should be rejected. This is the "fallacy of objections," and the question here should be, is there a preponderance of evidence in favour of the inspiration and uncorrupted preservation of the Bible? Another illustration of the fallacy of objections is found in the objections that are urged against some change or improvement in the government or public works of a country. Although the change may have many reasons to commend its adoption, yet because one or two objections may be urged against it, some persons are ready to reject it.

Where the fallacy of objections is urged against any question or proposition it should be met by the position, that *while the proposition has stronger arguments in its favour than can be urged against it, it is not disproved*, and this point should be kept clear above all the clamour of debate.

4. *The fallacy of proving only a part.* This is just the reverse of the fallacy of objections, and consists in proving only a *part* of what is required, and then claiming that the whole question has been proved. Thus, suppose that the question is whether a certain book is good or not. Now, if only a few good points could be shown in the book, it would be the "fallacy of proving

ki in báton ko radd karná cháhiye, pas yihí mugálta iṭtirázon ká húa. Masal to maslan, koí dawá ho, jis se bisíyon marízon ko fáida húa ho; magar ek-ádh martaba kisi ko na húa ho, to yih karná ki yih náqis dawá hai, galat hogá. Yá maslan, Baibal ke subút men bahuterí pakkí dalílen hain, ki yih kitáb Khudá kí hai, aur sál-há sál se áj tak bajinsihí bagair tahríf chali áti hai, magar táham, chúnki baz jagah diqqat áke partí hai, aur bazáhir chand iṭtiráz ho sakte hain, is sabab se baz ádmí kahne lagte hain, ki is ko radd karná cháhiye. Yih mugálta iṭtirázon ká húa. Yáhan par yih suwál cháhiye thá, ki Baibal ke ilhámí hone aur bagair tahríf rahne kí ziyáda dalílen hain yá nahín? agar ziyáda hain, to taslím karná cháhiye. Ek aur misál “mugálta i ṭtiráz” kí yih hai, ki baz ádmí, jab umúrat i saltanat men rafáh i khaláiq ke wáste kisi tarah ká tagaiyur amal men áwe, to iṭtiráz karte hain. Agarchi us tagaiyur men us mulk kí bahut bihtarí ho, táham ba sabab do ek iṭtiráz ke baze log radd karne lagte hain.

Jis mubáhise men, ki mugálta iṭtiráz ká wáqi ho, to us ke jawáb men yih qáida baratná cháhiye, *ki jitní dalílen subút i síhhat men hain, is se ziyáda iṭtiráz jab tak na hon, us waqt tak use radd karná na cháhiye*, aur kaisá hí shor o gul kyún na mache, is qáida ko háth se na de.

4.—*Mugálta subút i juzí ká.* Yih mugálta, mugálta i iṭtiráz ke baráks hai. Mugálta i iṭtiráz men juzí par iṭtiráz karke kullí ko radd karte hain, aur is men juzí ko sábit karke dawá karte ki kullí sábit hai. Maslan farz karo, koí shaḡhs suwál kare, ki áyá fulání kitáb achchhí hai yá nahín? aur us ke jawáb men kahá jáwe, ki chand bayánát us kitáb men achchhe hain, is sabab se wuh kitáb achchhí

only a part" to argue therefore that the book is a good one. The question to be proved is, "is the book upon the whole a good one." To prove anything short of this is "irrelevant." Again, suppose the question is, "whether a certain government is a good one or not." Now, to prove two or three good points in the government is not enough, but the government should be considered as a whole; anything short of this is proving but a part, and a partial conclusion is "irrelevant" here. The fallacy of proving a part should be met with a demand that while proof for the *whole* question is not brought forward it must not be decided. The caution may here be given that in every question, care should be taken not to attempt to maintain too much, for if more is claimed in the question than can be fairly proved, the argument is open to the objection that it involves the "fallacy of proving only a part."

These four kinds of fallacy then, "*argumentum ad hominem*"—"shifting ground"—"*fallacy of objections*" and "*fallacy of proving only a part of a question*" include the usual forms of "irrelevant conclusion."

We may give here some general rules for the examination of arguments and then conclude the subject of *fallacies* with a recapitulation.

TO DISCOVER FORMAL FALLACIES.

First, reduce the reasoning or argument to the form of a syllogism. This can be done in the following manner whether it be an oral discourse, a book, chapter or section.—Observe what the concluding assertion or position is, for this is usually the *conclusion*. Go back from this and ascertain on what *grounds* this assertion is made or from what *reasons* this conclusion is drawn. These "grounds" or "reasons" will be the *premisses*, and from the conclusion and premisses thus obtained the

hai, to yih “mugálta subút i juzí ká” hogá; kyúnki juzí ke hál se kullí kí taraf dalíl pakartá hai. Suwál is bát men thá, ki wuh kitáb sab tarah se achchhí hai yá nahín? Pas yahán par natíja juzí nikálná, jis súrát men kullí cháhíye thá, gair-matlúb hai. Dúsrí misál Farz karke shakhs suwál kare, ki fulání Sarkár achchhí hai yá nahín? to us ke jawáb men sirf do tín báten us amaldárá kí achchhí sábit karná káfi na hogá, balki kull báton par gaur karke natíja nikálná cháhíye, aur agar kull báten achchhí sábit na hon, balki juzwí báten, to yih natíja yahán par gair-matlúb hogá, kiyúnki bahs hamári kull par thí na juz par. Garaz ki mugáltaí subút i juzí se mahfúz rahne ke wáste, kullí par dalíl talab karná cháhíye, aur is amr se ágáh kar dená cháhíye, ki agar kull suwál ká jawáb na milegá, to dalíl púrí na hogí. Aur wázih ho ki har bahs men is bát ká liház rakhná cháhíye, ki jitní bát ho, utná hí dawá karná cháhíye na yih ki ziyáda; kyúnki agar ziyáda dawá kiyá jáwe, to kull sábit na ho sakegí, aur dalíl men iatiráz mugálata i juzí ká paidá hogá. Natíja gair-matlúb, aksar inhín chár qismon ke mugálton men yane “tamalluq-ámez,” aur “mugálta tagaiyur i mazmún,” aur “mugálta i iatiráz,” aur “mugálta i subút i juzí” men ákar partá hai.

Ab yahán par chand qáida i ámm, wáste daryáft karne sihhat dalílon ke, likhenge, aur phir bayán mugálton ká, bil-ijmál likhkar tamám karenge.

MUGÁLTA I SÚRÍ KO PAKARNÁ.

Dalíl ko ba súrát i qiyás karná cháhíye, khwáh dalíl zabání ho yá tahríri, aur tahríri khwáh kull kitáb men yá báb men yá fasl men ho. Súrát i qiyás is tarah láná cháhíye, yane dekho ki ákhirí bahs kyá hai, kyúnkar aksar wuhí natíja hogá, aur phir yih daryáft karná, ki kis líná par wuh ákhirí bahs qáim hai, yane kin dalílon se wuh natíja niklá hai, aur wuh líná yane dalílen muqaddamat honge; pas is tarah qiyás ban jáwegá, aur jab qiyás ban

sylogism or syllogisms, as the case may be, can be constructed, which may then be tested by the rules for syllogisms.

1st. Observe whether the syllogism be categorical or hypothetical. If hypothetical the rules for the hypothetical syllogism must be applied.

2nd. If categorical count the terms.

3rd. If there are only three terms, ascertain whether the middle term is distributed, and is used in only one sense.

4th. Observe whether the premisses are both negative in reality or in appearance merely. If but one is negative, see if the conclusion is negative also; or if both are affirmatives, observe if the conclusion is affirmative.

5th. Mark what terms are distributed in the conclusion, and ascertain whether they are distributed also in the premisses.

6th. If the syllogism is in the first figure, observe if it is in the form of Aristotle's dictum.

TO DISCOVER MATERIAL FALLACIES.

If no fault appears in the syllogism as such, that is in the *form* of the reasoning, then proceed to try the *truth* of the *premisses* and the *relevancy* of the *conclusion*. Take each premiss separately and observe:—

1st. Whether it is self-evident or not.

2nd. If not self-evident, but requiring proof mark if the ground or proof on which it rests is valid or not.

3rd. Observe whether the premiss is the same as the conclusion in reality, or whether it depends upon it.

If the premisses are true and unobjectionable, turn to the conclusion and observe;—

jáwe to us kí sihhat un qáidon se, jo wáste daryáft karne sihhat qiyáson ke muqarrar hain, daryáft karná cháhiye.

Auwal.—Yih dekho, ki wuh qiyás hamliya yá shartiya hai, agar shartiya hai, to unhín qáidon se, jo wáste shartiya ke muqarrar hain, **sihhat us kí malúm karo.**

Doyum.—Agar qiyás hamliya ho, to yih dekho, ki us men kitne juz hain.

Seyum.—Agar sirf tín juz hon, to yih dekho, ki hadd i ausat kullí hai yá nahín, aur ba mañe mufrad istiamál kí gaí hai, yá nahín.

Chahárum.—Yih dekho, ki donon muqaddamát sálibe hain yá mujíbe, aur agar sálibe hain, to manan yá lafzan, aur agar ek muqaddama sáliba ho, to dekho ki natíja bhí sáliba hai yá nahín? agar donon muqaddamát mujíbe hon, to yih dekho ki natíja bhí mujíba hai yá nahín?

Panjum.—Yih malúm karo, ki jo juz natíja men kullí hain, muqaddamát men bhí kullí hain yá nahín?

Shashum.—Agar qiyás ba súrát shakl i auwal ho, to yih daryáft karo, ki bamújib “qaul i Arastátális” ke hai yá nahín?

MUĞÁLTA MAÑAWÍ KO PAKARNÁ.

Agar wuh qiyás in sab nuqson se khálí ho, yañe us kí súrát men galatí na ho, to yih daryáft karo ki *muqaddamát sahíh* hain, aur *natíja* wuhí hai jo matlúb thá. Aur daryáft is tarah par karo, ki har ek muqaddama ko judá judá karke,—

Pahle.—Yih dekho, ki yih muqaddama badíhí hai yá nahín?

Dúsre.—Agar badíhí na ho, balki muhtáj subút ká ho, to yih dekho ki wuh biná yañe dalíl, jis par wuh qáim hai, sahíh hai yá nahín?

Tisre.—Yih dekho, ki muqaddamát dar haqíqat wuhí hain, jo natíja hai, yá natíja par mauqúf hain.

Agar muqaddamát sahíh aur iatiráz se khálí hon, to *natíja* kí taraf mutawajjih ho.

1st. If it is "relevant," that is, the one required in this argument.

2nd. If it is the one that the reasoner set out to prove or has the question been changed.

3rd. If it is the whole or only a part of what should be proved.

Some such analysis as this will generally lead to the detection of any errors in an argument. Each form of fallacy in the recapitulation, should be studied and dwelt on till its nature is fully understood and till it can be illustrated by a number of instances.

RECAPITULATION OF FALLACIES.

I. LOGICAL or error in form.	{	1 Undistributed middle.			
		2 Illicit process.			
		3 Negative premisses.			
		Affirmative conclusion			
		4 from negative premisses and <i>vice versa</i> .	{ Ambiguous major or minor.		
5	{	More than three terms in the argument.	{ Ambiguous middle. Fallacia accidentis. Fallacy of division or composition.		
II. NON-LOGICAL or material, error in matter.	{	First, fallacy in the premisses.	{ Petitio principii.		
			{ Arguing in a circle.		
			{ Non causa pro causa.		
		Second, fallacy in the conclusion, "ignoratio elenchi," or irrelevant conclusion.	{	{	Argumentum ad hominem.
					Shifting ground.
Fallacy of objections.					
Fallacy of proving only a part.					

Pahle.—Yih dekho, ki natija matlúba hai, yane wuhí hai jo is dalíl meñ cháhiye thá ?

Dústre.—Yih, ki natija wuhí hai, jo bahs karnewále ne sábit karná cháhá thá, yá bahs badal gaí hai ?

Tisre.—Yih dekho ki natija jitná sábit karná cháhiye thá, utná hai yá juz us ká ?

Pas in sab báton mazkúra i bálá par liház rakhne se agar kisí tarah kí galatí dalíl meñ ho, bakhúbí mañúm ho jáegí. Mugálta kí har súrát par, jo zail ke bayán i mujmal meñ likhí hai, táwaqte ki us kí kaifiyat bakhúbí mañúm na ho jáwe, aur har súrát kí misál apní taraf se na baná sake, khúb dhyan dená aur gaur karná cháhiye.

Mugálton ká mujmal bayán.

- | | | | | | |
|-------------------------------------|---|--|---|--|---|
| 1. <i>Mugálta</i>
i <i>Súri,</i> | { | 1. Hadd i ausat juzí. | { | | |
| | | 2. Kulliyat i nájáiz. | | | |
| | | 3. Muqaddamát i sálíbe. | | | |
| | | 4. Natija mújaba muqaddamát sálíbon se, yá baráks is ke. | | | Akbar, yá asgar, yá hadd i ausat mush-tarika. |
| | | 5. Ek qiyás meñ tín juzon se ziyáda ká honá. | | | Mugálta i arzí.
Mugálta taqsim o jamá. |

- | | | | | |
|---------------------------------------|---|--|---|---|
| 2. <i>Mugálta</i>
i <i>Manawi,</i> | { | <i>Auwal,</i> —Mugálta muqaddamát meñ. | { | Muqaddama aur natija ek hí honá. |
| | | | | Daur i tasalsul.
Wajh i gair-muwajjih. |

- | | | | | |
|---|---|--|---|------------------------------|
| <i>Doyum,</i> —Mugálta natije meñ, yane “natija gair matlúb.” | { | | { | Mugálta i tamalukámez. |
| | | | | Mugálta i tagaiyur i mazmún. |
| | | | | Mugálta istirázon ká. |
| | | | | Mugálta subút juzí. |

SECTION II.

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OF CERTAIN METHODS OF APPLYING LOGIC.

There are certain peculiar methods of applying the reasoning process in practical life, to which appropriate names are given. We propose to describe these briefly, and illustrate their mode of application. It will be seen that the reasoning process, although always really the same, in practical use in the search for truth or in the refutation of error, is varied in method.

INDUCTION.

1. *Induction*, is the inferring of general laws or truths, from particular truths or facts, that have passed under observation. It is also the process of discovering causes from effects. A number of facts or things are found always associated in the same way, or accompanied by the same phenomena; hence we conclude that this class of facts are always so, and infer some general law or truth in regard to them. For instance, it has been observed that lead, iron, silver, gold, &c., melt when a sufficient degree of heat is applied to them. Hence, the general truth is inferred that metals are fusible. Again, it is observed that cows, sheep, goats, deer, and other horned animals ruminate, hence the rule is inferred that horned animals ruminate. Again, it has been observed in hundreds of trials, that pure water resolved into its elements by chemical analysis, yields but two gases, *oxygen* and *hydrogen*,

BAYÁN CHAND TARÍQON ISTIAMÁL I MANTIQ KÁ.

MANTIQ ke istiamál ke wáste chand taríqe hain, jin ke judá judá nám muqarrar hain. Ab hamará iráda hai, ki un taríqon ko likhen, aur un ke istiamál ká taur batláwen. Yih malúm hogá ki aql agarchi haqíqatan hamesha ekhí taur par daurtí hai, magar phir bhí bar waqt mubáhise ke, jab ki kisi bát kí haqíqat daryáft kí jáwe, yá koí galatí rafa kí jáwe, to dalíl láne ke taríqe men kuchh na kuchh tagaiyur ho játá hai.

BAYÁN ISTIQRÁ KÁ.

1.—*Istiqrá* us ko kahte hain, ki juziyát se kulliyát ko malúm karná, yane chand báton se us qism kí kull báton ke liye koí qáida i ámm nikálná. Jab chand martaba ham ne dekhá, ki jab ek amr hotá hai, us ke sáth fulání bát bhí hotí hai, pas us se ham natíja nikál lete hain, ki is qism kí jitní báton hain, sab hamesha isí tarah par hotí hain, aur ek ámm qáida un sab báton ke wáste nikal átá hai. Maslan ham dekhte hain, ki sísá, lohá, chándí wg. jab khúb garm kiye jáwen, to pighal jáwenge. Pas qáida i ámm yih niklá ki dháten pighal játí hain. Dúsrí misál, ham ne dekhá, ki gáe, bhains, bakrián, aur *aur* síngwále jánwar jugálí karte hain pas qáida niklá ki síngwále jánwar jugálí karte hain. Tísrí misál, saikron martaba ázmáne se malúm húa, ki khális pání, jab us ke anásir kímiyái tarkíb se judá judá kiye jáwen to do gásen ho játí hain, is hisáb se áth hissa *áksijen* aur ek

in the proportion of 8 to 1 ; hence it is inferred that all pure water consists of two elements, oxygen and hydrogen, combined in the proportion of 8 to 1.

2. We may remark here, that induction, as far at least as the material world is concerned, is founded on the belief, *that the laws of nature are uniform*. This belief itself is perhaps an induction. From childhood up, we observe that the sun uniformly rises and sets, that day and night succeed each other in the same regular order, that the seasons come and go, that seeds germinate and plants grow, and produce flowers and fruit in the same order ; hence the belief has fastened itself in the mind from these observations, that nature's laws are uniform. For this reason, when in a number of cases we see the same thing accompanied by the same phenomenon, we infer from the uniformity of nature's laws that it will always be so.

3. The induction will be complete or incomplete according to the *number* and *accuracy* of the observations that have been made. It would be an incomplete and hasty induction to infer a general law or truth from a few facts, or from a few hasty and immature observations. Yet this is a common mistake ; because a thing happens in a certain order or connection for a few times, it is referred to some cause with which it has no connection whatever. It is a common saying among the Hindus, that eclipses have an unfavourable influence on the birth of children, because perhaps, in some instances, unfavourable births have taken place in connection with eclipses ; although there is no possible bad influence in eclipses over the birth of a child, as the thousands of favourable births at times when eclipses have taken place, should prove. If it should occur twice or thrice in a life time, that a journey, undertaken when an animal crossed the road before us,

hissa haidrojen, pas natija niklá, ki jitná khalis pání hai, do unsar se, yane áksijen aur haidrojen se, is tarah par ki áth hissa áksijen hai aur ek hissa haidrojen, murakkab hai.

2.—Ab jánná cháhiye ki bunyád istiqrá kí is yaqín par hai, ki *qudrat qánún bek ché rahte hain*, badalte nahín, aur yih yaqín bhí sháyad istiqrá se hásil húa, kyúnki larakpan se ham dekhte hain, ki áftáb barábar tulú hotá aur gurúb hotá hai, aur rát aur din pai dar pai hote rahte hain ek hí tartíb par; mausim áte hain, bíjon men kallá phúttá hai, aur darakht barhte hain, aur phalte phúlte hain, ek hí tartíb par; pas dekhte dekhte hamáre dil par yih yaqín jam gayá hai, ki qawánín i qudratí badalte nahín, ek hí rahte hain. Jab kaí ek martaba ham dekhte hain, ki fuláne wáqí ke sáth fulání bát hotí hai, to natija nikálte hain, ki chúnki qudrat ke qánún hamesha ek hí rahte hain, is sabab se fuláne wáqí ke sáth fulání bát hamesha hotí rahegi.

3.—Jitní martaba aur jis qadr gaur ke sáth koí bát dekhí jáwe, usí qadr us ká istiqrá kámil hogá. Yih nahín hai, ki ek bát ko ek amr ke sáth do ek martaba hote húa dekhkar ek ámm qáida nikálná, ki jab fuláná amr hogá, to us ke sáth fulání bát zarúr hogí. Yih galatí aksar wáqí hotí hai, kyúnki bárahá dekhne men áta hai, ki jab koí bát kisí amr ke sáth do ek martaba hotí ho, to log kahne lagte hain, ki us bát aur us amr men iláqa zurúr hai. Maslan, Hindú log aksar kahte hain, ki gahan parte waqt larke ká paidá honá manhús hotá hai, kyúnki baz martaba ázmá dekhá hai, ki jab aise waqt men larke paidá hotá hai, manhús hotá hai, agarchi is bát kí kuchh asliyat nahín; kyúnki hazáron martaba larke ká paidá honá aise waqt men masúd húa. Agar umr bhar men do tén martaba kisí shakhs ko aisá ittifáq húa ho, ki safar karte waqt koí jánwar us ke sámhne se rásta kátkar nikal gayá, aur us safar men kuchh khalal par gayá, to use yih natija nikálná na cháhiye, ki musáfirat men jánwar ká rásta kátkar nikal jáná shugún i

proved bad, we should not therefore infer that there is some unfavourable sign in an animal crossing our track. On the contrary, a correct induction would show us that the instances are vastly more numerous, where the crossing of our track by an animal, was followed by a prosperous journey.

Induction will thus be complete, in proportion to the number of cases that have passed under observation.

An *absolutely* complete induction would be where all the cases had passed under observation. But this is usually not practicable, and indeed is not necessary, since a number of observations, more or less just, as the case seems to demand, satisfy the mind that a general law or truth has been reached. For instance, it is not necessary to analyze all the water in the world, to be sure that water is composed of two gasses. Repeated trials have satisfied the mind that this is the fact. A complete induction, then, is where the trials have been sufficient to *satisfy* the mind and *warrant* the conclusion. From the process of induction, different *degrees* of belief arise, in proportion to the completeness of the induction. If the examples have not been numerous, the field of observation having been limited, there may be a degree of doubt in the conclusion; but if the observation has been very extended, the belief may rise to absolute certainty.

4. Nearly all science is the result of induction. Numerous observations and experiments having been compared, general principles and laws are inferred from them. These principles and laws classified, constitute science. Thus, the sciences of astronomy, geology, chemistry, botany, medicine, &c., have been developed. Centuries of observation and experiment have been required to bring some of these sciences to their present degree of perfection. Induction will mature them

bad hai; balki barkhiláf is ke istiqrá e kámil se ham ko yih bát sábit ho jáwegí, ki jánwar ke nikalne se kuchh nahín hotá, kyúnki saikron martaba jánwar rásta kátkar nikal gae, aur safar ba khairiyat tamám húa.

Jis qadr báten hamári nazar se guzrengí, usí qadr istiqrá un ká, barhtá jáwegá.

Istiqrá e kámil, ki jis men kuchh bhí kisé tarah ká shubha mumkin na ho, jab hogá ki ek qism kí kull báten hamári nazar se guzar jáen. Lekin yih amr aksar gair mumkin hai, aur haqíqat men kuchh zarúr bhí nahín hai, jab ki tabíyat ke chand hí martaba dekhne se qarár wáqaí itmínán ho, ki hán yih ámm qáida nikaltá hai. Maslan yih zarúr nahín hai, ki tamám duniyá ke pání ko judá karke dekhen, táki yaqín ho jáwe ki pání do gáson, yane do hawáon se murakkab hai, kyúnki chand martaba ázmáne se dil ko qarár wáqaí itmínán is amr ká ho gayá hai, ki pání do gáson se murakkab hai. Garaz istiqrá e kámil jab hogá, ki ek bát itní martaba ázmái jáwe, ki dil ko yaqín i kámil ho jáwe aur jo natíja nikálá jáe, jáíz ho. Yaqín jo istiqrá se hásil hotá hai, yaksán nahín hai, yane dalíl istiqrá kí, jis qadr kámil hogí, usí qadr yaqín kámil hogá. Agar kisé amr ko sirf chand hí martaba ázmákar dekhá, to us ke yaqín men sháyad kisé qadr shakk hogá, aur jis bát ko bárahá ázmákar dekhá, us ká yaqín khúb pukhta hogá.

4.—Qaríb tamám ilmon ke, istiqrá se hásil húa hain. Bár bár dekhte dekhte, aur ázmáte ázmáte, ámm qáide nikle hain, aur un qáidon ke jamá karne se ilm ban gae hain. Ilm i Haiat, ilm i Tarkíb i Zamín, ilm i Kímíyá, ilm i Tibb, wg. isí tarah nikle hain. Saikron baras kí ázmáish aur tahqíqát se baz ilm is kámiliyat tak pahúnche hain. Istiqrá

still further, as new observations are made and new facts are compared.

5. All inductions can be reduced to the syllogistic form. An induction is usually in the form of an enthymeme, the major premiss being suppressed. Observation having been made in a number of cases, we conclude that whatever is true of them, is true of the class of which they belong. To illustrate, we have this induction in the form of an enthymeme:—

The cow, sheep, goat, and deer, are horned animals.
Therefore, They ruminates.

This is an induction, and put in the full syllogistic form would stand thus,—

Whatever is true of the cow, sheep, goat, deer,
&c. is likely true of all horned animals.
Rumination is true of the cow, sheep, goat, deer,
&c.

Therefore, Rumination is likely true of all horned animals.

In an induction, we simply discover that something common, belongs to a number of cases, and then infer that it belongs to all things of this class. Inspection of the above illustrations shows that the major premiss is suppressed in such inductions. This major premiss is some such proposition as:—*Whatever is true of the case or cases which we have examined, is likely true of the whole class to which they belong.*

Inductions taken singly may also be put in the form of syllogisms. Thus, take the inductions, "lead is fusible, therefore some metal is fusible," "silver is fusible, therefore some metal is fusible"; we find that the ~~major~~ premisses "lead is a metal," "silver is a metal," are suppressed.

minor

se aur bhí in ilmon ko pukhtagí ho jáwegí, kyúñki tahqíqát i jadída hotí játí hai, aur naí báten nikaltí haiñ.

5.—Dakíl i istiqrá kisí tarah kyúñ na ho, ba súrati i qiyás ho saktí hai. Aksar to dakíl i istiqrá ba súrati i qiyás i mukhaffaf hotí hai, jis ká kubrá muqaddar hotá hai. Jab ek qism kí chand chízon ke ek se hálát bárhá hamárá nazar se guzarte haiñ, to ham natíja nikál lete haiñ, ki jo hál un chand chízon par sádiq átá hai, wuhí us qism kí kull chízon par sádiq áwegá. Maslan.

Gáe, bher, bakri, hiran, singhdár jánwar haiñ.
Pas, Yih jugáli karnewále haiñ.

Yihí istiqrá húá. Agar ba tartíb i qiyás likhá jáwe to yún hogá :—

Jo bát ki gáe, bher, bakrí, haran wg. par sádiq átí hai, gáliban sab singhdár jánwaron par sádiq áwegí.
Jugáli karná gáe, bher, bakrí, haran wg. par sádiq átá hai.
Pas, Jugáli karná, gáliban sab singhdár jánwaron par sádiq átá hai.

Istiqrá men auwal sirf yih małúm kar lete haiñ, ki fuláni amm bát ek qism kí chand chízon men pái játí hai, aur phir yih natíja nikálte haiñ, ki is qism kí kull chízon men yih bát pái játí hai. Upar kí misál dekhne se małúm hotá hai, ki aisí dalílon istiqrá men kubrá muqaddar hotá hai, aur wuh kubrá muqaddar koí aisá qaziya hotá hai jaisá ki, *Jo bát fuláni qism kí chand chízon par sádiq átí hai, wuhí us qism kí kull par sádiq áwegí.*

Dalílon istiqrá ko bhí judá judá karke ba súrati i qiyás rakh sakte haiñ. Maslan ; “sísá pighal játá hai, pas báz dhát pighal játí hai ;” “Chándí pighal játí hai pas báz dhát pighal játí hai ;” liháza ham ko małúm ho játá hai, ki kubrá, “sísá dhát hai,” “chándí dhát hai,” muqaddar hai.

dugrá

The full syllogisms are,—

Lead is fusible.

Lead is a metal.

Therefore, Some metal is fusible.

And, www.libtool.com.cn

Silver is fusible.

Silver is a metal.

Therefore Some metal is fusible.

From a number of such inductive syllogisms, reduced to one single syllogism, we get a general fact of law as a conclusion. Thus,—

Lead, silver, gold, iron, &c., are fusible.

These are metals.

Therefore, Metals are fusible.

OF DEDUCTION.

Deduction is just the opposite of induction. In induction we deduce general laws or principles from *facts*, in deduction we infer certain effects from *general laws*. By induction we have learned that certain things are poisonous. With this general fact before us, we conclude, that if a certain person has eaten one of these things he is poisoned. This is a deduction. In the same way we conclude that any horned animal newly found, is a ruminant, because the general fact has been discovered by induction that horned animals are ruminants. Deduction, then, is reasoning from the general to the particular, while induction is reasoning from the particular to the general.

EXAMPLE.

Reasoning from example is somewhat of the nature both of induction and deduction. It may be called imperfect induction. In induction, we infer a general fact from a number of particular cases, but in the argument

Agar yih istiqrá ba súrát i qiyás likhá jáwe to yún hogá:—

<i>Istiqrá auwal ba súrát i qiyás,</i>	}	Sísá pighal játá hai. Sísá dhát hai Pas, Baz dhát pighal játí hai.
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<i>Istiqrá दूसरा ba súrát i qiyás,</i>	}	Chándí pighal játí hai. Chándí dhát hai. Pas, Baz dhát pighal játí hai.
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In sab qiyáson istiqrái ko milákar ek kar dete hain, aur phir ek ámm qáida un se natíja nikaltá hai. Maslan,—

Sísá, chándí, soná, lohá wg. dhát hain.
Yih dháten pighal játí hain.
Pas, Dháten pighal játí hain.

BAYÁN ISTIKHRAJ KÁ.

Istikhraj, thík istiqrá ke baráks hai. Istiqrá men juziyat se kulliyat sábit kí játí hai, aur istikhraj men kulliyat se juziyat sábit kí játí hai. Istiqrá se ham ko yih bāt małúm hūí hai, ki fuláni chízeñ zahrdár hain. Pas is ámm qáida se, jo ham ko małúm húa hai, ham yih natíja nikálte hain, ki agar in zahrdár chízon men se koí bhí kíśi shakhs ne khá lí hai, to us par zahr ne asar kiyá hogá. Isí ko *istikhraj* kahte hain. Isí tarah agar koí nayá jánwar sínghdár kahín mile to ham natíja nikál lenge, ki yih jugáli karnewálá hai; kyúnki yih ámm qáida dalíl i istiqrá se małúm ho chuká hai, ki sínghdár jánwar jugáli karte hain. Garaz istikhraj, kullí se juzí par dalíl láne ko kahte hain, aur istiqrá, juziyat se kullí par dalíl láne ko kahte hain.

BAYÁN TAMSÍL KÁ.

Tamsíl men, istiqrá aur istikhraj kuehh kuchh domēñ páe játe hain. Is ko ná-kámil istiqrá samjho. Istiqrá men juziyat se kulliyat par dalíl láte hain. Tamsíl men ek juzí se दूसरी juzí par, yañe ek chíz se दूसरी chíz par hawála

from example, we infer something in regard to one particular case from another case or other cases. Thus, we might infer that a certain traitor will come to a bad end because the traitor Náná Ráo came to a bad end. But perhaps there is something of the nature both of an induction and deduction here, it having been settled, from the example of Náná Ráo, that *traitors generally come to a bad end*; hence, since this man is a traitor, he too will come to a bad end. The apostle Peter reasons by example [2 Peter 2, 4-9,] when he refers to the destruction of the angels that sinned, and of the antediluvian world, and of the inhabitants of Sodom and Gomorrah, to prove that the wicked shall be punished. This form of reasoning is very plain, and need not be further illustrated here.

ANALOGY.

1. *Analogy*, as commonly used, means *resemblance*, and the resemblance may be in the things themselves, or in their uses, and their relations. The earth and moon both being round and both revolving on their axes, is an example of "*analogy in things themselves.*" The fin of a fish and the wing of a bird, being both used for propelling each animal in the medium where it lives, afford an example of analogy of "*use.*" The capital of a country bears somewhat the same relation to that country as the heart does to the body; this is an analogy of "*relation.*"

Now in reasoning from analogy, we infer that *because* things resemble, in some known particulars, they will resemble in others. The strength of the argument of course will be in proportion to the strength of the resemblance. The following is an example of reasoning from analogy. We see a great resemblance between the earth on which we live, and Mars, Jupiter,

diyá játá hai. Maslan koí natíja níkále, kí fuláne bágí ká anjám burá hogá, kyúñki Náná Ráo bágí ká anjám burá húa. Sháyad yahán par istiqrá aur istikhraj donon pée játe hain, kyúñki tamsíl i Náná Ráo se istiqrá ke taur par yihí bát níkalí hai, kí kull bágíon ká anám burá hotá hai. Pas chúnki yih ádmí bágí hai, is sabab se us ámm qáida se istikhraj ke taur par yih bát níkalí hai, kí is ká bhí anjám burá hogá. Patras Rasúl ne, jo gnahgár firishton kí halákat ká, [2 Pat. 2, 4-9.] aur qabl túfán i Núh, jo log dunyá meñ ábád the, un ká aur Sadúm o Gamúra ke logon ká hawála diyá hai, táki sábit ho jáwe, kí sharir badzát, sazá páwenge, wuh dalíl i tamsíl hai. Yih tariqa dalíl láne ká, bahut sáf aur sahíh hai, kuchh hájat aur misál láne kí yahán par nahín hai.

BAYÁN QARÍNE KÁ.

1.—Ámm muháware ke mutábíq, *qaríne* ke mañe mushábahat ke hain, aur mushábahat is meñ kháss do tarah par hai, yá *súri* hai, yá *mañawí*. Misál auwal, *qarína i súri*, jaise zamín aur chánd donon ká gol honá aur donon ká apne apne mihwaron par ghúmná. Misál doyum, *qarína i mañawí* kí, jaise bázú machhlí ká aur parand ká, kí donon wáste ek hí matlúb ke bane hain, yañe wáste urne aur daurne ke, aur jaise mulk ká sadr maqám dár-us-saltanat hai, isí tarah jism ká sadr maqám dil hai. Dekho, yahán par jo nisbat mulk ko apne dár-us-saltanat se hai, wuhí jism ko apne dil se hai, pas yih bhí misál mushábahat kí húi.

Qaríne kí rú se dalíl láne meñ is tarah par natíja níkalte hain, kí jab ek chíz dúsrí chíz se chand báton meñ mushábahat rakhtí hai, to aur báton meñ bhí mushábih hogí. Aur beshak jis qadr mushábahat hogí usí qadr dalíl pukhta hogí. Ek dalíl qarína kí mundarija e misál i zail hai. Maslan ham dekhte hain, kí yih zamín jis par ham rahte hain, saiyáron Utárid, Mushtarí, Zuhl wg. se bahut báton meñ mushábahat rakhtí hai. Sab, zamín kí misl

Saturn and other planets. They all seem to be composed of matter like the earth. They revolve around the sun and derive their light from him as the earth does. They revolve on their axes, and hence must have day and night like our earth. So in many particulars they resemble the earth. Now, as the earth is inhabited, it may be inferred that they are also.

2. Reasoning from analogy resembles both induction and reasoning from example. It differs from induction thus :—

In induction we reason from several cases or individuals to the whole class, but in analogy we reason from one case to another. In induction we *see* that the several things are like each other, but in analogy the evidence is indirect and we *infer* that they are alike in some particular or particulars in question, because they are alike in others. Analogy differs from example in this, that in example we are supposed to *see* that the one case is like the other, the evidence being thus direct, while in analogy we see but in part and *infer* the rest from resemblance in what we do see.

As another illustration of this form of argument, we may meet the objection against the Bible that it contains doctrines inexplicable by reason, by a reference to the analogy between *nature* and *rèvelation*. Both are the work of the same infinite Being. In this they are alike. Now as nature presents to us many inexplicable things, from analogy we may expect that revelation also may contain things inexplicable. And we may further infer that as time and study remove many of the mysteries of nature, so it will be in regard to revelation ; as indeed we do find that time and study often clear up apparent difficulties in God's word.

3. Analogy can always be reduced to the syllogistic form, as we see is the case with all reasoning.

zí-jirm ma'lúm hote hain; sab áftáb ke ás pás gardish karte hain, aur us se roshní hásil karte hain jaise zamín ká hál hai; aur jaise zamín ke apne mihwar par ghúmne se din aur rát hote rahte hain, isí tarah un men bhí din aur rát hote rahte hain. Pas jab ham ne dekhá, ki yih saiyáre bahut báton men zamín se mushábahat rakhte hain to qaríne se ham natíja nikálte hain, ki jaise zamín ábád hai, waise we bhí ábád honge.

2.—Dalíl i qarína, dalíl i istiqrá aur tamsíl, donoñ se mushábahat rakhtí hai, magar istiqrá se mukhtalif is bát men hai, ki istiqrá men juziyat se kulliyat par dalíl láí játí hai, lekin qaríne men ek bát se dúsrí bát sábit kí játí hai. Istiqrá men kaí chizon ko ek dústre ke mushábih dekhkar natíja nikálá játá hai, aur is men ek chíz ko dúsrí chíz se chand báton men mushábahat dekhkar qaríne se yih nikál liyá játá hai, ki aur báton men bhí mushábih honge. Qarína, tamsíl se is bát men mukhtalif hai, ki tamsíl men ek chíz ko dúsrí chíz se mushábih dekhkar ham dalíl láte hain; lekin qaríne men ek chíz ko dúsrí chíz se kuchh báton men mushábih dekhkar qaríne se ma'lúm kar lete hain, ki báqí aur báton men bhí mushábahat rakhtí hai. Is qism kí dalíl kí ek aur misál yih hai. Agar koí shaḡhs iatiráz kare, ki Baibal men aise masle hain, jo samajh men nahín áte hain, to us ke jawáb men ham yih bát kahen, ki *ḡhilqat* aur *ilhámí kitáben* donoñ us lá-intihá *Ḳhudá* se hain. To is bát men *ḡhilqat* aur *ilhámí kitáb*, donoñ ek húe. Ab chún ki *ḡhilqat* men bahuterí báten aísí hain, ki samajh men nahín áté hain, isí sabab se gálib hai, ki *ilhámí kitáb* men bhí bahuterí báten aísí hon, jo samajh men na áwen; aur jaisá zamána ba zamána gaur karne se bhed *ḡhilqat* ke, khulte játe hain, isí tarah Baibal ká hál hogá. aur háqíqat men ham dekhte hain, ki zamána ba zamána gaur karne se wuh báten *Kalám* i *Iláhí* kí, jo ba záhir mushkil ma'lúm hotí thín, roshan hotí játí hain.

3.—Dalíl i qarína bhí, ba súrát i qiyás ho saktí hai, jaisá ki aur sab dalílon ká hál hai. Maslan farz karo, kisi

Thus, suppose we find the skeleton of an animal we have never seen alive, and observe that it has sharp teeth and claws like a tiger. From analogy we infer that this animal lived on prey, eating the flesh of other animals. The argument put in the syllogistic form would be,—

All animals with sharp teeth and claws, prey on other animals.

This animal has sharp teeth and claws.

Therefore, It preys on other animals.

Thus, also the example just given on the Bible.

The work of an infinite Being, as proved by nature may contain things inexplicable by man.

Revelation is the work of an infinite Being.

Therefore, Revelation may contain some things inexplicable by man.

4. Reasoning from analogy must be used with caution. The evidence is indirect, and is often liable to objection. There may be resemblance in some particulars, without sufficient resemblance in other particulars, to justify the conclusion we wish to draw. Thus, although the planets, as Mars, Jupiter and Saturn, do resemble the earth in many particulars, we cannot infer with absolute certainty that they are in like manner inhabited. For in respect of temperature, water, and the general conditions of life, these planets may not be like the earth, hence may be incapable of supporting life.

Some have supposed that because there is a resemblance between the growth, decay, and death of vegetation and that of animals, the latter perish entirely like the former, and man with them. But this conclusion is not warranted; for animals are sentient creatures, capable of voluntary action, in which plants do not resemble them. There is between the existence of each, such a wide difference that no one is justified, from faint resemblances, in inferring a like destruction.

aise jánwar kí khánkar, jis ko ham ne kabhí na dekhá ho kahín par mile, aur ham dekhén, ki us khánkar ke tez dánt hain aur tez panje, to qaríne se daryáft kar lenge ki yih jánwar shikári thá. **Agar yih dalíl i qarína**, ba súrat i qiyás likhí jáwe, to yún hogí :—

Jin jánwaron ke tez dánt aur tez panje hote hain, we shikári hote hain.

Is jánwar ke tez dánt aur tez panje the.

Pas, Yih jánwar shikári thá.

Isí tarah ek misál Baibal kí, jo abhí ho chukí hai, ba súrat i qiyás ho saktí hai.

Khilqat ke dekhne se ma'lúm hotá hai, ki us lá-intihá Kháliq se baz báton aísí hon, jo insán kí samajh men nahín áti hon.

Kalám i iláhi us lá-intihá Kháliq se hai.

Pas, Kalám i iláhi men baz báton aísí hon, jo insán kí samajh men na áti hon.

Dalíl i qarína barí hoshyári se láná cháhiye, kyúnki bagair dekhí bát men, aksar gunjáish iatiráz kí hotí hai, aur bahuterí chízen aísí hain, jo baz báton men báham-dígar mushábahat rakhtí hain, magar itní báton men nahín ki ham natíja nikálen. Maslan agarchi Zamín, saiyáron Utárid, Mushtarí, Zuhál wg. se bahut báton men mushábahat rakhtí hai, táham ba yaqín i kámil ham yih natíja nahín nikál sakte hain, ki we zamín kí mísl ábád hain, kyúnki sháyad hálat i garmí o sardí, aur pání, aur jo jo chízen zindagí ke liye cháhiyen, zamín kí mísl, un saiyáron men na hon to wahán parwarish ján kí gair mumkin hai.

Báze yih samajhte hain, ki chúnki haiwánát aur nabátát ke darmiyán men barhne aur ghatne aur marné men mushábahat hai, haiwánát maq insán aur nabátát, donon ek hí taur par nest ho játe hain. Lekin yih natíja nikálná gair jáiz hai, kyúnki haiwánát zí-hiss o harakat jism hain, aur is lát men haiwánát, nabátát se musbá-

Hence, analogy must be used with caution. It may generally be used as a strengthening and confirming argument rather than as absolute proof.

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REASONING "A PRIORI," "A POSTERIORI," AND "A
FORTIORI."

The above names are used to designate particular forms of argument, the manner and use of which we here explain. An argument is called.—

1. "*A priori*," when we infer effects from known causes, or when we deduce consequences from definitions formed, or principles assumed. Thus, from the existence of the cause we infer the existence of the effect. For instance, if the sun has risen we know that it is day, because the sun, as a source of light, must produce day. If the moon has come between the sun and the earth, there must be an eclipse, because such a conjunction of the sun, moon, and earth, would produce an eclipse as an effect. If we hear that a man has been bitten by a mad dog, we naturally infer that he will die from hydrophobia. Believing that God is a merciful, all-wise, and infinitely holy Ruler, we infer that his dealing with man will be marked by mercy and that he cannot be the Author of sin.

In mathematics we find many instances of "*a priori*" reasoning, where from certain definitions or general principles, we infer certain results, or deduce the impossibility of wrong assumptions. For instance from the definition that *parallel lines never meet*, we may infer, in any demonstration, that two certain lines cannot meet, *because they are parallel*; or *because they have not met*, we infer that they are not parallel. In like

bahat nahín rakhte hain. In do wujúd meñ bará farq hai, zará sí mushábahat dekhkar natíja nikálná, ki we marte bhí isí tarah honge, kisí tarah jáiz nahín hai. Pas barí hoshyarí se qaríne ká istiamál karná cháhiye. Dalíl i qarína, aur dalílon ke istihkám ke wáste láte hain, aisá kam hotá hai, ki wuh bajáe khud dalíl ho.

“ISTIDLÁL-I-LIMMÍ,”—“ISTIDLÁL-I-INNÍ.”

“ADNÁ SE ÁLÁ KO SÁBIT KARNÁ.”

Yih tinoñ, dalíl kí súraton ke nám hain. In súraton ká, aur un ke tariqae istiamál ká bayán, ham yahán par likhte hain:—

1.—“*Istidlál i limmí,*” yane *Illat se ma'lul sabit karná,* us ko kahte hain, ki sababon ma'lúma se musabbab dar-yáft kiye jáweñ, aur qawáid yá qawánin i muqarrara se natíje nikále jáweñ. Garaz ki wujúd i illat se wujúd ma'lul ká natíja nikálne ko “*illat se ma'lul sabit karná*” kahte hain. Maslan jis waqt áftáb tulú hogá, ham jánte hain ki din zarúr hogá, kyúnki áftáb chashma roshní ká hai. Tulú honá áftáb ká illat hai, jis se wujúd ma'lul ká, yane din ká honá sábit hotá hai. Yá agar chánd áftáb aur zamín ke darmiyán á jáwe, to zarúr gahan paregá. Pas dekho yahán par háil honá chánd ká, illat hai, jis se wujúd ma'lul ká, yane gahan ká parná hotá hai, yá agar ham sunen, ki kisí shakhs ko báole kutte ne káñ kháyá hai, to ham ján lenge, ki wuh shakhs kutte kí bímári se mar jáwegá. Isí tarah jab ham ne jáná, ki Khudá rahím aur karím quddús o Hakím i Haqíqí hai, to ham natíja nikálte hain, ki Khudá Ta'álá insán par rahmat kí nazar rakhtá hai, aur Bání gunáh ká nahín hai.

Ilm i Riyází meñ is qism kí dalíl kí bahut misálen pái játi hain, kyúnki ilm i riyází meñ chand qawáid i muqarra yá usúl i mauzúa se natáij sábit kiye játe hain, yá yih sábit kiyá játa hai, ki fulán dáwá galat hai. Maslan ek qáida yih hai, ki khutút i mutawáziyá kabhí nahín milte hain, par jahán kahín kisí dáwe meñ aisá sabab áke pare to ham sábit karenge, ki yih khutút kabhí na milenge, kyúnki mutawáziya hain, yá yih sábit karenge, ki yih khutút mil jáwenge, kyúnki mutawáziyá nahín. Garaz isí tarah par

manner we infer numerous other results or conclusions. And we reason in the same way in all sciences.

2. Reasoning "*a posteriori*," is just the reverse of "*apriori*" reasoning. In this, causes are deduced from effects. For instance, from the round shadow of the earth on the moon in a lunar eclipse, we infer that the earth is round. We reason that a round shadow as an *effect*, must come from a round substance as a *cause*.

Other familiar examples of reasoning "*a posteriori*" may readily be found in cases, where from effects produced, we try to find out their cause. In cases of murder, often the cause and manner of death, are thus traced up and the murderer detected.

By reasoning "*a posteriori*," we infer the existence and attributes of God, from our own existence and the existence of nature and manifestations of design and goodness, &c. around us. Thus also, from the sublime teachings and superhuman spirit of the Bible, we infer that it has a divine Author. In the same way, from the evil tendency of a book claimed to be inspired, we might infer that it is simply a human production.

This kind of reasoning should be used with caution. An inference should not be drawn till some clear relation of effect and cause is established, otherwise the error of "*non causa pro causa*" will be committed. The cautions against that error should be observed here.

3. "*A fortiori*," is a form of argument in which from an admitted case or proposition, we proceed to prove another case of the same nature, for the acceptance of which, the reasons seem even stronger than for the admitted case.

The form of the argument is,—

A is equal to, or greater than B.
C is greater than A.

Therefore, C is greater than B.

bahut aur natáij sábit kar lete hain, aur sab ilmon se isi tariq par bahs kí játi hai.

2. "*Istidlál i inni,*" yane maḤul se illat sábit karná. Yih auwal ke baráks hai. Is men maḤul se illat sábit kí játi hai; maslan jab chánd **lgahan** partá hai to chánd ká aks zamín par gol partá hai, pas is se maḤul hotá hai, ki zamín gol hai. Aks gol parná maḤul hai, jis se illat, yane zamín ká gol honá maḤul hotá hai. Is qism kí dalíl kí bahuterí misálen us mauqa par áti hain, jahán ki wujúd i maḤul se wujúd i illat ká sábit karná cháhte hain. KḤun ke muqad-dama men aksar is amr kí tahqíqát, ki kis chíz se mára gayá aur kis kis tarah par húa, isi tariq se qátíl maḤul ho játa hai.

Isí dalíl kí rú se ham apná wujúd, aur kḤilqat ká wujúd, aur tarah tarah kí hikmaten wg. dekhkar, KḤudá ká wujúd, aur us kí zát o sífát sábit karte hain. Isí tarah ham dekhte hain, ki Baibal kí talím niháyat umda hai, aur aisí báten us men pái játi hain, ki insán kí táqat o liyáqat se báhar hai; pas is se sábit hotá hai, ki Baibal ilhámi kitáb hai. Alá-ház-al-qiyás agar kisí kitáb kí talím burí ho, aur us kí nisbat koí dawá kare, ki yih kitáb ásmání hai, to hamen sábit ho jáwegá, ki yih sirf ádmi kí banáí hai.

Is qism kí dalíl ko barí hoshyári aur kḤabardári se istimál karná cháhiye. Jab tak illat aur maḤul ke darmiyán koí iláqa qarár wáqaí na páyá jáwe, us waqt tak kuchh natíja nikálná nahín cháhiye, warna súrat "mugálta i wajh gair muwajjih" kí paidá ho jáegí. Jo jo báten mugálta i wajh gair muwajjih se mahfúz rahne ke wáste úpar bayán ho chukí hain, un ká liház yahán par bhí rakhná cháhiye.

3. "*Adná se áli ko sábit karná.*"—Is dalíl men kisí amr yá dawá e musallam se, usí qism ke kisí aur amr, yá dawé ko sábit karte hain. Aur jo amr yá dawá ki sábit kiyá játa hai, us ko taslím karne ke wáste us se bhí barhkar subút hote hain, jitná ki us amr yá dawá e musallam ke subút ke liye hote hain. Yih dalíl is súrat kí hotí hai:—

A. barábar hai B. ke, yá us se bará hai.

J. A. se bará hai.

Pas, J. B. se bará hai.

Christ reasoned thus with his disciples and others, in many instances. For example (Mat. vi. 28-30,) "And why take ye thought for raiment? Consider the lilies of the field, how they grow, they toil not, neither do they spin, and yet I say unto you, that Solomon in all his glory was not arrayed like one of these. Wherefore, if God so clothe the grass of the field, which to-day is and to-morrow is cast into the oven, shall he not *much more* clothe you, O ye of little faith?"

This put into the form of a syllogism would stand thus,

The lilies and grass of the field, are clothed by God.
 You are much greater than they.
 Much more will you be clothed by God.

Again: "And behold there was a man which had his hand withered. And they asked him saying is it lawful to heal on the sabbath days? that they might accuse him. And he said unto them, what man shall there be among you that shall have one sheep, and if it fall into a pit on the sabbath day, will he not lay hold on it and lift it out? How much then is a man *better* than a sheep? Wherefore it is lawful to do well on the sabbath days." [Mat xii: 10-12.]

This then is the argument "*a fortiori*," in which we reason from a less obvious but admitted proposition to one with stronger reasons for its adoption.

RECAPITULATION.

An argument according to the mode of its reasoning may be :

- 1.—Inductive.
- 2.—Deductive.
- 3.—By example
- 4.—By analogy.
- 5.—A priori.
- 6.—A posteriori.
- 7.—A fortiori.

Masīh apne shāgirdon, aur aur logon ke sáth bárahá is qism kí dalíl láyá. Maslan (dekho Matí 6 : 28-30.) “ Aur poshák kí kyún fibr karte ho, janglí sosan ko dekho, kaise barhte hain, wuh na mihnát karte na kátte hain. Par main tumhen kahtá hún, kí Sulaimán bhí apní sárfí shán o shaukat men un men se ek kí mánind pahine na thá. Pas jab Khudá maidán kí ghás ko, jo áj hai, aur kal tanúr men jhonkí játí, yún pahinátá hai, to kyá tum ko ai sust-iaṭiqádo, ziyáda na pahináwegá ?”

Agar yih dalíl ba súrát i qiyás qáim kí jáwe, to yún hogí :—

Khudá ne janglí sosan aur ghás ko poshák dí.

Tum un se bahut bare ho.

Pas, Yaqín ziyáda hai kí wuh tum ko poshák baḥshegá.

Dúsrí misál, (Matí 12 : 10-12.) “ Aur dekho, wahán ek shakhs thá, jis ká háth súkh gayá thá. Tab unhon ne is iráde se, kí us par nálish karen, us se púchhá, kí Kyá sabt ke din changá karná rawá hai? Us ne unhen kahá, kí Tum men se aisá kaun hai, kí jis ke pás ek bher ho, agar wuh sabt ke din garhe men gire, wuh use pakaṛke na nikále? Pas ádmí bher se kitná bihtar hai? Is liye sabt ke din nekí karná rawá hai.”

Garaz, isí qism kí dalíl ko “*adná se ʾalá ko sábit karná*” kahte hain, jis men qaziya i musallama aisá sáf nahin hotá, jaisá kí us qaziye kí, jo musallama se sábit hotá hai, taslím karne kí dalílen pukhta hotí hain.

BAYÁN I MUJMAL.

Dalíl kaí tarah par hai :—

- 1.—Istiqráí.
- 2.—Istikhrájí.
- 3.—Tamsílí.
- 4.—Qarína.
- 5.—Illat se maḷúl sábit karná.
- 6.—Maḷúl se illat sá it karná.
- 7.—Adná se ʾalá ko sábit karná.

CONCLUSION.

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We have now gone over the subject of Logic, and it only remains to add a word by way of conclusion. The subject of logic, as generally taught, has been presented in these pages. The student need not be perplexed by the pretensions of any one who may, by way of magnifying his own learning, claim that the subject has not been fully treated in this book, being too vast to be comprehended in a volume of this size. The substance of logic, as taught by the ancients and moderns, is presented in compact form in this book. If it be mastered, a correct and practical outline of this science, as far as it may be gained from a book, will be obtained. The works on logic found in this country, should be studied in order to be familiar with the different modes of treating the subject, and with the various terminology and phraseology in use.

But the learner must not imagine that the mere reading of any book or number of books on logic, however complete, will make him a logician. If this book be thrown aside when read, or even when its terms, rules, and phraseology are memorized, and the subject be left there, the learner will not be a logician. "Practice makes perfect," in every science and art. It is the daily use of tools that makes the artisan a skillful workman after he has learned what is taught in books. Thus also, an application must be made of the science of logic, before one can earn a just reputation as a logician. The principles, terminology, and rules of the science should be well understood, and then an effort

KHĀTĪMA.

MANTIĀQ ke bayān se farāgat pāi ; ab sirf itnā aur rahā hai, ki ek ālh bāt khātīme ke taur par likhen. Mantiq kā hāl jis qdr ki aksar sikhlāyā jātā hai, is kitāb men maujūd hai. Agar kōi shakhs az rah i dhokha-dihī, apnā ilm jatāne ko, kisī tālib i ilm se yih dawā kare, ki “is kitāb men kull hāl ilm i mantiq kā nahīn likhā hai ; mantiq bahut barā ilm hai, is zarā sī kitāb men nahīn samā saktā hai,” to is bāt par hargiz yaqīn na lānā chāhiye. Bāz maqāmāt men Arabī o Fārsī kitābon se farq hai, lekin matlab ek hī hai, aur bahut se maqāmāt, kutub-i-Arabī o Fārsī se ziyāda mukammal hain.

Matālib aur maṇe sahīh mantiq ke, jaisā ki muta-qaddamīn aur mutaākḥkhirīn sikhlāte chale āe hain, is kitāb men maujūd hain. Jo kuchh hāl ilm i mantiq kā aur kitābon ke parhne se ātā hai, wuh sab is kitāb se mukhtasar hāsīl hai. Jo kuchh kitāben ilm i mantiq kī is mulk men muraawaj hain, un kā parhnā is garaz se chāhiye, ki mukhtalif tarz i bayān aur istilāhāt wg. se ki har kitāb kī mukhtalif hotī hain, wāqif ho jāwe, aur istīāmāl men lāwe.

Magar kōi tālib i ilm yih na samjhe, ki ek ādh kitāb yā bahut sī kitāben ilm i mantiq kī agarchi wuh kāmīl hī kyūn na hon, parh lene se mantiqī ho jāwegā. Agar kōi is kitāb ko parhkar us ke istilāhāt aur qawāid aur alfāz bar zabān yād karke us ko tah kar rakhe, aur us ko istīāmāl men na lāwe, to mantiqī na ho jāwegā, kyūnki “kār ba kasrat hai.” Har ilm o hunar men *malika* chāhiye. Kārīgaron ko dekho, ki auwal ha hāron ke nām, aur un ke istīāmāl karne ke tarīqon se wāqif hokar bādahū roz marra un hathyāron ko kām me lāte hain, to kahīn ek muddat men jāke hoshyār ho jāte hain. Isī tarah paimāishī ko dekho, ki bād jāne qawāid paimāish ke ek muddat tak us kā mashq kartā hūi, to paimāish men pukhta ho jātā hai. Alā-nāz-al-qiyās har shakhs ko qabl is se, ki wuh apne ko mantiqī kahlawe, is ilm ke istīāmāl se

should be made to practice correct reasoning in every day life. An effort should be made to detect and name our own, and the errors of others. We should accustom ourselves to scrutinize the arguments, oral or written, which we meet. Their form, and strength, or weakness, should be observed. Models of correct and powerful reasoning when met with should be studied. In this way, same true claim may be earned to the title of logician. Such a course cannot fail to have a very beneficial effect on the mind, in the marked improvement of the reasoning faculties. To specify, *greater clearness of thought* will be gained. Through want of clearness in thought, men are apt to impose on themselves and others. Where the mind is properly trained by the study of logic, thought is much clearer in the comprehension and expression of truth, than it can be without this study. The faculties are also quicker in the detection and exposure of error. Again, by the course recommended in this study, *greater mental strength* will be gained. When not properly trained, the mind is feeble and uncertain in the pursuit of truth, and wavering in its grasp of what is obtained. The study of logic trains the mind to a more vigorous pursuit, and firmer grasp of truth. Finally, the course recommended will give *greater beauty to the mind*. The mind of man is the noblest creation of God, with which we are acquainted. But what is more pitiable than a mind full of ignorance and wandering in error, and what is more beautiful than a mind built up in strength and symmetry, and radiant with truth! One of the most powerful aids to secure all these results, is the study of Logic.

THE END.

wáqif honá zarúr hai. Usúl aur istiláhát, aur qawáid is ilm ke, auwal khúb samajhná cháhíye ; aur phir roz marra sihhat ke sáth, bahs karne ke liye malika paidá karne kí koshish karní cháhíye. Hamesha apní, aur auron kí galatí pakarne kí, aur mugálton ke jánne kí koshish kartá rahe. Jo dalíl ki pesh áwe, khwáh wuh zabání ho yá tahríri, khúb gaur ke sáth dekhne kí ádat dální cháhíye. Har dalíl kí súrát aur pukhtagí aur khámí par hamesha nazar rahe. Jahán koí pukhta aur qawí dalíl dekhne men áwe, us ko apne wáste ek namúna sama hná cháhíye. Jo shakhs in sab báton par liház rakhe, wuh mantiqí ho jáwegá. Pas garaz yih hai, jo shakhs aisá kare, us ká zihn barh jáwegá; maslan, *auwal*, us ke *khíyálát men khúb safái aur roshní á jáwegí*. Agar zihn men safái aur roshní na ho, to andesha hai ki wuh shakhs áp dhokhá kháe, aur auron ko dhokhe men dále. Jo shakhs ilm i mantiq men maliká i kámil hásil kar le, us ká soch bahut durust ho jáwegá. Har bát kí rag o pai ko khúb safái ke sáth samajh legá aur bayán kar degá. Qawáe zihní men aisí rasái á jáwegí, ki fauran kisí tarah ká mugálta ho, daryáft kar legá aur batlá degá.

Dústre, in sab báton mazkúra i bálá par liház rakhne se, *zihn men barí qúwat á játi hai*. Jo ádmí khúb tarbiyat-yáfta na ho, us ká zihn kamzor hogá, aur is láiq na hogá, ki kisí haqíqat ko daryáft kar sake, aur agar koí haqíqat daryáft ho bhí gai, to us par qáim rahná mushkil partá hai. Mantiq ke parhne se tabíyat insán kí, zor par á játi hai, aur is láiq ho játá hai, ki mushkil se mushkil bát ho, us ko hall kar le.

Tísre, in sab báton mazkúra i bálá par liház rakhne se, *zihn árasta o pairásta ho játá hai*. Khudá kí banái húi jin jin chízon se ham wáqif hain, un men sab se umda chíz, ham dekhte hain ki zihn hai ; lekin is se barhkar afsos o hiqá-rat kí bát kyá hai, ki zihn kisí ká, jahálat se bhará ho, aur khatá o galatí kí ráhon men bhatak rahá ho ; aur is se barhkar aur kyá khúbsúratí hai, ki zihn kisí ká, tez o durust ho, aur núr i sadáqat aur haqíqat se munauwar ho. In sab báton mazkúra i bálá ke hásil karne ke wáste, jo jo wasáil i qawí hain, un men se ek ILM I MANTIQ hai.

TAMÁM SHUD.

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QUESTIONS
FOR
EXAMINATIONS.

QUESTIONS

FOR
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REVIEWS AND EXAMINATIONS.

INTRODUCTION.

WHAT is Logic?

When is Logic a *Science* and when an *Art*?

Is there more than one mode of reasoning?

What is the effect of the true study of logic on the mind in regard to truth?

Point out an error into which many fall?

Among what ancient nations is the science of logic first found?

Among what people did the science of logic originate?

Among what nations and from whom did this science spread?

Name different writers on the science and the time in which they lived?

What is the condition of the science of logic among Mahomedans?

What among Hindus?

PART I.

What is the real province of logic?

What is mind?

With what three operations of mind is logic concerned?

Define and illustrate each of these?

What is attention as a mental state?

What is comparing, abstraction, generalization?

What is language?

What are words?

SECTION I.

Define and illustrate simple apprehension? complex apprehension?

Wherein does a notion or idea formed by an act of apprehension differ from a term?

IMTIHÁN
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KE LIYE

CHAND SUWALAT.

MUQADDAMA.

MANTIQ kis ko kahte haiñ ?
Mantiq ko *ilm* kab kahná cháhiye, aur *fann* kab ?
Kyá aql faqat ek hí taur se natíja sahíh nikál saktí hai ?
İlm i Mantiq ke síkhne se aql meñ kyá kaifiyat paidá hotí hai ?
İlm i Mantiq ke haqq meñ báz ádmí kyá samajhte haiñ ?
İlm i Mantiq ibtidá meñ kin logon meñ thá ?
Auwal yih ilm kis qaum meñ ijád húá ?
Yih ilm silsilawár is zamáne tak kis tarah pahunchá ?
Is ilm ke mashhúr musannifon ká nám, aur un ká zamána bayán karo ?
Fihál ahli Islám meñ yih ilm kis súrát par páyá játá hai ?
Aizan, Hinduon meñ ?

HISSA I.

İlm i Mantiq zihn se kaun sí súrát meñ jláqa rakhtá hai
Zihn kyá shai hai ?
Hawás i *khamsa* ká nám lo ?
Mahsús kis ko kahte haiñ ; maqúl kis ko kahte haiñ ?
İlm i Mantiq zihn ke kaun se tén amaron se mutaálliq hai ?
Tasauwur kis ko kahte haiñ ?
Tasdíq kis ko kahte haiñ ? Tasdíq ko qaziya kis hálát meñ kahte haiñ ?
Dalíl aur burhán kis ko kahte haiñ ?
Taur, aur muqábala karná, qúwat i tafriqa, aur qúwat i jinsí kaun sí zihní qúwaton ko kahte haiñ ?
Qúwat nátiqa ká kuchh bayán karo ?
Lafz kí tairíf karo ?
Dalálat ká bayán karo ?

PAHLÍ FASL.

Tasauwur kí tairíf aur us kí qismen bayán karo ?

SECTION II.

What is a simple term?—a complex term?—proper term?—singular term?—common term?—collective term?—abstract term?—concrete term?—absolute term?—relative term?—univocal term?—equivocal term?—synonymous terms?—contradictory terms?—compatible terms?—opposite terms.
 What is the meaning of “significates?”

SECTION III.

What is genus, species, differentia?
 Name and define the different kinds of genera, &c.
 On what does correct classification depend?
 What are property and accident?
 How is property divided,—accident also?

SECTION IV.

Of what is a definition made up?
 How many kinds of definition are given?
 What are the rules for definitions?

PART II.

SECTION I.

What is a proposition?
 How are propositions formed?
 What is the subject?—predicate?—copula?
 What is a simple proposition—a compound proposition?—an affirmative proposition?—a negative proposition?—a universal proposition?—a particular proposition?—a categorical proposition?—a hypothetical proposition?—a disjunctive proposition?—a conjunctive proposition.
 What is meant by the matter of a proposition?
 What is necessary matter,—impossible matter,—contingent matter?
 Give the rules for the three kinds of matter.

DUSEW FASL.

Tasanwur aur lafz meñ kyá farq hai ?

Lafz i mufrad, aur murakkab, aur kullí, aur juzí, kis ko kahte haiñ ?

Lafz kaun sí hálát meñ "tamám" aur "ná-tamám" kahá játá hai ?

Afrád kis'ko kahte haiñ ?

Lafz bín-nisbat, kis hálát meñ kahá játá hai ?

Lafz i mushtarak, aur gair-mushtarak, aur mutarádif kí t̄aríf bayán karo ?

Lafz i mutanáqiza, aur mutazádda meñ kyá farq hai ?

TISEW FASL.

Jins aur nañ kí t̄aríf bayán karo ?

Aqsám i jins bayán karo, aur un kí misál do ?

Taqسیم i ajnás aur aṅwá kis bāt par munhasar hai ?

Fasl kis ko kahte haiñ ?

Arz kis ko kahte haiñ ?

Us kí qisimeñ maā misálon ke batláo ?

Umúm o khusús kis ko kahte haiñ ?

CHAUTHE FASL.

Muṅṅaríf kis ko kahte haiñ ?

Muṅṅaríf kí tarkíb meñ kaun kaun chízen dákhil haiñ ?

Muṅṅaríf kai taur par ho saktá hai ?

Qawájd i muṅṅaríf bayán karo ?

HISSA II.

PAHLE FASL.

Qaziya kis ko kahte haiñ, maā misál ke bayán karo ?

Mauzú aur mahmúl aur nisbat i hukmiya kis ko kahte haiñ ?

Qazíon kí qisimeñ bayán karo ?

Mádda kis ko kahte haiñ ?

Mádda meñ kai súrateg haiñ ?

Mádda i nisbat ke qawájd bayán karo ?

SECTION II.

- What is meant by the distribution of terms?
 On what does the distribution of the subject depend?—of the predicate?
 Are there any exceptions in the distribution of terms?
 Give the four rules for the distribution of terms.
 What improvement did Sir Wm. Hamilton propose?

SECTION III.

- What is the conversion of a proposition?
 What is meant by *exposita* and *converse*?
 When is conversion *illative*; when *apparent*?
 In how many ways may conversion be *illative*? Illustrate them.
 What is the rule for conversion.

SECTION IV.

- What is *opposition*?
 What are *contraries*?—*sub-contraries*?—*subalterns*?—*contradictories*?

PART III.

SECTION I.

- What is *reasoning*?
 When is the same called an *argument*?
 What are *premisses*?
 What is the *conclusion*?
 Define an *argument*?
 What is a *syllogism*?
 Of what is the *syllogism* made up?
 Which is the *major premiss*, and which the *minor*?
 What is the *major term*?—the *minor*?—the *middle*?
 What is "*Aristotle's dictum*"?
 Give the *axioms* for the *syllogism*.
 Give the *eight rules* for testing *syllogisms*.

SECTION II.

- What is *figure*?
 What constitutes the *first figure*?—the *second*?—the *third*?—the *fourth*?
 Illustrate the *special use* of the different *figures*.

SECTION III.

- What is *mood*?
 What is the *numbers of valid moods* in each *figure*?

DUSRF FASL.

İlm i Mantiq men lazf i kam kis ko kahte haiñ ?
 Mauzú kî kulliyat aur juziyat kis bāt par mauqúf hai ?
 Aur mahmúl kî ?
 Kaun se chār qawáid kam ke wáste haiñ ?

TRSRF FASL.

Aks kis ko kahte haiñ ?
 Makúsa aur gair-makúsa kis ko kahte haiñ ?
 Aks kaun sí súrāt men sahíh hogá ?
 Aks kai qism ke haiñ ; un ke nám mañ misál ke bayán karo ?
 Aks karne ká qáida kyá hai ?

CHAUTHF FASL.

Naqíz kis ko kahte haiñ ?
 Naqíz kai tarah par hotá hai, mañ misál bayán karo ?
 Naqíz ke qawáid bayán karo ?

HISSA III.

PAHLF FASL.

Dalíl kî taríf bayán karo ?
 Dalíl men kaun se do juz i álá haiñ, har ek ká nám mañ taríf aur
 misál bayán karo ?
 Qiyás kis ko kahte haiñ ?
 Natíja kis ko kahte haiñ ?
 Qiyás ke juzon ká bayán karo
 Akbar aur asgar aur hadd i ausat kis ko kahte haiñ ?
 Qaul i Arastátális kis ko kahte haiñ ?
 Qiyás ke qánún i badihí bayán karo ?
 Añh qáide jo wáste jáñchne qiyás ke haiñ, bayán karo.

DUSRF FASL.

Shakl kis ko kahte haiñ ?
 Cháron shaklon ká bayán karo ?
 Cháron shaklon ke qáide batláo ?
 Har ek shakl ke istiamál kî súrāt bayán karo.

TRSRF FASL.

Zarb kis ko kahte haiñ ?
 Har shakl men kitní sahíh zarben haiñ ?

Which are called the perfect moods and why?

What is reduction?

How many kinds of reduction are there?

SECTION IV.

What is a hypothetical argument?

What is a hypothetical syllogism?

What is the antecedent? the consequent?

What is a conjunctive syllogism?

Give the three rules for the conjunctive syllogism.

What is a constructive argument?

What is a destructive argument?

How may a conjunctive syllogism be reduced to a simple categorical one?

What is a disjunctive syllogism?

Give the rule for disjunctives?

What is the dilemma?

What is a simple dilemma? a complex dilemma?

What is the difference between the dilemma and any conjunctive syllogism?

How may the dilemma be tested?

SECTION V.

What is an enthymeme?

How may the syllogism be constructed from the enthymeme?

Give the rule.

What is the sorites?

What is the form of the argument in the sorites? [page 196.]

Give the rule for testing the sorites.

Give the rule for resolving the sorites.

What is the "Goelenian sorites?" The hypothetical sorites?

How is the hypothetical sorites reduced?

PART IV.

What is meant by applied logic?

Illustrate this subject.

SECTION I.

What is a fallacy?

In what part of the syllogism may fallacies occur?

How are fallacies divided?

Zurúb i kámila kin ko kahte haiñ ?

Khulf kis ko kahte haiñ ?

Khulf kai taur par hotá hai ?

CHAUTHTI FASL.

Qiyás i shartiya kis ko kahte haiñ ?

Usko ittisáli kab kahte haiñ, aur infisáli kab ?

Muqaddam aur táli kis ko kahte haiñ !

Qiyás i ittisáli ke tñ qáide batláo.

Qiyás i ittisáli ko musbita kab kahte aur manfiya kab ?

Qiyás i ittisáli ko hamliya kí taraf kaise pherte haiñ ?

Qiyás i infisáli ká kyá qáida hai ?

Qiyás murakkab i shartiya kis ko kahte haiñ ?

Is qiyás kí kai súraten haiñ ?

Is qiyás kí sihhat daryáft karne ke wáste kaun qáida hai ?

PANCHWYN FASL.

Qiyás i muḡhaffaf kis ko kahte haiñ ?

Is qiyás se púra qiyás kyúnkar ban saktá hai ?

Is ká qáida bayán karo.

Qiyás i musalsal kis ko kahte haiñ ?

Qiyás i musalsal meñ dalíl kí kyá súrát hai ?

Qiyás i musalsal ke jánehne ke liye kyá qáida hai ?

Qiyás i musalsal ko púre qiyáson meñ lāne ke liye kyá qáida hai ?

Qiyás i musalsal ká aḡs bayán karo.

Qiyás i musalsal i shartiya kis ko kahte haiñ ?

Qiyás i musalsal i shartiya, hamliya kyúnkar banáte haiñ ?

HISSA IV.

Mantiq i istiamáli se kyá murád hai ?

Is bát kí misál do.

PAHLI FASL.

Muḡálta kis ko kahte haiñ ?

Muḡálton kí taqsim karo ?

In muḡálton ká maḡ misál bayán karo, yañe hadd i ausat juzí,

State the number and forms of fallacy that may occur under the first division.

Illustrate the undistributed middle—the illicit process!—negative premisses—affirmative conclusion from a negative premiss and *vice versa*—more than three terms in the argument.

What is the ambiguous middle?

State the ways in which the ambiguous middle may arise?

What is the rule for detecting and removing this error?

What is the fallacy of composition?—of division?

What are non-logical fallacies?

How are they divided?

Define and illustrate the *petito principii*—arguing in a circle—*non causa pro causa*.

State how each of these fallacies is to be met.

What is the *argumentum ad hominem*? The *argumentum ad populum*. The fallacy of shifting ground? The fallacy of objections? The fallacy of proving only a part?

How may each of these fallacies be met?

Give the rules for the examination of an argument.

SECTION II.

What is induction?

On what is the inductive process founded?

On what does the completeness of the induction depend?

How is science formed?

Show how inductions can be reduced to syllogistic forms.

What is deduction, and show how it differs from induction?

What is reasoning from example?

Give the meaning of the word analogy and illustrate its various applications.

What is reasoning from analogy?

Show wherein reasoning from analogy resembles and wherein it differs from deduction and reasoning from example.

Show how reasoning from analogy can be reduced to the syllogistic form.

Illustrate how reasoning from analogy may be misused.

What is reasoning a priori?

Give some illustrations of this form of reasoning.

Define reasoning a posteriori and illustrate its use.

Define reasoning a fortiori and illustrate its use.

Name now the various modes of reasoning.

What is required to make one a logical reasoner?

State some of the special benefits derived from the study of logic.

kulliyat i nájáiz akbar yá asgar kí,—muqaddamát i sálibe, natíja i mújiba muqaddame sálibe se, yá baráks is ke,—ek qiyás men tîn juzon se ziyáda ká honá.

Hadd i ausat i mushtarak kis ko kahte hain ?

Alfáz mushtarak kyúnkar ho játe hain ?

Hadd i ausat i mushtarak ke liye kyá qáida hai ?

Mugálta e arzí kis ko kahte hain ; is kí misál do ?

Mugálta e taqsím aur jama ká maá misál bayán karo ?

Mugálta e manawí kis ko kahte hain ?

Us kí taqsím kaisí hai ?

In mugálton ká maá misál bayán karo ; yane muqaddama aur natíje ek hí honá,—daur i tasalsul,—wajh i gair muwajjih,—mugálta e tamalluq-ámez,—mugálta e tagaiyur i mazmún,—mugálta iatirázon ká,—mugálta subút juzí ká.

In mugálton ke záhir karne ke liye kaun kaun qáide hain, har ek ká bayán karo ?

Un qawáid i ámm ká, jo wáste daryáft karne sihhat dalíloq ke hain, bayán karo.

DUSRÍ FASL.

Istiqrá kis ko kahte hain ?

Wuh kis *yaqín* par mauqúf hai ?

Istiqrá kis hálat men kámil hai ?

Kaun se ilm, istiqrá se hásil hote hain ?

Istikhraj kis ko kahte hain, aur wuh istiqrá ke kis bát men k̄hiláf hai ?

Dalíl men tamsíl kaise láte hain ?

Mantiq men qarína kis ko kahte hain ?

Qarína kai taur par hotá hai ?

Qaríne se dalíl láná, kis bát men istikhraj aur tamsíl ke k̄hiláf hai ?

Is bát kí misál do, ki qaríne kí dalíl qiyás kí súrat men á jáwe ?

Qaríne kí dalíl men kaisí k̄habardári cháhiye ?

Illat se malúl sábit karná kis ko kahte hain ?

Is kí misál do.

Malúl se illat sábit karná kis ko kahte hain ?

Is kí misál do.

Adná se álá ko sábit karná kis ko kahte hain ?

Ílm i mantiq men pukhtagí hásil karne ke liye kaun sá tariqa cháhiye ?

Ílm i mantiq se zihn ko kaun se fawáid hásil hote hain ?

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