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THE
SCIENCE OF LOGIC

KUWAÍF-UL-MANTIQ

YANE

ILM I MANTIQ KÁ MUFASSIL BAYÁN

JIS KE WÁSTE SARKÁR NE INÁM DIYÁ.

BY

Rev. T. J. SCOTT, M. A.,

GOVERNMENT PRIZE BOOK

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ḠALAT-NÁMA.

ĀLAḠA ḡaltīṇ mundarija i zail ke bahut aur ḡaltīyān, jin se me-
noḡ meṇ farq nahīn áta hai, ḡalat-náme meṇ darj nahīn kī haiṇ.

Safha	Satar	Ḡalat	Sahih	
9	17	karke	uṭháke	
61	1	kám	kam	
...	3	aizau	aizan	
...	16	aizan	aizan	
105	19	karne ke wás te.....	karne ká wás tá.....	
141	28			Is shakl kī chauthī zarb yaṇe, Sk ; Mj ; Sj ; rah ḡai hai.
143	9	Zurúbi bayána	Zurúb baiya- na	Lafz “mustamal haiṇ” ke baḡ ek fiqra “Isí tarah is meṇ” rah ḡayá hai.
159	37			
211	29	Faláne qazie.	Faláne qazie par.	

Correction.

Page 56 instead of "this fourth division &c.," read ["The hypothetical proposition will be treated of more fully hereafter. For the present we will deal only with categorical propositions."

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FIIHRIST I MAZAMIN.



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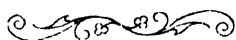
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P R E F A C E .



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 Urdú 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 "*Kubrâ*" are found, while a chapter or section of some other books as the "*Daryâe Latâfat*" the "*Maḥẓan-ul-ʿulûm*" 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 "*Risâla Shamsiya*" and the commentaries in Arabic on it, as the "*Qutbî*." 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 Urdú 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 originally composed, from which the Urdú was translated.

D I B A C H A



İLM İ MANTIQ ká parhná zihn kí árástagí aur sanwárne ke wáste bahut mufid hai. Lekin is ilm kí kitáben Hindustání zabánon men bahut kam hain. Ek mukhtasar risála “İLM İ MANTIQ” náme hál men ba zabán i Urdú chhapá hai. Agarchi sab risála achchhá hai, magar phir bhí aise mukhtasar risála se ilm i Mantiq ká sáf hál nahín khultá hai. Fársí men bhí do ek chhote chhote risále, maslan “Sugrá,” “Kubrá,” hain. Do char báten yá faslen mantiq ke bayán men “Daryá e Latáfat” aur “Maḡhzan-ul-Ūlúm” men likhí hain, magar in kitábon se sirf unhn logon ko fáida hai, jo Fársí jánte hain. Lekin jab ki Fársí zabán men is ilm ká síkhná mushkil húá, to Arabí zabán men (jis se Fársí men tarjuma húá hai,) jaise risála i “Shamsiya” jis kí sharh “*Qutbí*” hai, síkhná awám-un-nás ke wáste bahut mushkil hai. Siwá is ke un kitábon se is ilm ká hál Arabí tálib ul ilmon ke bhí samajh men achchhí tarah nahín átá. Zabán i Sanskrit men chand kitáben is ilm kí pái játi hain, magar wuh sirf unhn logon ke kúm kí hain, jo us mushkil zabán men daḡhl rakhte hain. Pas yih kaifiyat is ilm kí mulk i Hind men dekh kar mere dil men áyá, ki un mushkilát ko, jo is ilm ke hásil karne men ákar partí hain, ásan kar dún. Chunánchi isí liház se ek kitáb ba zabán i Urdú jis men ilm i Mantiq ká hál khúb tawálat ke sáth likhá hai, aur jú ba já shaklon se subút diyá hai, aur misálon aisi sahl sahl hain, ki agar koí aisá waisá tálib ul ilm bhí dil lagáke parhe, to is ilm ko hásil kar le, aur roz marra ke wáste nafa utháwe, tálíf kí.

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

Of the Urdú 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 Urdú.

Still, as a rule, the Urdú 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.



Urdú nuskhe ke sáth Angrezí bhí hai. Dar asl yih kitáb zabán i Angrezí men tálíf húi, aur phir us se Urdú zabán men tarjuma húa. Bāze Hindustání dost-on ne, jo Angrezí se wāqif hain, yih kahá ki agar yih kitáb donon zabānon men ho to kyá kahnú. Main ne bhí yih sochá, ki Angrezí tálib i ilmon ko mantiq ke síkhne men is zabán se barí madad pahunchegí, aur do matlab hásil hongē.

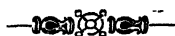
Wázih ho, ki yih tarjuma bilkull lafzí nahín hai, jahán jahán achchhí tarah māne nikalte hain, wahán waise hí rahne diyá hai, aur kahín kahín tartīb ibárat kí is garaz se, ki istiláhāt mantiq kí Urdú men bema-háwara aur bad-zeb na málúm hon badal dí hain. Magar phir bhí yih qáida rakhá hai, ki Urdú tarjuma bilkull Angrezí se mutábaqat khátá hai, yahan 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 pahunchē, aur achchhí tarah is mufid ilm ko samjhē, yih kitáb jári kí játi hai.

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

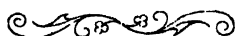
T. J. SCOTT.



LOGIC



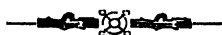
INTRODUCTION.



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 search for truth and in conducting a correct argumentation. 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. 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 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.

ILM I MANTIQ.



M U Q A D D A M A .



1.—MANTIQ ek aisá ilm aur fann hai, ki jis se aql dauráne aur dalíl ká qánún maḷúm ho jáwe. Istiláhan, mantiq ko *ilm* us hálat men kahenge, jab aql dauráne yá dalíl karne ke kháss qánún ká bayán ho. Aur *fann* us hálat men bolenge, jab taríqa hujjat ká bayán ho, aur galatí aur khatá se mahfúz rahne ke taríqe muaiyan 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 qawánín hain, jin men se mantiq ek hai, We samajhte hain ki mantiq ek aisá zariá hai, jis se mukhátib ko pechída báton men dálkar jhúth ko blí sach kar de sakte hain. Chunánchi we khyál karte hain, ki mubáhisa men khwáh sach par yá jhúth par gálib rahne, aur apne ilm aur zihánat ke záhir karne ke liye khwáh gurúr ke taur par ho, yá tamaskhur ke taur par, wuh káramad hai. Yih un kí galat fahmí hai, aur aise logon ko mantiq kí asliyat aur garaz maḷúm 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 kisi muámale k^í asliyat o haqíqat ke kámil daryáft karne men zihn sirf ek hí taur par un qawáid i muqarrara ke bamújib jo Khudá ke banáe hain, laṛtá hai ; pas agar in qánúnon ke bamújib zihn na daure, to galatí men par játá hai.

Asl garaz mantiq kí yih hai, ki we qawánín i muqarrara baḥhúbí záhir ho jáwen, aur we qáide hásil

Thus arithmetic is a science, the processes of which are carried on by certain laws or rules. These must be the same in every age and country and language. For instance, the rules for addition, subtraction, multiplication and 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 meaning and nature 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 is 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 any and every 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 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

hon, ki jin par agar liház rakhá jáe, to un qawánín i mazkúra ke bamújib aql daure, aur agar koí un qawánín se ałahidagí ikhtiyár kare, to in qáidon kí rú se us kí galatí małúm ho jáe.

Maslan, hisáb ek ilm hai, jis ká istiamál chand muqarrar qáidon ke bamújib kiyá játa hai. Aur zurúr hai, ki yih qáide hamesha har mulk aur har zabán men ek hí hon. Masal to maslan zarúr hai, ki qáide jama, tafriq, zarb, taqsím 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, mubá-hisa 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 húá kartá hai, ki baze ádmí durust likhnewálon kí suhbat karke 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 káramad 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 kھیál 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 sachchí bát par qáim nahín rahtá; yih galat fahmí hai, kyúnki mantiq se qúwat i zihní barhtí, aur aql sachcháí par qáim

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, and other European nations from the Romans. 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, Achytas, 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 Musalmans 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

ho jātī hai, aur khatā o galatī se mahfūz rahtī hai.

4.—Mantiq bahut purānā ilm hai, aur qadīm zamānon men sirf do qaumon yāne Yúnánion aur Hindúon ke darmiyān páyá jātá thá, aur sab qaumon ne inhīn se yih ilm liyá. Lekin yih thík nahīn ma-lúm hai, ki áyá Yúnánion ne Hindúon se páyá, yá Hindúon ko Yúnánion se milá. Bāze yih gumān karte hai, ki Yúnánion ko ilm i mantiq Hindúon se milá, aur bāze is ke barāks kahte hai. Aglab hai, ki in donon qaumon ne ālahida is ilm ko ijād kiyá. Yúnánion se Rúmion ne, aur Rúmion se phir Yúrap-wálon ne yih ilm páyá. Yúnánion se ahl i Arab ne bhī páyá, phir un se Yahúdíon ne hásil kiyá. Ma-lúm hotá hai, ki Yúnánion men sab se pahlá musannif o muallim is ilm ká Zīno thá, jo Masīh se 488 baras peshtar Yúnán men thá. Us kí kitāb men chand báten achchhí pái jātī hai, aur muglaq aur náqis báten bhī hai. Us ke bad Suqrát aur Uqlaidas Mageráwálá aur Antísthénis aur Akýtás aur Aflátún aur Arastátális mashhúr hūe. Zīno aur bāz auron ne in men se ek tarah kí jhúthī aur pechdār taqrír kí rasm nikálí. Ma-lúm hotá hai, ki un ke aur un ke shā-girdon ke darmiyān men yih kaifiyat rahí, ki mantiq sirf ek tarah ká khel aur tafrīh i tabā samjhá jātá 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 17swí ke maujúd thá, achchhí tarah mantiq ko istiamál men láyá, aur chāhtá thá, ki har ek bát kí asliyat o haqíqat ke daryāft karne aur taraqqí i zihn aur tahzīb i aḥhlāq ke kām áwe. Us ká ek taríqa yih thá, ki mubáhisa men sawál o jawáb is taur se kartá thá, ki jo natíja wuh chāhtá thá, wuhí nikle. Aflátún shāgird i Suqrát ne is ilm ko aur bhī darja i taraqqí par pahuncháyá. Bad Aflátún ke Arastátális ne jo san 384 peshtar Masīh ke paidá húa, is qadr

The great 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.



mantiq ko takmíl dí, ki us waqt se áj tak koí kuchh bahut barhá na saká." Pas wuh mantiq jo Yúrap men parháí játí hai, dar haqíqat Arastátálís hí kí hai.

Arastátálís kí yih tasnífát dúsrí sadí i Mahammadiya men Arabí men tarjuma kí gaín ; chunánchi mantiq jo Musalmánon ke dars men hai, wuh bhí Arastátálís kí hai. Magar chúnki yih kitáben aksar Arabí aur kuchh kuchh Fársí men bhí hai, is sabab se awámm logon ke kárámad nahín hai. In kitábon men bará nuqs yih hai, ki we aisí sáf nahín hai, ki har koí samajh le, aur aisá parda hai, ki báwujúd parhne ke ilm i mantiq achchhí tarah kám men nahín átá.

Magar mujh ko ummed hai ki názirín ko is kitáb ke dekhne se hál i mantiq khulegá aur síkhnewále achchhí tarah is se fáida útháwenge.



PART I.

1.—Logic deals with the laws of the mind in thinking and reasoning. The mind is that spiritual, immaterial existence within us which perceives and feels and thinks. The body is merely its tenament. The mind is brought in contact with the material world in a mysterious way by means of the five senses, sight, hearing, feeling, taste and smell. The mind like a mirror receives images through these senses. There are various faculties and powers in the mind, some of which will be noticed in this work.

2.—Logic is concerned with *three* operations or states of the mind, called into exercise in reasoning or argument, *viz.*, 1, simple apprehension, 2, judgment or proposition, 3, reasoning or argument. *Apprehension* is the first mental state by which we are made aware of the existence of an object through perception by one or more of the senses ; thus by sight we are made aware of the existence of a tree or stone. The state of mind as it receives the impression of these objects is called “simple apprehension.”

3.—*Judgment* is the second mental state and is the comparing together of two apprehensions or ideas and pronouncing that they agree or disagree. Thus by the sense of sight we get an apprehension of the existence of a tree, and by the same sense we get its color as a second apprehension. Now the act of the mind by which these two apprehensions are compared together so that we may say “the tree is green” or “the tree is not green” is a judgment.

Again, by the sense of sight we get the simple apprehension of a stone, and by the sense of touch we get the apprehension of coldness or warmth in it, and, having these two apprehensions, the judgment is that

PAHLÁ HISSA.

1.—İLM İ MANTIĞ zihn se ilâqa rakhtá hai, al-al khusús hálát sochne, aur mubáhisa karne men. Zihn wuh rúhání gair-máddí shai hamáre jism men hai jo sochtá hai, aur jis se har ek chíz aur bát ma'lúm hotí hai. Badan jo hai, sirf us kí já e sukúnat hai. Zihn, mahsúsát yañe, álam i jismání ko aise taur par, jo ba'id-ul-aql hai, ba-zari'á hawáss i khamisa ke, ma'lúm kartá hai; aur hawáss i khamisa yih hain, *básira*, (yañe dekhnewálí qúwat,) *sámiq*, (yañe, sunnewálí qúwat,) *lámisa*, (yañe, chhúnewálí qúwat,) *zá'qa*, (yañe, chakhnewálí qúwat,) *shámma*, (yañe súnghnewálí qúwat.)

Zihn misl áíne ke hai, jis par áks ban játá hai. Agar wuh áks ba-zari'á hawáss i khamisa ke ban jáwe, to us ko *mahsús*, aur agar aláwa in hawáson ke kisí aur tarah par áks zihn par ban jáwe, to us ko *maqúl* bolenge. Jánná cháhiye, ki zihn men kaí tarah kí qúwatan páí játí hain, chunánchi báz ká zikr is kitáb men áwegá.

2.—İlm i Mantiq tín zihní hálaton, yá báton se muta'alliq hai, yañe, *tasawwur*, aur *tasdíq*, aur *dalíl o burhán*, wg. Jab kisí shai kí shakhsiyat yá máhiyat ká khiyál pahle pahl zihn men ba-zari'á hawáss i khamisa ke, yá kisí aur tarah se guzre, us ko *tasawwur* kahte hain. Maslan, koí darakht yá patthar ho, jis ke wujúd ká khiyál ba-zari'á hawáss i básira, yañe, dekhne se zihn men átá hai, pas us hí patthar yá darakht ke khiyál ko, *tasawwur* kahte hain.

3.—Dúsrí bát *tasdíq* hai. Agar zihn men aise do *tasawwur* hon jin ke bích men nisbat isbát yá nafí kí dí jáwe us ko ilm i mantiq men *tasdíq* kahte hain. Masal to maslan ba-zari'á hawáss i básira ke, ek to yih *tasawwur* zihn men áyá, ki yih darakht maujúd hai,

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*.

4.—*Reasoning* is the third state 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,

“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 and Bakr are men;

Therefore Zaid and Bakr are mortal.

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

5.—This book is divided into three parts in which the 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 needing explanation 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.

dústre ba-zariá usí hawáss ke, us ke rang ká tasauwur áyá; pas do tasauwur húe. Ab wuh nisbat i hukmí, jo un do tasauwuron men hai tasdíq kahlátí hai, khwáh wuh isbát ke sáth ho, yá nafí ke sáth ho; jaisá ki yih “daraḡht 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, yane, chhúne se, sardí yá garmí ká tasauwur zihn men guzrá. Ab un donon tasauwuron ke darmiyán men, nisbat i hukmí jo hai, us ko tasdíq kahte hain, khwáh wuh isbát ho yá nafí ho. Tasdíq bil-isbát kí misál, jaisá ki “yih patthar ṡhandhá hai yá garm hai.” Tasdíq bil-nafí kí misál, jaisá ki “yih patthar ṡhandhá 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 zabán par áyá.

4.—Tísrí hálat i zihní *hujjat* hai; is ko “dalíl” aur “burhán” bhí kahte hain. Hujjat us ko kahte hain, ki do yá kaí tasdíqát i maḡlúma se majhúl ko nikálen. Pas hujjat tasdíqát se bantí hai.

Masal to maslan do tasdíqát hain,

Pahlí.—Kull lohá bhárí hotá hai.

Dúsrí.—Yih ḡanda lohe ká hai.

Ab in do maḡlúm tasdíqon se tísrá majhúl nikaltá hai, ki *yih ḡanda bhárí hai*. Pas ba-zariá do tasdíqon maḡlúma ke, tísrí tasdíq yane *natíja* nikálá. Hujjat 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.

5.—Yih kitáb tín hisson par munqasim hai, jin

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.

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

men *tasawwur* aur *tasdiq* aur *hujjat* ká mufassal bayán hogá. Jánná cháhiye, ki maqsúd ilm i mantiq ká us qudratí qánún ká bayán hai, jo in tín zihní hálatoñ men páyá játá hai.

Ab munásib hai ki peshtar un tín zihní hálatoñ ke mufassal báyan karne ke chand zihní qúwatoñ ká bayán kiyá jáe.

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

2. *Muqábala karná* us zihní qudrat ko kahte hain, jis se ham do yá ziyáda chízon ko ek dúsri se muqabala 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. Yaháu par gaur karná cháhiye, ki muqábala karne se tasdiqát nikaltí hain. Har ek tasdiq aur hujjat kí sihat o galatí muqábale par munhasar hai; aur agar muqábala karne men kisé tarah galatí par jawe, to tasdiq aur hujjat men bhí galatí ho jáegí.

3. Ek aur qúwat zihn men hai, jise *qúwat i tafriqí* kahná achchhá hogá. Yih wuhí qúwat hai jab ham cháhen to kisé chiz kí aur sab khássiyañ ko chhor kar, us kí ek khássiyañ par liház karen. Maslan, jab ham cháhen, to isí qúwat se lohe kí aur sab sifañ, yane, rang aur sakhtí, aur wazn, aur bú wg. ko chhor kar sirf us kí ek sifat, yane, *shakl* par liház rakh sakte hain. Yá áláwa aur sab khássiyañ ke, sirf uski *sakhtí* yá *wazn* par liház rakhen. Is qúwat i zihní ká bará fáida áge ism ke bayán men malúm hogá.

4. Ek aur qúwat zihn men hai, jise *qúwat i jinsí* kahná achchhá hogá. Yih wuh qúwat hai, jis ke

objects, and by 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*. This also is an act of generalization. It is by this power of mind in connection with the power of abstraction that we are enabled to form 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 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 employ thousands of words or 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.



zaríā se ham ba liház ámm khássiyaṭon ke, jo mukhtalíf chizon men pái jātí hon, ek nám un ke wáste muqarrár kar sakte hain. Maslan, báwujúde ki tarah tarah ke phúl hain, magar chúnki bázon men ek khássiyaṭ pái jātí hai, is sabab se un mutafarriq phúlon ko *guláb* kahte hain. Aur isí tarah báwujúde ki ádmíon men mukhtalíf bolí aur rang, aur qadd o qámat wg. hai, magar ba liház ámm khássiyaṭ ke, sab ke wáste ek hí nám, yañe, *insán* rakhte hain. Pas yih wuhí *qúwat i jinsí* hai. Gaur karná cháhiye, ki *qúwat i jinsí* se ba madad *qúwat i tafriqa* ke *jins* aur *nau* aur *fast* baná sakte hain. Is bát ko achchhí tarah samajhná ilm i mantiq men niháyat pur-zurúr hai, jaisá áge ma'lúm hogá. Hásil yih hai, ki in sab báton mazkúra i bálá ke samajhne se is ilm ke síkhne aur samajhne men kuchh na kuchh madad zurúr pahunchtí hai.

5.—Bolí yañe *qúwat i nátiqa* ke kuchh bayán ke wáste yahán par achchhá mauqa ma'lúm hotá hai. Kháliq ne insán ko *qúwat i nutq* aisí atá kí hai, jis se ba zaríā áwáz, jis se kalám bantá hai, tarah tarah ke tasauwurrát, aur khiyálát, aur apní zihní háláten, jo guzartí rahtí hain, záhir kar saktá hai. Sirf insán hí men yih *qúwat* hai. Haiwán bhí apní taklífát, aur khauf, aur gussa, aur khushí wg. ek tarah kí áwáz se záhir kar sakte hain; magar un men wuh *qúwat* nahín, jis se kalám karen, lekin hazáron alfáz yá áwázen insán tarah tarah par istiāmál men lá saktá hai, táki beshumár khiyálát ko, jo dil men guzarte rahte hain záhir karen.

Alfáz, mufrad yá murakkab áwázen hain jo zihní khiyálát o hálát ke izhár ke liye bole játe hain.

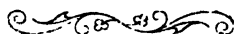
SECTION I.

Apprehension.

1.—We take up then for enlarged treatment the first mental state viz., *apprehension*.

Apprehension is the notion or conception of an object in the mind as of a *man* when seen, of a *sound* when heard, of *hardness, coldness* &c., when felt.

2.—Apprehension may be incomplex or complex. An incomplex apprehension is the notion simply of one object or of several, without any connection being perceived between them, as *man, tree, stone*. A complex apprehension is the notion we form of two or more objects in some relation to, or connection with each other, as of *a man on horse-back*; the man and horse forming a complex apprehension: or again, *a book and stone on the table*; where book, stone, and table as related together form a complex apprehension. An act of apprehension expressed in language is called a *term* or noun which will be now considered.



PAHLÍ FASL.

Tasauwur ke bayán men.

1.—Ab *tasauwur* ká mufassal bayán hotá hai.

Kisí shai yá bát ke *khiyál* ko *tasauwur* kahte haiñ, jaisá ki kisí *ádmí* ká *khiyál* jab dekhne men áwe yá kisí *chíz* kí *sakhtí* yá *thandhápan* ká, jab *chhúne* men áwe.

2.—*Tasauwur* yá to *mufrad* hogá, yá *murakkab*. *Tasauwur* i *mufrad* use kahte haiñ, jab ki ek *chíz* yá kaí *chízon* ká *khiyál* *alahida* *alahida* bilá *iláqa* ke áwe. *Tasauwur* i *murakkab* use kahte haiñ, jab do yá *ziyá-da* *chízon* ká *khiyál* *dil* men *guzre* : masal to maslan, *tasauwur ghoṛe par sawár* ká. *Ḡaur* karná *cháhiye*, ki is *tasauwur* men *ghoṛe* aur *sawár* ke *darmiyán* *iláqa* hai. Dúsrí misál, *mez par kí kitáb aur dáwát*. *Yá-hán* tén *chízon* ká *tasauwur* *iláqa* ke sáth hai, aur isí ko *tasauwur* i *murakkab* kahte haiñ. *Yád rakhná* *cháhiye*, ki jab *tasauwur* bolá *jáwe*, *yane* jab us ke wáste koí *lafz* *muqarrar* ho, to us ko *juz* yá *ism* kahenge.



SECTION II.

Of the Term.

A *term* then is an act of apprehension expressed in language. For instance if we have, by sight, the apprehension of a tree in the mind, the word *tree* by which we express this apprehension is a "term." Again if we have in our mind the idea of *sweetness*, the word *sweetness* when used to express this notion is a "term". There are several divisions of terms which we must notice.

1.—Terms are *simple* or *complex*. A simple term is the name of a single thing and is generally one word as *tree*, *sweetness*. A complex term is a compound word or phrase expressing a complex act of apprehension as a "*tall tree*", the "*sweetness of an orange*." Here we 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*, as *tall*, *sweet*, *gave*, *there* &c. It must be marked that this is a division merely of words as such, not of terms.

2.—Another division of terms is into *singular* and *common*. The singular term is a word or phrase used as the particular name of an individual, person place, or thing as, *John*, *Calcutta*, *Kanchinginga*. Here we have singular terms which are the names of a particular person of a particular city and of a particular

DÚSRÍ FASL.

Ism ke muḡassal bayán meḡ.

JAB ki tasauwur bazariā lafz ke zāhir ho, us lafz ko *ism* kahte haiṇ. Masal to maslan, dekhne se kisī darakht kī hayat kā tasauwur zihn meṇ áwe, lafz i darakht ko, jis se us tasauwur ko zāhir kiyá, *ism* kahte haiṇ. Dúsrí misál, farz karo, ki agar zihn meṇ tasauwur miṭhás kā áwe, to lafz miṭhás *ism* hai. Wázib ho, ki *ism* kaī taqsim par munqasim hai jis kā bayán áge áwegá.

1.—*Ism muḡrad* hotá hai yá *murakkab*. Jab kisī tasauwur ke zāhir karne ko ek hí lafz káfi ho, yaṇe ek hí lafz us tasauwur par dalálat kare, to us lafz ko *ism i muḡrad* kahte haiṇ. *Ism i murakkab*, *murakkab* lafz yá fiqre ko kahte haiṇ, jis se ek tasauwur i *murakkab* zāhir hotá hai, jaisá *úṇchá darakht*, *nárangí kī miṭhás*, wg. Yahán par do tasauwur *ism i murakkab* se zāhir húe, yaṇe *úṇchá* aur *darakht*, in donoṇ tasauwuron ke zāhir karne ko *ism i murakkab úṇchá darakht* bolá gayá. Dúsrí misál *miṭhás*, aur *nárangí*, in donoṇ tasauwuron ke zāhir karne ko *ism i murakkab*, yaṇe *miṭhí nárangí* bolá gayá.

Ḡaur karná cháhiye, ki lafz bhí do tarah par hotá hai, yaṇe *tamám* aur *ná-tamám*. Lafz *tamám* wuh hai, jo bilá madad dústre ke, apne maṇe batláwe, jaise in-sán, Zaid, darakht, wg. Lafz *ná-tamám* wuh hai, jo bilá-madad kisí aur lafz ke, apne maṇe na batláwe. Maslan, lafz *úṇchá*, *miṭhá*, wg.

2.—*Ism* yá *juzí* yá *kullí* hogá. *Ism i juzí* us ko kahte haiṇ, jo kisí kháss shakhs yá shai ko batláwe, jaisá Zaid, Kalkatta. Is ko istiláh i nahwíon meṇ *ism i maṇifa*, yá *alam* kahte haiṇ.

mountain, not a name common to every man, city and mountain.

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 individuals for which a common term stands are called its "*Significates*."

2a*.—Terms are again divided into *abstract* and *concrete*. An *abstract term* is a word used to express quality or thing without refering 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."

But if these words become connected with some object in which they exist they are called *concrete terms*, as the *hardness* of a 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 some-thing 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 *synonomous*. A *univocal term* is one which has invariably the same signification as, mankind electrioty wisdom &c.

* Left out of the Urdu.

Ism i kullí us ko kahte hain, jo bahut sí chizon, yá ashkhás par bolá jáwe, jaisá *insán*, sab ádmíon ke wáste sádiq áta hai, yá lafz *shahr*, ki sab shahron par bolá játa 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 *ism i kullí* men dákhil hain, un ko us ke *afrád* kahte hain.

3.—*Ism yá to bin-nisbat yá bilá-nisbat* hotá hai. *Ism bin-nisbat* wuh hai, jis ká aur kisi *ism* ke sáth iláqa páyá jáwe. Maslan báp, betá, kháwind, bádsháh. Chunánchi báp se malúm hotá hai, ki koí betá hai, bete se báp ká iláqa páyá játa hai; bádsháh se nisbat mulk aur raiyat kí taraf hai, alá-ház-al-qiyás.

Ism i bilá-nisbat wuh hai, jo bagair nisbat dúsre ke ek shakhs, yá shai, yá khássiyaat ko batláwe. Maslan *insán*, *daryá*, *dánái*, wg.

4.—Phir *ism* tín tarah par hai, yane *ism i mush-tarak*, aur *gair-mushtarak*, jis ko baze *mufrad* bhí bolte hain, aur *ism i mutarádif*. *Ism i mufrad* us ko kahte hain, jis se sirf ek hí mane samjhe jáwen, maslan *insán*, *bijlí*, *dánái*, wg.

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 *vice versa*.

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 reasoning or investigation. For instance, this disease is or is not consumption. Then it is or is not another disease. Then it either 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

Ism i *mushtarak* us ko kahte hain, jo kaí mañe par shámil ho ; maslan bukhár, kanára, wg. Bukhár se do mañe páe játe hain, ek to bímárí ká nám, aur ek wuh jo pání se uthá hai. Alá-ház-al-qiyás kanára do chár mañe par átá hai. Yá lafz billí ká lo, ek jánwar par, aur kiwár men jo hotí hai, us par bolá játa hai.

Ism i *mutarádif* us ko kahte hain, jahán ki kaí ek ism yá lafz ek hí mañe par dalálat karte hain, maslan ghar, khána, maskan, ek hí mañe par hain. Aur rah-ná, basná, sukúnat karná, in sab se ek hí mañe záhir hote hain.

5.—Ism i *mutanáqiza* we hain, jo bilkull ek dúsre se mukhálifat rakhte hain, aur jitní chízen khilqat men maujúd hain, in donon men se ek men zarúr hongí. Agar ek men hain, to dúsre men nahín, aur agar dúsre men hain, to pahle men nahín, yane koí chíz in donon se khálí nahín. Maslan *jismání* aur *gair-jismání*, *fání*, aur *gairfání*, *marnewálá*, aur *na-marnewálá*. Gaur karná cháhiye, ki in ismon ke darmiyán sirf nafí aur isbát ká farq hai. Pas jitní chízen khilqat men hain, is taur se do taqsím par ho saktí hain. Aisí taqsím aksar kisí amr kí justojú, yá mubáhise ke liye bare kám kí hai. Maslan yih bímárí tap i sill kí hai, yá aur bímáríon men se koí hai. Magar fulání fulání wajh se tap i sill nahín hai, to aur jo bímáríán rahín, un kí taraf mutawajjih honge, aur kahenge ki in bímáríon men se fulání bímárí hai yá nahín, magar kisí sabab se fulání bímárí nahín ; pas rahín báqí bímáríán. Garaz yún taqsím aur daryáft karte karte us hadd tak pahunchenge, ki asl bímárí mil jáegí. Is ko mániyat-ul-khulú bhí bolte hain.

6.—Ism i *mutazadda* wuh hain, jo ápas men mukhálifat rakhte hain, lekin mutanáqiza kí tarah nahín kyúñki agarchi donon ek hí chíz men shámil nahín ho

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 chrystal candy.

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. 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. Singular or common. Abstract or concrete. Univocal, equivocal and synonymous. Contradictory. Contrary. Compatible or opposite.
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* Left out of the Urdu.

takte hain, tau bhí bazí chízen aísí hotí hain, ki in donon se khalí hotí hain : pas misál ism i mutanáqiza kí har shaion men shámil nahín hotí hai. Maslan *aq̣l mand* aur *be-wuqúf*, *álim*, aur *kam-ilm*, ism i mutazadda hain, kyúñki ek hí shakhs par donon sádiq nahín á sakte hain, magar aísí chízen hon, ki donon se khalí hon, maslan patthar, na *aq̣lmand* hai na *be-wuqúf*, aur baz ádmí aise hain, ki na *álim* na *kam-ilm*, lekin darja e ausat men hon.

Yihí istiláhát ismon ke wáste *Ilm* i *Mantiq* men aksar mustámal hain.

Wázih ho, ki ek hí ism bilá-nisbat, aur mufrad, aur mutanáqiza wg. hotá hai, jis iatibár se ki us waqt ḳhiyál ho. Yád rakhná cháhiye, ki dalíl yá mubáhasa men auwal har ek ism ke mañe ḳhúb samajhná aur thahráná cháhiye, kyúñki aísá karne se bahut sí taqrír aur galatíon men parne se bachenge.

Ism ká mujmal bayán.

<i>Ism,</i>	{	Mufrad yá Murakkab. Juzí yá Kullí. Bin-nisbat yá Bilá-nisbat. Mushtarak yá Ġair-mushtarak yá Mutarádif. Mutanáqiza. Mutazadda.
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SECTION III.

Classification.

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. 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 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 becomes a species. Thus horse, while a genus of the different kinds of horses, is a species of quadruped which in turn although the genus of horse is a species of animal.

TÍSRI FASI.

Bayán ajnás, anwá aur arz.

1.—WÁZIH ho, ki *jins*, aur *nau*, aur *arz* ká bayán ism, yāne juzon ke mutaalliq hai, aur mantiq ke samajhne ke wāste pur-zarūr hai. Ism i Kullī se *jins* aur *nau* wg. banāe jāte haiṇ. Maslan jab kaí ek chízon ke wāste, baliház ek yá ziyáda sifaton ke ek nám muqarrar kiyá jāwe, us ko *jins*, *nau* wg. kahte haiṇ.

Nau kí banisbat *jins* ke afrád ziyáda hote haiṇ, kyúṇki ek *jins* meṇ kaí ek *nau* hote haiṇ. Masal to maslan, *haiwán* ek *jins* hai, jis meṇ jitní chízeṇ jándár o mutaharrik bil-iráda haiṇ shámil haiṇ. Aur is *jins* meṇ kaí ek *nau* shámil haiṇ, jaise *insán* aur *chaupáe* aur *parand* wg.

Jánná cháhiye, ki *nau* bhí kaí ek faslon par taq-sím ho saktí hai; phir is hál meṇ, baliház un faslon ke wuh ek *jins* hai. Maslan *chaupáya* ek *nau* hai, jis meṇ chár tángwále jánwar dákhil haiṇ, aur inhiṇ ko fasl fasl par bānt sakte haiṇ, maslan ghoṛe, bheṛeṇ kutte wg.; pas yih sab faslon *nau* ho játi haiṇ, aur in kí banisbat wuhlafz *chaupáya*, jo ki *nau* thá, ab *jins* húa.

Phir agar ghoṛe kí taraf kḥiyál karo, yih bhí kaí tarah par ho saktá hai, jaisá Arabí, Kábulí, Turkí wg., pas, ab is sūrat meṇ ghoṛá bhí ba-iātibár in qismon ke *jins* húa, aur alá-ház-al-qiyás.

Kḥiyál karná cháhiye, ki *jins* hamesha *nau* se barí, aur *nau* us se chhoṭí hai. Aur koí *jins* ho, agar úparwálí *jins* kí taraf kḥiyál kiyá jāwe, to yih ba-iātibár us ke *nau* hai. Chunāñchi ghoṛá agarchi baliház apne asnáf, yāne qism qism ke ghoṛon ke *jins* hai, táham baliház *chaupáyon* ke ek *nau* hai, aur yih bhí baliház *haiwán* ke ek *nau* hai.

EXAMPLE OF CLASSIFICATION.

GENUS.	SPECIES.
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<i>Animal.</i>	{ Mammals. Birds. Reptiles. Fishes.
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Or if we take “Beast” as the *genus* we have.

GENUS.	SPECIES.
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<i>Beasts.</i>	{ Horses. Sheep. Dogs. Lions &c.
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GENUS.	SPECIES.
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<i>Mango.</i>	{ Desí Mango. Bombay Mango. Maldeo 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 *summun 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 *coördinate* or *cognate* species, meaning that they are not subordinate to, or included in one another.

MISÁL AQSÁM KÍ.

JINS.

ANWÁ.

<i>Haiwán,</i>	..	{ Chaupáe. Parinde. Kíre Makore. Machhlíán wg.
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Yá agar chaupáe ek jins qarár diye jáen, tab yún hogá.

JINS.

NAU.

<i>Chaupáe,</i>	..	{ Ghore. Bheren. Kutte. Sher wg.
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JINS.

NAU.

<i>Amm,</i>	..	{ Desí. Bambaí. Máldeo.
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2.—Wázih ho, ki jo jins kisí jins ke úpar ho, us ko *jins i álá* kahte hain, aur jo kisí ke níche ho, *jins i adná* kahte hain, aur jo sab ke úpar hai, us ko *jins i tafzíl i álá*, aur jo sab se níche hai, us ko *jins yá nau i sáfil* kahte hain. Jitní jinsen, yá naen jins i tafzíl i álá, aur jins i sáfil ke bích men hain, un ko *jins i ausat* 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 báid* kahte hain. Jitne anwá, ki mátaht ek jins ke dákhil hain, un ko barábar kí kahte hain.

Thus we have,

<i>Classes.</i>	{	Superior class.
		Inferior class.
		Highest genus.
		Lowest species.
		Subaltern genera or species.
		Proximate genus.
		Remote genus.
		Coördinate or cognate species.

The meaning of these words should be well fixed in the memory. An illustration may aid in the understanding of them.

<i>Animal,</i>	{	<i>Mammal.</i>	{	<i>Horse,</i>	{	<i>Arabian.</i>
		<i>Reptile.</i>		<i>Cow.</i>		<i>Kábulí.</i>
		<i>Bird.</i>		<i>Sheep.</i>		<i>Turkish.</i>
		<i>Fish.</i>		<i>Dog.</i>		

Here in reference to the class *horse*, *Mammal* is superior while *Arabian* is inferior. Of this classification, *animal* is the *highest* genus, and *Arabian* &c. are the *lowest* species. *Mammal* and *horse*, because between these, are called *Subaltern*. *Mammal* 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 are its distinguishing characteristics or properties which separate it from other classes. 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

Pas jins kí taqśím is tarah hai :—

<i>Jins,</i>	{	Alá.
		Adná.
		Tafzíl i álá.
		Sáfil.
		Ausat.
		Qaríb.
		Baíd.
	{	Barábar kí nauṇ.

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

<i>Haiwán,</i>	{	<i>Chaupáe,</i>	{	Arabí.
		<i>Parand.</i>		Kábulí.
		<i>Machhlíán.</i>		Turkí, wg.
		<i>Kíre Makore.</i>		
				<i>Ghore,</i>
		<i>Bheren.</i>		
		<i>Kutte. wg.</i>		

Ab is men ghore kí banisbat chaupáe jins i álá, aur Arabí adná hai. Aur taqśím i mazkúra men haiwán jins i tafzíl i álá, aur Arabí Kábulí wg. nau i sáfil haiṇ. Chaupáe aur ghore, chúnki jins tafzíl i álá, aur nau i sáfil ke darmiyán haiṇ, jins i ausat haiṇ. Chaupáe ghore kí jins qaríb hai, aur haiwán us ke jins i baíd, aur ghore, bheren, kutte, jins i barábar haiṇ, waise hí chaupáe, parand, machhlíán, aur kíre makore haiṇ.

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

3.—Fasl wuh hai, jo ek jins ko us ke mushárikat, yaṇe aur jins yá nau wg. se judá kar de. Maslan, haiwán agar ek jins qarár diyá jáe, jis men kaí ek qism ke jándár shámil haiṇ, jin men ek insán samjho, to is súrát men *qúwat i nátiqa* us kí ek fasl hai, jis ke sabab se haiwánon men insán ko “haiwáni nátiq” kahte haiṇ. Alá-házá haiwánon kí parand bhí ek jins hai, jis ke *par* aur *bázú* haiṇ, aur in paron aur bázúon kí

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 differentia. 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.

A property is something joined 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 speaking are properties of the species man. Of these, breathing is not peculiar because other species of animals, as horses, dogs, &c. breathe, but speaking is peculiar, because belonging only to the species man.

An *accident* is something joined contingently or accidentally to a species or belonging only to certain individuals of it, as 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. 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.

jihatse parandon ko aur haiwano se tamíz húi, pas isí nazar se un ko fasl kahte hain, aur un júndáron ko, jin men yih bát hai, parand bolte hain. Agar khiyál karen, to małúm hotá hai, ki nau, jins aur fasl se bantí hai. Masal to maslan haiwán ek sjin hai, bakhiyál ján ke, aur us ke níche parand ke nau hai, is khiyál se, ki us ke par hain: pas sáf małúm hai, ki nau i parand do khiyál jins aur fasl se baní hai, yane us nau men ján hai, aur par hain.

4.—*Arz ke bayán men*,—Arz us ko kahte hain, jo zát se khárij ho. Jab koí sifat yá khássiyať kisí nau men pái jáwe, lekin us kí zát se khárij hai, pas agar us ke sab afrád men pái jáwe, to us ko “*kullí*” kahte hain, aur agar ek nau ke afrád men, khwáh kull afrád men, yá baz men, to us ko “*khássa*” kahte hain, aur ek nau se ziyáda men pái jáwe, to us ko *arz i ámm* kahte hain. Maslan dam lená aur bolná insán kí zát se khárij hai, yane insániyať in par mauqúf nahín, pas wuh arzí húa.

Jánná cháhiye, ki dam lená kullí hai, kis wáste ki nau i insán ke kull afrád men páyá játa hai, aur arz i ámm bhí hai, is nazar se, ki aur nauon men hai, kyúnki tarah tarah ke jánwar dam lete; lekin bolná khássa hai, kis wáste ki sirf nau i insán men páyá játa hai. Agar wuh sifat yá khássiyať nau kí afrád se judá na ho sake, us ko “*arz i lázim*,” aur agar judá ho sake, us ko “*arz i mufáriqat*” kahte hain. Misál pahle kí, Zaid Kalkatta men paidá húa. “Paidá honá Kalkatte men” Zaid se judá ho nahín saktá. Misál dúsrí, arz i mufáriq kí, jaisá Zaid chaltá hai, yih kuchh zarúr nahín, ki Zaid hamesha chaltá rahe, kyúnki kabhí letá ho, yá baithá ho.

Arz, .. {
 Kullí.
 Khássa.
 Arz i ámm.
 Lázim.
 Mufáriq.

SECTION IV.

Definition

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

1.—Definition is a metaphorical word which means “laying down a boundary.” When applied to terms in their logical use it means describing them in such a manner as to distinguish them from other terms. 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 a 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.

3.—A common division of definition is into *nominal* and *real*. A nominal definition merely gives the meaning of the term as a *name* or specifies the object 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 thing

CHAUTHÍ FASÍ.

Muʻarrif ke bayán men.

1.—MUʻARRIF ká bayán, chúnki mutaʻalliq ism ke hai, is sabab se us ká jánná ilm i Mantiq men bahut zarúr hai. Muʻarrif kisé lafz ke hadd bándhne ko kahte hain, aur ilm i mantiq men jab is ká istiʻmál ismon ke wáste kiyá jáwe, to yih murád hotí hai, ki bayán yá taríf honá un ismon ká is taur se ki un ko auron se tamíz ho jáwe. Yih bahut zarúr hai, ki mubáhise men ism aur 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 báis se tafriqa aur galatí par játí hai.

2.—Aksar Mantiqín ke nazdík muʻarrif men do báten páí játí hain, yane *jins* aur *fasl*, jins aur fasl ke miláne se muʻarrif bantá hai. Masal to maslan insán ká muʻarrif *haiwán i nátiq* hai. Ab yahán par *haiwán* jins hai, jo fasl i nátiq se milkar muʻarrif insán ká hai, pas maʻlúm húa, ki haiwán i nátiq jo muʻarrif hai, insán kí jins aur fasl se baná .

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.

3.—Jánná cháhiye, ki muʻarrif kḥáss kar do taur par hotá hai, yá to sirf kisé shai ká nám batláwegá, yá us kí haqíqat ko záhir karegá. Masal to maslan koí kahe, ki yih dúrbín hai, to sirf us ká nám maʻlúm húa, aur agar koí kahe yih shai is taur par fulání fulání chíz se baní hai, to us kí haqíqat maʻlúm húi.

itself, such as will lead to a knowledge of its construction and nature. Thus a real definition of a telescope would enter into an explanation of its construction with some necessary explanation of light.

There are other divisions of definition but these two are perhaps the most useful. It is the office of definition in logic to guard against ambiguity and error in the use of terms.

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 the 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 *apprehensions*. Apprehensions expressed in language are *terms* which are combined to make *propositions* which are judgments expressed in language.

Qawá'id i Muarrif.

Muarrif ke banáne men chand qáide hain, chunánci un men se do qáidon ká, jo niháyat zarúr hain, yahan par bayán kiyá játá hai.

Pahlá.—Zarúr cháhiye ki muarrif *tám* ho, jis ko baze 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 wg. se bhí aur jins kharídí játí hai, pas ab is súrat men gair afrád bhí is taríf men dákhil húa 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 záhir na karegá. Is wáste, agar mumkin ho, muarrif majází, yá 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 *tas-diqát* ke, jo ki *tasawwurát* se bante hain.

PART II.

SECTION I.

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, a 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 *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, showing that this verb is implied. 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 co-

DUSRA HISSA

PAHLÍ FASL.

Bayán Qazíon ká.

1.—Jab tasdíq zabán se sádir ho, to us ko qaziya kalte haiñ. Baze log qaziye kí taríf yún likhte haiñ ki kái lafzon se murakkab ho, aur ihtimál jhúth aur sach ká páyá jáwe. İlmi mantıq men qaziya ek jumla i bayániya hai, yane wuh jumla, ki na wáste sawál na hukm 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, jis men lafz “hai” ká, wáste nisbat ke áyá hai. Qaziye men tın báten hotí haiñ, yane mauzú, aur mahmúl, aur nisbat i hukmiya. Mauzú us ko kahte haiñ, jis kí nisbat kuchh kahá jáwe, khwáh isbát ke sáth ho, yá nafı ke sáth. Misál “yih darakht sabz hai.” Yahán par *darakht mauzú* hai, jis kí nisbat kuchh bayán hai, yane ki wuh “sabz” hai, aur mahmúl wuh hai, jo mauzú kí nisbat kahá gayá ho. Upar ke qaziye men lafz “*sabz*” ká jo áyá hai, mahmúl hai. Nisbat i hukmı wuh hai, jis ke zariá se mauzú aur mahmúl ke darmiyán men muwáfıqat yá námuwáfıqat páı játı hai. Maslan, “darakht sabz hai,” yahán par lafz “*hai*” ká, nisbat i hukmı hai. Wázih ho, ki nisbat i hukmiya masdar *honá* se hame-sha hotı hai, magar yih nahıñ, ki sab jagah záhir ho, kyúnki bazı jagah aisá bhı hotá hai, ki hukman hotá ai. Maslan, “yih parand ur jáwegá,” is men *honá*

pula "*were*" and the predicate "*victorious*." "The bird flies," here "flies" is equivalent to a copula "is" and a predicate "flying." 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 *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

hukman páyá játá hai, kyúñki dar haqíqat is ká mat-lab yún hai, ki “parand ká urná hogá.” Gaur karná cháhiye, ki bází jagah mahmúl aur nisbat i hukmiya ek hí hotí haiñ, jaisá koí kahe, ki “Zaid játá hai,” yahán par “játá hai,” mahmúl aur nisbat i hukmiya donoñ hai. Garaz ki qaziya men tñ bāten hotí haiñ, yañe, *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 kái tarah par hai, jin ká samajhná ilm i mantiq men pur-zurúr hai.

1.—Qaziya ; á *mufrad* hotá hai yá *murakkab* ho. *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, donoñ *mufrad* haiñ.

Qaziya murakkab wuh hai, ki jis men kam se kam do *mauzú* yá do mahmúl hon, yá *mauzú* aur mahmúl doñon kam se kam do dohon. Is qaziya ko judá judá karke kái ek qaziye baná sakte haiñ. Maslan “chaupáe aur parand, aur kīre makore jándár haiñ.” Gaur karná cháhiye, ki dar asl is qaziye men tñ *mauzú* haiñ, yañe “chaupáe” aur “parand” aur “kīre makore,” aur tñ qaziya ban sakte haiñ ; maslan,

Chaupáe jándár haiñ,
Parand jándár haiñ.
Kīre makore jándár haiñ.

Misál dúsrí.—“Insán aur firishte zí-aql aur ábid haiñ.” Yahán par *mauzú* aur mahmúl donoñ do do haiñ. Is qaziya i murakkaba ko judá karke do

insects and the proposition may be resolved thus,
 Beasts have life ;
 Birds have life ;
 Insects have life.

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

Men are rational and accountable beings ;
 Angels are rational and accountable 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* propositions, 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

qaziya e mufrada baná sakte haiṇ. Maslan,

Insán zí-aql aur ábid haiṇ.

Firishte zí-aql aur ábid haiṇ.

Jánná cháhiye, ki bāze qaziye aise haiṇ, ki súrāt meṇ murakkab haiṇ, lekin dar haqíqat murakkab nahín, mufrad haiṇ, Maslan “gam aur k̥hushí, ápas meṇ muk̥hálif haiṇ ;” yih koí kah nahín saktá, ki “gam muk̥hálif hai,” yá “k̥hushí muk̥hálif hai.” Agar cháheṇ, ki is qaziye ke do qaziye mufrada banáweṇ, to nahín ho saktá, kyúṇki dar asl mufrad hai.

2.—Qaziya yá *mújiba* hogá yá *sáliba* hogá. Qaziya i *mújiba* us ko kahte haiṇ, jab mauzú aur mahmúl ke darmiyán muwáfiqat ho, yaṇe un ke bích meṇ isbát pái jáwe. Maslan, “barf t̥handhí hai,” “A. B. hai.”

Qaziya i sáliba wuh hai,” jis ke mauzú aur mahmúl meṇ ná-muwáfiqat ho, yaṇe un ke bích meṇ nafí pái jáe. Maslan, “Ag t̥handhí nahín hai.”—“A. B. nahín hai.”

Qaziya bamújib apne nisbat i hukmiya ke *mújiba* yá *sáliba* hotá hai, yaṇe, jaisá ki iqrár yá inkár mahmúl ká mauzú ke wáste ho. Maslan, “K̥hudá ke hukm ko na mánna gunáh hai,” yih qaziya dar haqíqat *mújiba* hai, kyúṇki lafz gunáh ká, jo mahmúl hai mauzú ke iqrár meṇ áyá hai, inkár meṇ nahín.

Bāze sálibon meṇ álamat nafí ki aise mauqa par

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 the men and angels in the universe can not 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." "Liars are sinners," "beasts are not accountable" are universals having the signs understood.

Where the sign of universality is omitted the *quantity* of the proposition must be ascertained from its

hotí hai, ki us ká sálíba honá baḡhúbí maḡlúm nahín hotá. Maslan “na tamám insán na firishte kisí ko gunáh se pák kar sakte haiṅ.”

Yahán par álamat nafí kí sab se pahle áí, aur fiál se dúr hai. Agar yih qaziya bamújib ámm muháwara ke bola jáwe, to yún hogá; “tamám insán aur firishte kisí ko pák nahín kar sakte haiṅ.” Aise qazíon betartíb aur pechída ke matlab ko samajh lená cháhiye, aur yih bhí yád rakhná cháhiye, ki har qaziya do hál se ḡhálí nahín, yá to mújiba hogá yá sálíba hogá.

3.—Qaziya *kulliya* hogá yá *juziya* hogá.

Qaziya i *kulliya* wuh hai, jis ká mahmúl tamám fardon ke iqrár yá inkár men áwe; yāne mahmúl muwáfiqat yá námuwáfiqat rakhe tamám mauzú se. Yá is tarah par us ká bayán samjho, ki qaziya i kullí men mahmúl kull mauzú par kahájáe. Maslan, “kull insán marnewále haiṅ.” Yih qaziya i *kulliya* hai, is liye ki lafz “marnewále” ká jo mahmúl hai, kull mauzú ke wáste, jo “insán” hai, kahá gayá hai, yāne lafz marnewále ká sirf ek ádmí ke wáste nahín, balki tamám insán ke wáste áyá hai. “Kull A. B. hai.” Yih qaziya bhí *kulliya* hai. Ek aur misál dí játí hai. “Insán daraḡht nahín hai,” yih bhí qaziya i *kulliya* hai, kyúnki yahán par lafz daraḡht ká tamám mauzú, yāne insán ke inkár men áyá. “Koí A. B. nahín hai.” Yih bhí qaziya i *kulliya* hai. Sab, tamám, har ek, koí nahín, wg. jo lafz haiṅ, in se qaziye kí kullíyat sábit hotí hai.

Jis qaziya i kullí men álamat kullíyat kí lafzen maujúd na ho, us ko muhmila kahte haiṅ, maslan, “Bheren chaupáe haiṅ.” Ab yahán par báwujúde ki álamat kullíyat kí maujúd nahín, phir bhí sáf maḡlúm hotá hai, ki matlab sab bheron se hai.

Jhúth bolnewále gunahgár haiṅ.

Jánwar zí-aql nahín haiṅ.

matter. We must determine how it is intended that the proposition be taken. A *particular proposition* is one whose subject is 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 are 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," nor 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 the business of logic to do this so much as to pronounce on the character of the argument in which the propositions are used after their quantity has been determined. Every proposition

Yahán par bhí kullíyat samjhí játí hai, agarchi záhír men kóí lafz nahín hai. Garaz yih ki jahán kullíyat ká kóí lafz na páyá jáwe, to wahán par sirf matlab se samjhenge.

Qaziya i juziya wuh hai, jis ke mauzú ke baz afrád liye jáen, yane mahmúl mauzú ke kull afrád ke wáste na áyá ho, balki baz afrád ke wáste. Masal to maslan, “Baz Ísáí Masíh ke sachche pairau nahín hain.”

Is misál men, chúnki fiqra “sachche pairau” ká, jo mahmúl hai, “baz Ísáíon” ke inkár men, jo mauzú wáqi húá hai áyá hai, is sabab se is qaziye ko juziya kahte hain. Garaz ki is jagah par mahmúl mauzú ke baz afrád ke inkár men áyá hai, yane sab Ísáíon ke wáste nahín.

Dúsrí misál.—“Bahut ádmí bahádur hain.” “Baz A. B. hain.” Yih bhí qaziya i juziya 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 hain, ki qaziya i juziya men mauzú ke baz afrád par dalálat hotí hai, khwáh bil-isbát ho yá bil-nafí.

Baz *qaziya i juziya* bhí *muhmila* hote hain, yane, lafz juziyat ke baz, kuchh wg. un men nahín páe játe hain. “Maslan, “ádmí sháír hote hain,” “Hindú butparast hain;” yih donoñ qaziya i muhmila hain, kyúnki yih matlab nahín ho saktá hai, ki tamám insán sháír hain; kyúnki bahutere ádmí aise hain, jin ko shíar likhná nahín átá, aur Hindúon men bhí aise hain, ki butparast nahín hain.

Aise qazíon kí kulliyat yá juziyat sirf matlab se málúm hotí hai. Qaziya i muhmila kí kulliyat aur juziyat ká muqarrar karná ilm i mantiq kí garaz nahín. Us kí garaz sirf itní hai, ki jab ham qazíon kí kulliyat aur juziyat qarár dekar báham-dígar zarb den, aur

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 distinguished 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 proposition considered as sentences is into *Categorical* and *Hypothetical*.

The *categorical* 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*. It is divided into conditional, disjunctive and causal propositions.

A conditional proposition implies a condition as "If James return John will go," "If X is Y it is Z."

A disjunctive proposition implying an alternative is formed with the conjunctives *either*, *or*, as, "James is either a liar or a thief" "X is either Y or Z."

A causal proposition indicates a cause and unites its parts by "because."

phir zarb dene se jo natíja nikle, us kí sihhat yá ádam sihhat ká batláná.

Is mauqa par k̤hiyál rakhná zarúr. cháhíye, ki har qaziya yá *mújiba* hogá yá *sálíba* hogá, aur har wáhid in donon̄ men̄ se yá *kulliya* yá *juziya*. Pas ek hí mauzú aur mahmúl se ham chár qaziya baná sakte hain̄.

Mújiba kulliya.

Sálíba kulliya.

Mújiba juziya

Sálíba juziya.

Ab in cháron̄ súraton̄ ke wáste ye hurúf muqarrar kiye játe hain̄, yāne,—

mk. jis se murád *mújiba kulliya*.

sk. jis se murád *sálíba kulliya*.

mj. jis se murád *mújiba juziya*.

sj. jis se murád *sálíba juziya*.

4.—Qaziya yá *hamliya* hotá hai yá *shartiya*.

Qaziya i *hamliya* men̄ shart nahín hai, yāne isbát yá nafí bilá shart pái játi hai. Maslan, “insán marne-wálá hai,” aúr “rúh fání nahín,” “A. B. nahín hai.”

Qaziya i shartiya wuh hai, jis men̄ shart ho, is kí do qisemen̄ hain̄, *muttasila* aur *munfasila*.

Qaziya shartiya i muttasila wuh hai, jis men̄ páyá jáná dústre juz qaziye ká, auwal juz par ittísál ke sáth mauqúf ho. Maslan, “Agar Zaid dawá kháwe, to achohhá ho jáegá.” “Agar A. B. hai, to wuh J. hai.”

Qaziya shartiya i munfasila wuh hai, jis men̄ hukm bil-infísál páyá jáwe, yāne na to donon̄ juzon̄ qaziya ká sachchá honá mumkin ho, na jhúthá honá donon̄ ká. Harf infísál ká “*yá*” hai. Maslan, “Zaid yá sachchá hai yá jhúthá.” “A. yá B. hai, yá J. hai.”

Qaziya i *mahlúla* wuh hai, jis men̄ dúsrá juz auwal ká sabab pará ho, jaisá ki “Zaid álim hai, kyúñki kis

“James is a scholar because he is studious” “W is X because Y is Z.”

This last divisions of propositions may be indicated by a table thus.—

<i>Propositions</i>	{ Categorical	{ Conditional.
	{ Hypothetical	
		{ Disjunctive.
		{ Causal.

This fourth division of proposition will be treated of more fully hereafter. For the present we will deal only with simple or hypothetical propositions.

Matter of Proposition.

This is as good a place as any to explain the *matter* of propositions. By the matter is meant the nature of the connection between the terms of a proposition and 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 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

táben apne mutála men rakhtá hai,” aur harf sabab ke ye hain, “kyúñki,” “is jihat se,” “is wáste,” wg

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

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

Bayán Mádde ká.

Yih mauqa achchhá małúm hotá hai, ki qazíon 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 kai 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 sálíbon men hotí hai. *Nisbat i masáwát*, jo ki qaziya i juzíon men páí játí hai. Maslan, do lafz hon, “*lohá*” aur “*bhárí*.” 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 bhárí* hai.”

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

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 negatives false.

2. In impossible matter all negatives are true and 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	{ Conditional Disjunctive Causal

<i>Matter is</i>	{	Necessary
		Impossible
		Contingent



‘ālim haiṇ,” yā “koī ādmī ‘ālim nahīṇ;” balki in ke darmiyān meṇ nisbat gair-mu‘āyana hai, yaṇe yih muqarrar nahīṇ, ki nisbat bil ījāb ho yā bis salb, jis ke sabab se yūṇ kahṇā chāhiye, ki “baḏ ādmī ‘ālim haiṇ,” yā “baḏ ādinī ‘ālim nahīṇ.”

Pas ba lihāz mādde qazīṇ ke tīn qāide nikalte haiṇ, jin kā hāl gaur karne se maḷūm hotā hai, ki hāṇ, yūṇhīṇ sādiq āte haiṇ.

1.—*Nisbat zarūrī bil ījāb* meṇ qaziya i mūjiba sab saḥīh, aur sālībe sab galat hote haiṇ.

2.—*Nisbat zarūrī bis salb* meṇ ūpar ke barāks yaṇe sālībe ke sab saḥīh, aur mūjibe galat hote haiṇ.

3.—*Nisbat i masāwāt* meṇ qaziya i juziya sab saḥīh, aur kulliya sab galat hote haiṇ.

Mādde ke samajhne kā fāida qazīṇ kī naqīz ko bayūn meṇ chalkar maḷūm hogā.

Nāzirīn ko bayān i mujmal mundarja i zail ba-
khūbī zihn-nishīn kar lenā chāhiye.

<i>Qaziya</i>	{	Yā mufrad hogā yā murakkab.	{	
		Yā mūjiba hogā, yā sālība.		
		Yā kulliya hogā, yā juziya.		Muttasila.
		Yā hamliya hogā, yā shartiya.		Munfasila. Maḷūla.

<i>Mādla nisbat</i>	{	Zarūrī bil ījāb.
		Zarūrī bis salb.
		Masāwāt.



SECTION II.

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. 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 proposition *i. e.* on its being

DÚSRÍ I'ASL.

Bayán i Kám, yañe, kulliyat aur juziyat, mauzú aur mahmúl ká.

1.—BAYÁN i kám, yañe kulliyat aur juziyat, mauzú aur mahmúl ká, qazíon ke sáth pur-zarúr hai. Jab qaziye ke mauzú o mahmúl apne tamám afrád ko shámil karte hain, to un ko kullí kahte hain, aur jab sirf baz afrád ko shámil karte hain, to un ko *juzí* kahte. Masal to maslan, qaziya “kull insán fání hain,” jo hai ismen 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 záhír 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 maḥlúq shámil hain. Insán to maḥlúq ká sirf ek juz hai.

2.—Tá waqte ki yihí Kám yañe kulliyat aur juziyat baḥhúbí samajh men na áwe, ilm i mantiq ko achchhí tarah istíamál men nahín lá sakte hain. Chúnki istíamál ilm i mantiq ká is hí par munhasar hai, liházá us bát ká, jis par kulliyat aur juziyat mauqúf hai, sáf o mu-fassal bayán kiyá jáfá hai.

Har qaziya ká mauzú aur mahmúl do hál se ḵhá-lí nahín hogá, yañe, yá to kullí hogá, yá *juzí*.

3. Wázih ho, ki mauzú kí kulliyat aur juziyat qaziye kí kulliyat aur juziyat par mauqúf hai; magar

affirmative or negative. The truth of these statements will appear from some illustrations.

Only four kinds of categorical propositions can be formed, viz.,

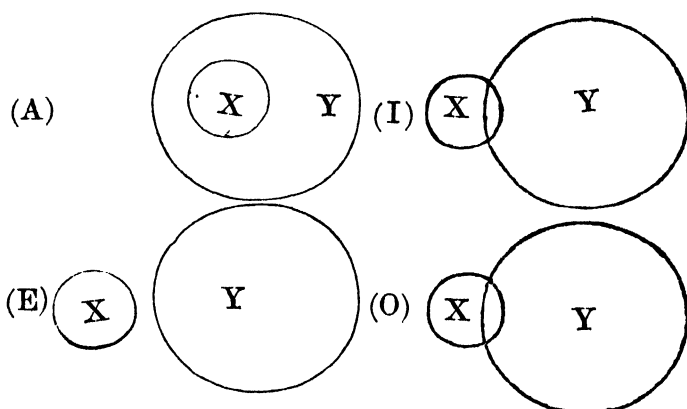
Universal affirmative. .(A) All X is Y.

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 circle representing a proposition thus :—



Inspection of these propositions, first with regard to the subject will show that in the universal proposition the subject is distributed, that 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

mahmúl kí kulliyat aur juziyat qaziyeke íjáb o salb par mauqúf hai. Kaifiyat is kí misálon i zail se bakhúbí malúm hogí.

Qaziya i hamliya kí sirf chár súraten hain, yāne,

Mújiba kulliya, (*m. k.*) Kull A. B. hai

Sáliba kulliya, (*s. k.*) Koí A. B. nahín hai,

Mújiba juziya, (*m. j.*) Bāz A. B. hai.

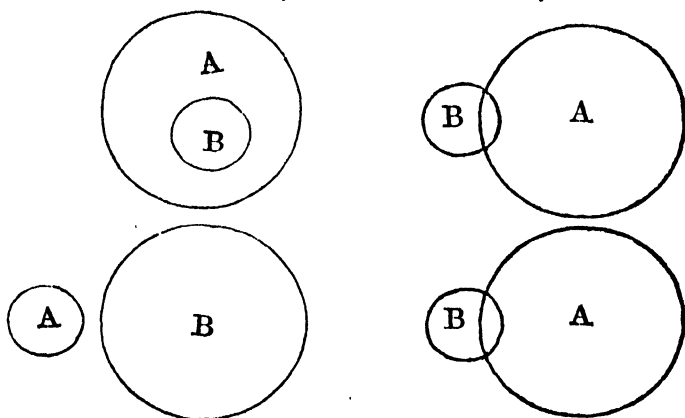
Sáliba juziya, (*s. j.*) Bāz A. B. nahín hai

In chāron qazíon ko Uqlaidas ke bamújib bhí bayán kar sakte hain.

Har dáire ko ek qaziya samjho :—

m. k. Kull A. B. hai,

Bāz A. B. hai,



s. k. Koí A. B. nahín hai, *s. j.* Bāz A. B. nahín hai.

Agar mauzú kí nisbat in qazíon par liház kiyá jáwe, to malúm hotá hai, ki qaziya i kulliya ká mauzú, hamesha kullí hotá hai, yāne apne kull afrád par dalálat kartá hai, aur yih dalálat lafz i “*kull*” aur “*koí nahín*” bhí malúm hotí hai. Aur dáiron ke dekhne se is bát kí haqíqat ánkhon par khultí hai. Pas qánún yih hai, ki—

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

Agar mauzú kí nisbat qaziya i juzíon par liház kiyá jáwe, to malúm hotá hai, ki mauzú bhí juzí hotá hai, yāne faqat apne bāz afrád ko batlátá hai, aur yih

Hence the rule—

2.—*No particular propositions distribute the subject.*

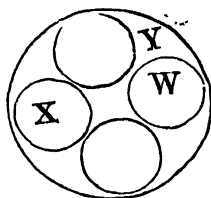
Thus it is seen that the distribution of the subject depends on the *quantity* of the proposition.

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 is asserted (in a universal affirmative proposition) that “all men are mortal” or all X is Y” it is not asserted 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 seen by this figure. Hence it is evident that the whole of the predicate “mortal” or “Y” is not considered.

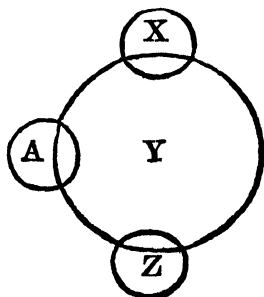


Again if we make these propositions particular thus “some men are mortal”—“some X is Y,” it will still be seen that only a part of “mortal” and “Y” is distributed. A part or all of other

things besides X may be included

in Y, thus: Hence whether univer-

sal or particular we get the rule:—



3.—*No affirmative proposition distributes the predicate.*

If we turn now to negative propositions we see that whether universal or particular the predicate is always distributed.

juziyat lafz “bāz” se maʿlūm hotī hai, aur dāira i mar-qūma bālā se sūrī kaifiyat is kī roshan hai, ki faqat ek hissa dāira A. kā B. men dākhil hai. Pas qānūn yih ṭhahrá, ki—

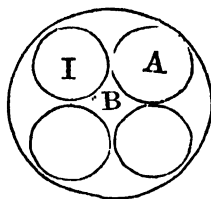
2. *Qaziya i juziya kā mauzū hamesha juzī hotā hai.*

Pas maʿlūm hūá, ki kulliyat aur juziyat mauzū kī, qaziye kī kulliyat aur juziyat par mauqūf hai.

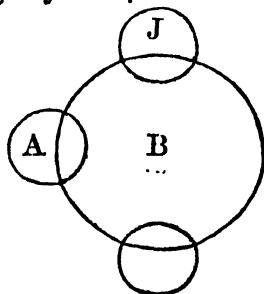
Aur agar mahmúl kī nisbat in chār qaziya i ham-līon par liház kiyá jáwe, to maʿlūm hotā hai, ki yih kuchh zarúr nahīn, ki mahmúl kī kulliyat o juziyat mauzū hī kī mánind ho, kyúnki mahmúl kī kulliyat o juziyat qaziye ke fájáb aur salb par mauqūf hai.

Agar koī qaziya mújiba i kulliya ho, jaise “kull insán fānī hai,” yá kull “A. B. hai,” to is se yih dā-wa nahīn nikaltá, ki aur maḥhlúqát siwá insán ke fānī nahīn, yá siwá A. ke aur koī chíz B. nahīn hai. Ba-hut aur maḥhlúq hai siwá insán ke jo fānī hai, aur bahut aur shaklen hai siwá A. ke jo B. hai, jaisá ki shakl i zail se zāhir hai.

Pas sáf zāhir hūá, ki kull mahmúl “fānī” aur “B” kám men is jagah nahīn áyá, yāne mahmúl ke kull afrád par dalá-lat nahīn hai.



Aur agar ham in do qazíon ko juziya banáwen, maslan, “Bāz insán fānī hai,” yá “bāz” A. B. hai, to is sūrat men bhī mahmúl “fānī,” aur B. juzī rahtá hai, kyúnki aláwa insán ke, bāz aur maḥhlúq bhī fānī ho sakti hai, aur aláwa A. ke bāz aur dāire hai, ki dāira i B. men shámil ho.



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

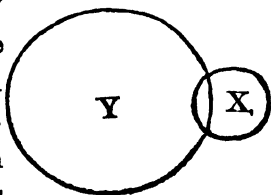
3. *Qaziya i mújiba, khwáh kulliya ho yá juziya, mahmúl us kā hamesha juzī hotā hai.*

Thus in the universal negative “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 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 proposition distributes the subject.
2. No particular propositions distribute the subject.
3. No affirmative proposition distributes 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.

Ab agar ham qaziya i sáliba kí taraf k̄hiyál kar-on, k̄hwáh wuh kullí ho yá juzí, mahmúl us ká hame-sha kullí hogá. Maslan, sáliba i kulliya, “koí ádmí chiriyá nahín,” yá “koí A. B. nahín.”

Yahán par gaur karná cháhiye, ki kull mahmúl “chiriyá” par jab liház ho, to ham kah sakte hain, ki koí insán chiriyon men nahín hai. Pas is qaziya men mahmúl “chiriyá” kullí húa. Alá-házal-qiyás, jab kull mahmúl “B” par liház ho, to ham kah sakte hain, ki kuchh hissa A. B. men nahín hai. Pas har qaziya sáliba ká mahmúl kullí hogá. Isí tarah par hár qaziya sáliba juziya ká bhí. Maslan sáliba ijuziya.

“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 maḷúm húa, ki kulliyat mahmúl kí qazíon ke íjáb o salb par mauqúf hai. In báton ko k̄húb zihn-nishín karná cháhiye.

Majmúʿa qawánín, kulliyat o juziyat ká, zail men hai:—

- 1.—*Har qaziya i kulliya ká mauzú kullí hotá hai.*
- 2.—*Har qaziya i juziya ká mauzú juzí hotá hai.*
- 3.—*Har qaziya máljiba ká mahmúl juzí hotá hai.*
- 4.—*Har qaziya sáliba ká mahmúl kullí hotá hai.*

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

SECTION III.

Conversion.

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 the "*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.

There are three kinds of conversion by one or the other of which every proposition may be converted.

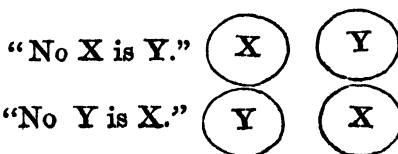
1. When the subject is simply made the predicate, and the predicate the subject without any further change it is called *simple* conversion, as

"No good man is a rebel."

Converse.—"No rebel is a good man."

"Some bad men are learned."

Converse.—"Some learned men are bad."



TÍSRI FASI.

Aks ke bayān men.

1.—Aks us ko kahte haiñ, ki kisí qaziye ke mauzú ko mahmúl kar den, aur mahmúl ko mauzú. Maslan yih qaziya, kí “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 “bāz ádmí nek haiñ,” is ká aks “bāze nek (maḡhlúq) ádmí haiñ.”

Jab kisí qaziye ká aks kiyá jáwe, to us ko *maḡkúsa* kahte haiñ, aur qabl aks ke qaziye ko *gair maḡkúsa* kahte haiñ.

Aks us waqt durust hogá, jab qaziya i maḡkúsa, aur gair maḡkúsa kí haqíqat men kisí tarah ká farq na wáqí ho; pas aise aks ko aks i sahíh kahte haiñ, aur agar kisí aur tarah kiyá jáe, to wuh aks sirf ba záhir hogá, na yih, ki haqíqat men.

2.—Aks tín taur par hotá hai, aur har qaziye ká aks in tinoñ men se kisí na kisí ke bamújib ho saktá hai.

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

Maslan, “Koí achchhá ádmí bágí nahín hai.”

is ká aks, “Koí bágí achchhá ádmí nahín hai.”

“Bāz ḡharáb ádmí álim haiñ.”

is ká aks, “Bāz álim ḡharáb ádmí haiñ.”

“Koí A. B. nahín hai.”

A

B.

“Koí B. A. nahín hai.”

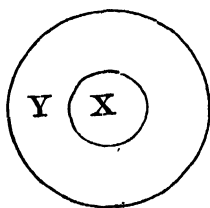
B

A

Universal negatives and particular affirmatives are converted in this way.

2. 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 universal affirmative we must make it a particular, thus the converse of the above should be—



“Some quadrupeds are horses.”

“Some Y is X,”

and it becomes 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*. All universals are converted in this way.

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

“All horses are not quadrupeds.”

Still this particular negative can be converted by a peculiar process. If we detach the negative particle

Is ko *aks i mustawí* kahte hain.

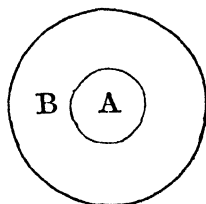
Doyam,—Agar ham qaziya i hamliya^a kí cháron súraton ká aks isí tarah par banáná cháhen, to nahín ho saktá hai; jaisá ki mújiba i kulliya,

“Sab ghoré chaupáe hain,”

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

hain. Pas is wáste ki mújiba i kulliya kí 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.

Seyum. Agar ham cháhen, ki sáliba i juziye ká aks in donon men kisé ke bamújib banáwen, to sahíh na hogá. Yahan 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, to bhí durust na hogá,

“Sab ghoré chaupáe nahín hain.”

Táham is ká ek tarah ká aks ho saktá hai. Agar ham harf i nafí ko nisbat i hukmiya se alag karke

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*.

4. 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 no affirmative distributes the predicate. Hence when we convert illatively and the predicate becomes the subject it must be undistributed and we get “some quadrupeds are horses.”

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

us ko mahmúl ká ek juz kar den, to is súrât men qaziya i mújiba juziya ho jáegá, aur is ká áks ho jáegá; maslan,

“Baz chaupáe ghore nahín hain.”

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

“Baz chaupáe *na-ghore* (yane gair-ghore) hain.”

Is ká áks yún hogá, ki

“Baz gair-ghore chanpáe hain,”

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

“Baz ádmí sháir nahín,” is ká áks yún na hogá, ki “Baz sháir ádmí nahín hain.”

Lekin agar harf i nafí, mahmúl ká ek juz ho jáe, phir usí súrât men us ká áks ho jáegá, jaisá ki

“Baz gair-sháir ádmí hain.”

Is ko áks i naqíz kahte hain.

Garaz ki áks tîn taur par hotá hai, jin ke zariá se har qaziye ká áks ho saktá hai.

Qaziye ke áks karne ke taríqe jo hain, un par agar gaur kiyá jáwe, to malúm hotá hai, ki mauzú o mahmúl i juzí, bad áks ke bhí juzí rahtá hai.

Maslan, “Sab ghore chaupáe hain.”

Is ká mahmúl “chaupáe” jo hai, juzí hai, kis wás-te ki kisí qaziya i mújiba ká mahmúl kulliya hotá hí nahín, juziya hotá hai. Pas agar áks kiyá jáwe, to yún hogá,

“Baz chaupáe ghore hain,”

aur ámm qáida yih thahrá, ki

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

Áks { 1 *Áks* i Mustawí,
2 *Áks* i Naqíz.

SECTION IV.

Opposition.

I.—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.

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.

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.

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

One may deny in whole what the other denies in part.

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 there are four kinds of opposition as is seen in the above statement with the same subject and predicate.

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

If two propositions agree in *quality*, but differ in

Naqíz ke bayán men.

—Naqíz us ko kahte haiñ, ki do qazíon ká mau-nahmúl ek hí rahe, magar kulliyat o juziyat, yá salb yá donon men ikhtiláf ho. Maslan,

. Agar auwal qaziya mújiba i kulliya ho, to dúskí naqíz sáliba i kulliya ho yá juziya. Jaise sab hai. Naqíz, { Sab A, B nahín hai.
Baz A, B nahín hai.

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

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

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

. Agar auwal qaziya, sáliba i kulliya ho, to us qíz sáliba i juziya ho. Koí A, B. nahín hai. Naqíz, , B nahín hai.

Qaziya i hamliya kí chársúraten haiñ, yane, mú-kulliya, aur mújiba i juziya, aur sáliba i kul-aur sáliba i juziya; pas chúnki in cháron men se o muqábale men ho sakte haiñ, is se yih záhir si ek hí mauzú o mahmúl kí naqíz chár tarah otí hai :—

Pahle.—Do kulliyé faqat íjáb o salb men muta-hon, Misál, Sab A, B hai.

Naqíz, Koí A, B nahín hai.

Dúsré.—Do juziye, sirf íjáb o salb men mutaná-on.

Misál, Baz A, B hai.

Naqíz, Baz A, B nahín hai.

Tísre.—Do qaziye, íjáb o salb men muwáfíq hon

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:—

The 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. By recollecting now what was said on the *truth* or *falsity* of propositions under the head of *matter*, an inspection of this scheme shows that,—

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

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

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

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

	Maslan,	Sab A, B hai.
	Naqíz,	Baz A, B nahín hai.
Yá		Koí A, B nahín hai.
	Naqíz,	Baz 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 mas-túr hai.

Sab insán fání haiñ *Mk.* Mutanáqiza. *Sk.* Koí insán fání nahín hai

Mutanáqiza.
Mutanáqiza.
Mutanáqiza.

Baz insán fání haiñ *Mj.* Mutanáqiza. *Sj.* Baz insán fání nahín haiñ.

II.—Bahs mádde men sidq o kizb qazíon ká, jo bayán mazkúr ho chuká hai, agar yád ho, aur shakl i mazkúra i bálá par bhí liház rahe, to ma'lúm hogá, ki

Agar ek kulliya sádiq hai, dúsrá zarúr kázip hai.

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 versa*.

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 an other.

Recapitulation.

3. 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*.

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

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

Agar ek juziya sádiq hai, to mumkin hai, ki dúsra 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 dúsra k̄hiláf us ke hogá.

Tín qáida i zail kull bayán mazkúra ko jáme hain :

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

Dúsre,—Do juzíon ká sádiq honá mumkin, lekin kázib honá gair-mumkin hai.

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

Naqíz kí bahs men jo qáide ma'lúm húe, un ko k̄húb zihn-nishín karná cháhiye, kyúñki in hí ke zaríe se ma'lúm hotá hai, ki ek qaziye ká sádiq yá kázib ána dúsre par kis tarah mauqúf hai.

Qaziye ká mujmal bayán.

III.—Mantiq ká dúsra hissa tamám húa, ab bihtar hai, ki phir qazíon ká bayán yád-dásht ke wáste mujmalan likhá jáe.

1.—Jab tasdíq ba zaríq lafz ke záhir ho, us ko qaziya kahte hain.

2.—Qazíon men tín báten hotí hain, yañe, *mauzú'*, aur *mahmúl*, aur *nisbat i hukmiya*.

Divisions of propositions

The matter of propositions is of three kinds.

{

Simple and compound

Affirmative and negative. (quality)

Universal and particular. (quantity)

Categorical & Hypothetical,

{ Conditional.

{ Disjunctive.

{ Causal.

{

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.—No particular proposition distributes the subject.

3.—All negative propositions distribute the predicate.

4.—No affirmative proposition distributes the predicate.

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

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.

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

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

We now proceed to part III. where *propositions* are gathered into *arguments* thus completing the subject of logic.



10. Aks do tarah par hotá hai.

Aks, { Mustawí
Naqíz.

11. *Qáida aks ká.*

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

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

13. Naqíz chár tarah par hotá hai :

Mk. naqíz *Sk.*

Mj. „ *Sj.*

Mk. „ *Mj.*

Sk. „ *Sj.*

Naqíz ke qawáid.

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

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

Tísre.—Un do qazíon men, jo muḡhtalíf hain, íjáb o salb, kulliyat o juziyat men, agar ek sádiq yá kázib ho, to dúsrá us ke ḡhiláf hogá.

Ab İl i Mantiq ká tísrá hissa, jis men bahs kí hujjat hai, shurú hogá.



PART III.

SECTION I.

Arguments.

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 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 lines are the *premisses* in an argument proving that the world has an intelligent Creator. The line beginning with *therefore* is the *conclusion*.

An argument then is an expression of reasoning in which from something laid down and granted as true e. i. 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 proposi-

TÍSRA HISSA.

PAHLÍ FASL.

Dalíl, yá hujjat ke bayán men.

I.—Tísarí hálat i zihní, jis se ilm i mantiq mutaʼaliq hai, Dalíl yá hujjat hai. Dalíl yá hujjat us soch ko kahte hain, jo aise yaqíní muqaddamát se murakkab ho, jin se natíja yaqíní nikle. Masal to maslan,

Jis chíz men kisé tarah kí kárigarí páí játí hai, us ká banánewálá zarúr hai.

Dunyá men kárigarí páí játí hai,

Pas dunyá ká koí banánewálá zarúr hai.

Dalíl men do báten hotí hain, yāne *dáll* aur *madlúl*.

Dáll wuh hai, ki jis ke zariā se natíja hásil hotá hai, aur us natíje ko *madlúl* kahte hain. Misál mazkúra e bálá men pahle do muqaddamon ko *dáll* kahenge, aur tísarí, jo un donon se hásil húa, *madlúl* hai.

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

Ilm i mantiq se yih malúm ho játá hai, ki natíja i yaqíniya ba zariā muqaddamát i yaqíniya ke, is tarah par nikálná cháhiye.

tions 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.

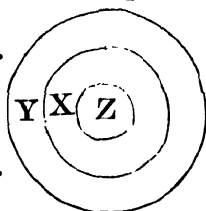
Therefore Z is Y.

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.

3. Every 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*.

II.—Jo hujjat ba tartíb i kámil, bamújib ilm 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.

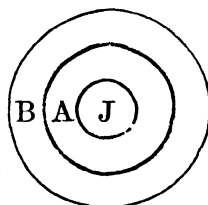
Pas J, B hai.

Yih sáf záhir hai, ki agarchi in harfon se koí matlab nahín malúm hotá hai, magar táham natíja yúnhín 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 dúsrí.—Sab insán fání hai.

Zaid, Amr, Bakr insán hai.

Pas, Zaid, Amr, Bakr fání hai.

Qiyás murakkab hotá hai kull tín qazíon se, jis men pahle ko *kubrá*, aur dústre ko *sugra*, aur tísre ko *natíja* kahte hai. Pahle do, *muqaddamát* kahláte hai.

III.—Bayán húa, ki har qaziye men do *juz*, yane mauzú o mahmúl hote hai. Yád rakhná cháhiye, ki har qiyás men tín *juz* hote hai, *akbar* aur *asgar*, aur *hadd i ausat*. *Akbar* is sabab se kahte hai, ki wuh *kubrá* men hotá hai, aur *asgar* is sabab se kahte hai, ki *sugrá* men hotá hai. *Hadd i ausat* ko, jo *kubrá* aur *sugrá* donon men páí íatí hai *hadd i ausat* is sabab se

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, as it were, 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.

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.

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 pre-

kahte hain, ki goya wuh akbar aur asgar ke darmiyan men, un ki nisbat batlane ka ek wasta hai. Pas is tarah par hadd i ausat se natija men ankar malum hota hai, ki akbar aur asgar ke bich men muwafiqat hai, ya na-muwafiqat.

Garaz ki qiyas bolte hain do tasauwuron (akbar o asgar) ko tisre ke (hadd i ausat) saath muqabala karne ko, taki malum ho jawe, ki in donon tasauwuron men muwafiqat hai ya nahin.

Maslan ko suwal ho, ki fulani chiz zahr hai ki nahin? Abyahan par tisri chiz se, jaise sankhiya, jis ko ham jante hain ki zahr hai us shai ka jis ka zikr hai, muqabala karenge, taki malum ho jawe, ki yih shai bhi zahr hai ki nahin? Agar malum ho jawe ki yih shai sankhiya se muwafiqat rakhti hai, to malum hua ki zahr hai. Pas qiyas yun hogi,

Sankhiya zahr hai.

Yih shai sankhiya hai.

Pas yih shai zahr hai.

Wazih ho, ki natija ka mauzu asgar hota hai, aur mahmul akbar hota hai.

IV.—Chand misalen qiyas ki bit-tafsil zail men is maqsad ke waste mundarj ki jati hain, ki mashq barhe.

Qiyas.

Apne nafa ke waste gair ka nuqsan takna gunah hai.

Jue men aisa nafa hai, jis ki badaulat gairon ka nuqsan tak jata hai.

Pas jua gunah hai.

Yahan par tin qaziye hain, auwal, *kuhbra*, dusra,

dicate 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 "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 "gaming" in the minor premiss is the minor term. As always must be the case "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 premisses, the major and minor, the last is the conclusion. 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 sáhib.*" The minor and major term are the subject and predicate of the conclusion.

Syllogism,

Avarice is a sin.

Sin leads to hell.

Avarice leads to hell.

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

sugrá, *tísrá natíja*; aur har qaziye men mauzú aur mahmúl, aur nisbat i hukmiya, jo un donon ke darmi-yán ek wásta hai, hotá hai. Pahle qaziye, yane kubrá men, “apne nafa ke wáste gairon ká nuqsán takná” mauzú hai, aur “gunáh” mahmúl. Dústre qaziye yane sugra 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 tén juz hain, pahle “apne nafa ke wáste gairon ká nuqsán takná,” dúsrá “gunáh,” tísrá “júá.” “Apne nafa ke wáste gairon ká nuqsán takná,” hadd i ausat hai, jis se do aur juz jo hain, muqábala kiye 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 cháhíye.

Qiyás.

Sab khúní wájib-ul-qatl hain.

Náná Ráo khúní thá.

Pas Náná Ráo wájib-ul-qatl thá.

Dekho, yahán tén qaziye hain, jin men pahlá kubrá, dúsrá sugrá, aur tísrá yane akhír ká, natíja hai. Har qaziye ká mauzú aur mahmúl judá hai, magar haqíqatan qiyás men tén juz hote hain, jaisá ki is misál se záhír hai,—ki pahle *hadd i ausat* “khúní,” dúsrá *akbar* “wájib-ul-qatl,” aur tísrá *asgar*, “Náná Ráo.” Natíja ká mauzú *asgar* hai, aur mahmúl *akbar* hai.

Misál tísrí.

Tamā gunáh hai.

Gunáh ká anjám dozakh hai.

Pas tamā ká anjám dozakh hai.

Is misál men “gunáh” *hadd i ausat* aur “tamā” *asghar* aur “anjám dozakh” *akbar* hai.

*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 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—

Whatsoever 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 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.

Misál chauthí,

Hadd i ausat,
(Jis masle men **Khudá** kí be-tazímí páí játí hai,)

Akbar.
(Radd karná cháhiye.)

Asgar.
(Qismat ke masle men)

Hadd i Ausat.
(**Khudá** kí be-tazímí páí játí hai.)

Asgar.

Akbar.

Pas (qismat ke masle ko) (radd karná cháhiye.)

V. Jánna cháhiye, ki har dalíl yá hujjat ba súrát i qiyás ho saktí hai, magar kuchh zarúr nahín ki jo dalíl biainihí isí súrát par kí jáe, to sahíh ho, warna nahín, lekin yih hai ki dalíl agar sahíh ho, to is súrát par bayán ho saktí hai. Maslan koí inkár kare, ki dunyá ká **Kháliq** koí nahín hai, aur ek kahe ki hai, aur dawá karnewálá **Khudá** ke wujúd kí chand misál-en sihat men is amr ke pesh kare, ki dunyá men koí chíz **khálí** az hikmat nahín hai. Pas yih sabút i kámil, aur dalíl i sahíh hai, halánki ba súrát i qiyás nahín; kyúñki ek bát rah gaí, yane jis chíz men hikmat páí játí, us ká **hakím** zarúr hogá.

Ab agar yih dalíl púrí bayán kí jáwe, aur batar-tíb i qiyás likhí jáwe, to yún hogí.

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

Dunyá men tarah tarah kí hikmat páí játí hai.

Pas dunyá ká **hakím** zarúr hogá.

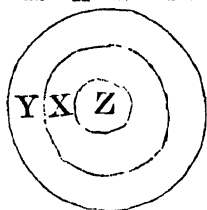
Málúm hotá hai, ki qiyás dalíl ke sidq o kizb ke parakhne kí kasautí hai.

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

“Jo kuchh kisé kullí yá jins kí nisbat kahá jáwe, us ke sab afrád par bhí sádiq áwegá.”

Is ká mufassil bayán yún hai, ki agar kisé kullí

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.



Hence whatever is predicated of a term or class may be predicated of every thing in that term. All correct reasoning is based on this principle which is thus a *law* of thought. Nothing can be more simple and plain than this law. If we affirm or deny something of an *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.

Logical Axioms and Rules for the Syllogism.

7. 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.*

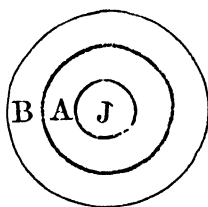
The third term of these axioms is the middle term in a syllogism.

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

yá jins kí nisbat kuchh kahá jáe, k̄hwáhi íjáb ke sáth, yá salb ke sáth, aur yih dekhá jáwe, ki is kullí yá jins men̄ fulání fulání fard dákhil hai, to is sūrat men̄ jo kuchh is kullí yá jins kí nisbat kahá gayá hai, wuh us chíz yá fard kí nisbat jo is men̄ dákhil hai, kahá jáwe. Maslan agar koí kahe, ki—

Sab A, B men̄ dákhil hai,
aur nīlūm kare, ki

Sab J, A men̄ dákhil hai, to
wuh kah saktá hai, ki Sab J, B
men̄ shāmil hai.



Garaz yih ·ki jo kuchh kisí kullí kí nisbat kahá jáwe, us ke kull afrád kí nisbat kahá jáwe. Har sahíh dalíl isí asl par qáim hai, kyúñki isí asl ke bamújib aql daurtí hai. Yih qánún bahut sáf o sahl hai. Agar ham kuchh bolēn kisí kullí yá jins kí nisbat, phir bād is ke sábit karen̄, ki fulání chíz is men̄ dákhil hai, to albatta us chíz kí nisbat bhí usí tarah kahná wájib hogá.

K̄hiyál rakhná cháhiye, ki yihí kullí yá jins, qiyás men̄ hadd i ausat hotí.

VII. Har qiyás i sahíh, muwáfīq chand qawá'id i muqarrar ke hotá hai. Yih bayán ho chuká hai, ki har qiyás men̄ tīn juz hain̄, yāne *akbar*, *asgar* aur *hadd i ausat*,^{*} jis se *akbar* aur *asgar* ká muqábala hotá hai.

QIYÁS KE QÁNÚNI BADIHÍ.*

1.—*Agar do juz kisí tīsre juz ke mutábīq hon̄, to āpas men̄ mutábīq hain̄.*

2.—*Agar ek juz mutábīq, aur dúsrá juz gair mutábīq ho kisí tīsre juz ke, to yih donoñ āpas men̄ gair mutábīq hain̄.*

Tīsre juz se murád hadd i ausat hai.

In do qánún i badihí se chand aise qawá'id nikalte hain̄, jin se qiyás kí sihhat bak̄húbí maḷūm ho játí hai.

* Badihí wuh hai, ki bagair fikr o taammul samajh men̄ á já

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.* 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—"Angels are intelligent beings." We must affirm in the conclusion that "Angels were made to serve God."

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.

Rule.

2. *If one 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 go to heaven.

Liars are not good men.

Therefore liars do not go to heaven.

Here the major premiss is affirmative *i. e.* the

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

Yih qáida pahle qánún se nikaltá hai, kyúñki agar kubrá mújiba ho, yāne akbar hadd i ausat se mutábīq ho, aur sugrá bhí mujiba ho, yāne asgar mutábīq ho hadd i ausat ke, to sáf zāhir hai, ki natíja bhí, jis ke donon juz ek dúsre ke muqábil hain, zarúr mújiba hogá, yāne donon juz muwáfīq hongē; zeráki yih donon mutábīq ho chuke hain, tísre juz, yāne hadd i ausat ke.

Masal to maslan, agar ham kahen, kī .

“Sab zī-aql K̲hudá kī itáat karne ko paidá húa hain.” (*Kubrá.*)

“Firishte zī-aql hain;” (*Sugrá.*)

Pas natíje men yihí kahná paregá, kī

“Firishte K̲hudá kī itáat karne ko paidá húa hain.” (*Natíja.*)

Ab yahán par “K̲hudá kī itáat karne ko,” aur “firishte,” yih donon juz mutábīq tísre juz “zī-aql” ke hain, is sabab se natíje men mutábīq hain.

DÚSRÁ QÁIDA.—*Agar kubrá aur sugrá men ek mújiba ho, aur ek sálība ho, to natíja zarúr sálība hogá.*

Yih qáida dúsre qánún i badíhí se nikaltá hai. Yih zāhir hai, kī kubrá aur sugrá men se kīsí ká ek juz agar hadd i ausat se muwáfīqat rakhe, yāne mansúb biljáb ho, aur dúsre ká ek juz hadd i ausat ke gair mutábīq ho, yāne mansúb bil-salb ho, to is sūrat men, yāne jab kī ek mutábīq, aur dúsrá gair mutábīq hadd i ausat ke hai, ápas men bhí kīsí tarah mutábīqat na hogí: pas natíja sálība niklegá, jaisá misál se zāhir hai.

Nek log bihisht ko játe hain.

Jhúthe log nek nahín hote hain.

Pas jhúthe bihisht ko nahín játe hain.

Is misál men kubrá mújiba hai, yāne juz i akbar

major term "go to heaven" agrees with the middle term "good men."

The minor premiss is negative *i. e.* the minor term "liars" is denied of the middle term and hence these two terms disagree and the conclusion is negative—"Liars do not go to heaven."

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," proves nothing.

X is not Y

Z is not Y



No relation is established.

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 proposition. The reason of this is, 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

“bihisht ko játe hain,” mutábíqat rakhtá hai “nek log” se, jo hadd i ausat pará.

Sugrá sálíba hai yāne “jhúthe” ká lafz, jo juz i asgar hai, gair mutábíq hai hadd i ausat ke, pas donon báham dígar gair mutábíq rahte hain, aur natíja sálíba nikaltá hai, yāne “jhúthe bihisht ko nahín játe hain.”

TÍSRÁ QÁIDA.—*Agar kubrá aur sugrá donon sálíbe hon, to kuchh natíja na nikleyá.* Maslan,

Zaid mihnati talib i ilm nahín hai.

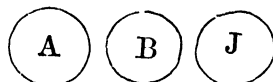
Amr mihnati talib i ilm nahín.

Is se kuchh natíja nahín nikaltá.

Dúsrí misál:—

A. B. nahín.

J. B. nahín.



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

Pahlí misál men yih kahne ká mauqā nahín, ki Zaid Amr nahín; kyunki agarchi filwāqí yih sach hai, magar yahán kubrá aur sugrá se nahín nikaltá, is sabab se, ki qiyás ek aisi ibárat hai, jis men do juz bazaríá hadd i ausat báham dígar muqábila kiye játe hain aur kam az kam ek juz zarúr hadd i ausat se mutábíq honá cháhiye, warna kisi tarah muqábila in donon juzon ká na hogá. Hamen yih daryáft karná cháhiye, ki in donon juzon, yāne akbar aur asgar ke darmiyán kyá nisbat hai; lekin akbar aur asgar ke darmiyán kuchh nisbat malúm 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 muqábila yá nāpne ke liye ek paimāna hai, na ho. Maslan agar do patthar hon, aur ham daryáft karná cháhen, ki yih donon ba iātibār wazn

i. e. with which neither of them agree. 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,—

Zaid is not a diligent student.

A good boy is 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.

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 between two terms by means of a third; the syllogism then as has been stated must have only three terms. But in any syllogism, if the middle term is ambiguous *i. e.* has one meaning in the major premiss and an other 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.

ke kyá nisbat ápas men rakhte hain, aur us waqt men koí bāt, [aisá maujūd na ho, jis se donon ko taul saken, to un donon ke darmiyán kyá nisbat malúm hogí.

Pas agar ham kahen, ki

Zaid mihnati talib i ilm nahin hai.

Amr mihnati talib i ilm nahin hai,

to is súrat men Zaid aur Amr ke darmiyán kuchh nisbat malúm nahin, yane yih nahin malúm hai, ki Zaid Amr se bará hai yá nahin, yá aqlmand hai yá nahin, yá achchhá hai yá burá. Magar ek qaziya agar mujiba ho; maslan,

Zaid mihnati talib i ilm nahin hai.

Achchhe larke mihnati hote hain.

Yahan par chúnki “Zaid” ka “achchhe larke” ke sáth muqábila ho saktá hai, is jihat se natíja yún nikaltá hai,—

“Zaid achchhá larká nahin hai.”

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

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

Is ka sabab yih hai, ki ba wasile hadd i ausat ke akbar aur asgar ka muqábila kiyá játá hai, pas zarúr hai, ki har qiyás men sirf tén hí juz hon, lekin agar kisi qiyás men hadd i ausat mushtarak ho, yane kubrá men aur mane liye jáwen, aur sugrá men aur, to is súrat men dar haqíqat do hadd i ausat, yane char juz ek qiyás men ho jáwenge, hálánki cháhiye yih thá, ki sirf tén juz hon.

Aise muqaddamat se, jin men do hadd i ausat hon, natíja nikalna aisá hai, jaise do dandon men se ek ko púre gaz se, aur dúsre ko aise gaz se, jo purá na ho, nápkar donon ke túl ka muqábila karná, yane yih

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 glaring errors, 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 premiss it means one thing and as held by the Christians in the minor premiss it means another thing.

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

daryáft karná, ki yih donon̄ ba iʔtibár túl ke kyá nisbat ápas men̄ rakhte hain̄; yá jaise do pattharon̄ men̄ se ek ko púre bát se, dústre kamtar bát se taulná, aur phir muqábila karná donon̄ ká is tarah par ki áyá ek dústre se kitná bará yá chhoṭá hai yá barábar.

Misál auwal, hadd i ausat i mushtarika.

Til ek qism ká anáj hai.

Aksar ádmíon̄ ke munh par til hotá hai.

Pas aksar ádmíon̄ ke munh par anáj hotá hai.

Is misál men̄ lafz “til” ka do maṇon̄ par mustamal hai.

Misál दूसरी :

Bukhár ek bímárí hai.

Tálábon̄ se bukhár uṭhtá hai.

Pas tálábon̄ se bímárí uṭhtí hai.

In misálon̄ men̄ sáf maḷúm hotá hai, ki hadd i ausat mushtarak hai. Koí aisí saríhí galatíon̄ men̄ na paregá, lekin bahut jagah aisá hotá hai, jahán sáf nahín maḷúm hotá hai, ki hadd i ausat mushtarak hai yá nahín? Maslan, “İsáí aur Musalmán bar waqt i mu-báhisa taslís ke, mukhtalif maṇe taslís ke lete hain̄. Musalmán dawá karte hain̄, ki İsáí jamáat Kḥudá ke qáíl hain̄, is sabab se káfir hain̄; pas ba iʔtibár us maṇe taslís ke, jo Musalmán qarár dete hain̄, agar dalíl ba súrat qiyás murattab kí jáwe, to yún hogá.

Taslís se jamáat Kḥudá kí sábit hotí hai.

İsáí taslís ke qáíl hain̄.

Pas İsáí jamáat Kḥudá ke qáíl hain̄.

Yahán par hadd i ausat, yaṇe “taslís” mushtarak hai; jo maṇe taslís ke kubrá men̄ Musalmán qarár dete hain̄, aur hain̄, aur jo maṇe taslís İsáí sugrá men̄ qarár dete hain̄ wuh aur hain̄.

Isí tarah lafz “ímán” men̄ kabhí kabhí shirkat maṇon̄ kí hotí hai. Maslan İsáíon̄ ká dawá yih hai, ki jo shakhs Kḥudá par ímán látá hai, Kḥudá us so rúzí hotá hai, aur naját detá hai. Hindú kahte hain̄,

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 one God. The meaning of the middle term then should be fixed *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.*

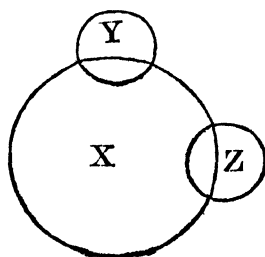
The reason of this is, if the middle term be not distributed at least once in one of the premisses it does not become a reliable medium of comparison between the major and minor terms; for if the middle term be not distributed at least once *i. e.* if one of the terms be not compared with the whole of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



ki hamárá ímán K̤hudá par hai, is sabab se hamárá naját hogí. Pas agar Hindúon ká dawá ba súrat i qiyás bayán kiyá jáwe to yún hogá :

K̤hudá par ímán lāne se naját hásil hotí hai.

Hindú K̤hudá par ímán rakhte hai.

Pas Hindúon ko naját hásil hogí.

Yahán par hadd i ausat “K̤hudá par ímán láná” mushtarak hai, kyúnki Ísáíon ke yahán “ímán” se yih murád hai, ki K̤hudá kí zát o sífát ko pahcháunná, aur us par bharosá rakhná, aur us kí itáat karní ; aur Hindúon ke yahán “ímán lāne” se murád yih hai, ki sirf K̤hudá ke wujúd ko mánná, aur bas. Garaz qiyás men yih zarúr hai, ki hadd i ausat ke ek hí mane rahen.

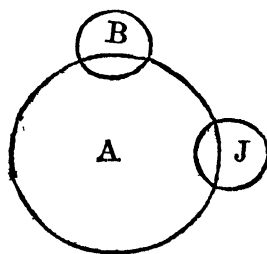
PÁÑCHWÁN QÁIDA.—*Kubrá aur sugrá men se ek men to hadd i ausat zarúr kullí honá cháhiye.*

Is ká isbát yih hai, ki agar hadd i ausat na kubrá men kullí ho, aur na sugrá men to akbar, aur asgar ke muqábila karne ke wáste káffí nahín hogá, kyúnki agar hadd i ausat ek men bhí kullí na ho, yāne akbar aur asgar men se agar koí bhí us ke kull afrád se muqábila na kiyá jáe, to sháyad akbar hadd i ausat ke baz ek afrád se, jo bilkull pahle se judá hai, muqábila kiyá jáwe, to is súrat men do hadd i ausat hūe játe hai, yāne akbar aur asgar ek hí juz se muqábila nahín kiye játe, aur us qiyás men chār juz hūe játe hai. Chunan̄chi shakl i mundarja i zail se zāhir hai.

Baz A. B. hai,

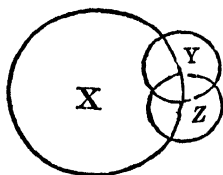
Baz A. J. hai,

Pas baz J. B. hai.



Is misál men hadd i ausat “A” kullí nahín, chu-

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, thus—



The following is a syllogism of this kind.

Some animals are sheep.

Some animals are horses.

Therefore some horses are sheep.

Or, 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.

Aristotle’s dictum also requires that in a syllogism the predicate be of a *whole class* .i. e. of the middle term.

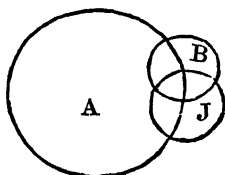
Rule.

6. *A term must not be distributed in the conclusion that was not distributed in its premiss.*

The reason is that if a term be distributed .i. e. taken entirely 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,

nānchi lafz “bāz” se zāhir hai, aur shakl se zāhir hai, ki kuchh zarūr nahīn, ki natīja yūn hī nikle, agarchi ittifāqan yih bhī sādiq āwe, yāne yih, ki

Bāz J. B hai.



Zail men ek misāl isī tarah ke qiyās kī mundaraj hai:

Bāz jānwar bheren hain.

Bāz jānwar ghorē hain.

Pas bāz ghorē bheren hain.

Dūsri misāl :

Supaidī ek rang hai.

Siyāhī ek rang hai.

Pas siyāhī supaidī hai.

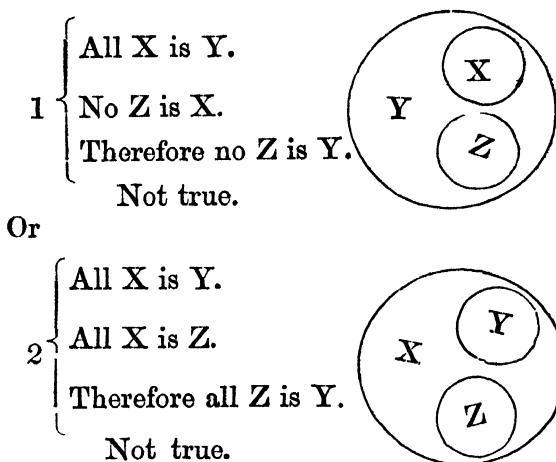
Zāhir hai, ki is misāl men hadd i ausat “rang” jo hai, kubrá sugrá donon men juzí hai, isī jihat se natīja galat nikaltá hai. Pas zarūr hai, ki hadd i ausat kam se kam ek men kullí ho. Chunānchi bamújib qaul i Aristátális bhī qiyās men yūnhīn honá chāhiye, ki kull afrád hadd i ausat ká mahmúl bayán pará ho.

CHHAṬHWÁN QÁIDA.—*Agar Muqaddamát men akbar yá asgar juzí hon, to natíje men bhī juzí honá chāhiye.*

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 bāz afrád, jo kubrá aur sugrá men muqábila karne ko rah gae the, natíje men ákar muqábila kiye játe hain, pas is sūrat men chār juz qiyās men hūe játe hain, hálānki tīn honá chāhiye. Natíje men ek juz ke sirf unhīn afrád ká dūsre juz se muqábila ho saktá hai, jo kubrá o sugrá men hadd i ausat se muqá-

something would be introduced that had not been compared before.

A figure will make this error plain.



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 of Y is taken, as much as is included in X. But in the conclusion Y is distributed because 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.* 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.

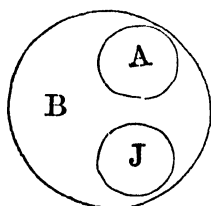
No bird is a quadruped.

Therefore no bird is an animal.

bila kiye gae the ; lekin agar kubrá aur sugrá men usí juz ke sirf báz afrád ká muqábila kiyá gayá ho, aur natíje men ákar kull afrád us ke muqábila kiye jáen, to báz aur afrád, jo peshtar muqábil nahín the, ab á gae hain.

Shakl i zail se yíh galatí sáf záhir hai :

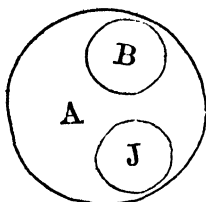
Sab A. B. hai,
Koí J. A. nahín hai,
Pas koí J. B. nahín hai.



Hálánki haqíqat men J. B. hai.

Dúsrí misál:

Sab A. B. hai.
Sab A. J. hai.
Pas sab J. B. hai.



Yíh bhí galat hai, kyúnki J. mutlaq 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 jitná hissa B. ká A. men dákhil hai, utná hí le liyá hai, na yih ki kull B. Lekin natíje men B. kullí hai, is sabab se ki mahmúl hai qaziya i sálíbe ká, yane kull B. liyá játá hai, pas yih kahná galat thahartá hai, ki J. kull B. men nahín.

• Dúsrí misál men asgar J. juzí hai, (yane tamám A. par nahín átá hai,) is sabab se ki mahmúl pará hai qaziya i mújiba ká, magar natíje men ba báis mauzú hone qaziya i kulliya ke kullí hai, aur yihí báis galatí ká hai.

Pahlí misál men aisí galatí hai, goya koí kahe, ki

Sab chaupáe haiwán hain.

Koí parand chaupáya nahín hai.

Pas koí parand haiwán nahín hain.

The second example is,—

All men are sinners.

All men are animate beings.

Therefore all animate beings are sinners,—
neither of which 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 particulars no conclusion can be drawn.*

This rule grows out of 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,—proves nothing, for we have an undistributed middle and are not justified in saying,—

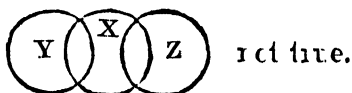
Therefore foolish persons are wise.

This is the same as to say

Some X is Y.

Some X is Z.

Therefore some Z is Y.



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.

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

Sab insán gunahgár hain.

Sab insán haiwán hain.

Pas sab haiwán gunahgár hain.

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

SÁTWÁN QÁIDA.—*Agar kubrá aur sugrá donon juzí hain, to natíja kuchh nahín niklegá.*

Yih qáida páñchwen aur chhathwen qáida se níkalá hai. Yih záhir hai, ki jab donon juzí hon, to koí wásta i kámila akbar aur asgar ke muqábila karne ká na hogá.

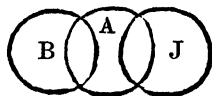
Do qaziye juzíon se natíja níkálná do galatíon se khálí na hogá, yá hadd i ausat juzí hogí, yá kulliyat i ná-jáiz akbar yá asgar kí páí jáegí. Maslan koí kahe,

Baz ádmí aqlmand hain.

Baz ádmí bewaqúf hain.

Is se kuchh natíja nahín níkalá hai, is sabab se ki hadd i ausat juzí hai, aur bil farz agar níkalá bhí jáe, to yún hogá, ki Baz bewaqúf ádmí aqlmand hain, aur yih kahná sahíh nahín; balki aisá hai jaise koí kahe, ki

Pas { Baz A. B. hai.
Baz A. J. hai.
Baz J. B. hai.



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

Baz haiwán hoshyár hain.

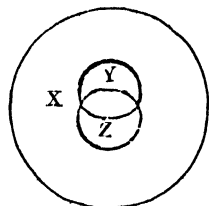
Baz chaupáe hoshyár nahín hain,

The same as to say

Some X is Y.

Some Z is not Y.

Therefore some Z is not X.



These seven rules are for testing the validity of a syllogism. If they are violated by any syllogism we may be sure that it involves an error. Although we can not 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.

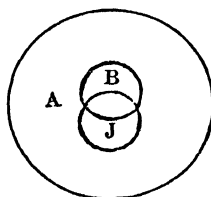
pas natíja nikálná in men se is tarah par, ki
 “Baz chaupáe haiwán nahín,” “kulliyat i ná-jáiz
 akbar kí” hai.

Yih bhí kahná aisá hí hai, ki

Baz A. B. hai.

Baz J. B. nahín hai.

Pas baz J. A. nahín hai.



Yih sáton qawáid wáste daryáft karne sihhat qiyás ke hain; agar koí qiyás in qawáid ke bamújib na ho, to beshakk galat hogá; agarchi saríhí na malúm ho, ki fulání galatí hai, magar táham galat samajhná cháhíye. Agar subút in qawáid ká har waqt yád na rahe to k̄hair; lekin qawáid ká bak̄húbí zihn-nishín karná cháhíye.

Mujmal bayán.

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

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

Qiyás ke Qánún i Badíhí.

Pahle.—Agar do juz kisí tísre juz ke mutábíq hon, to ápas men bhí mutábíq hongé.

Dúsre.—Agar ek juz mutábíq ho, aur dúsrá guir mutábíq ho kisí tísre juz ke, to yih donon ápas men gair mutábíq hongé.

Rules for Syllogism.

1. If both premisses of a syllogism are affirmative the conclusion must be affirmative.
 2. If one of the premisses be affirmative and the other 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.
- 

Qiyás ke Qawá'id.

Pahlá qá'idá.—Jis qiyás men kubrā aur sugrá mújiba hon, to natíja bhí mújiba hogá.

Dúsrá.—Agar kubrā aur sugrá men ek mújiba, aur ek sáliba, ho to natíja zarúr sáliba hogá.

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

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

Pánchwán.—Kubrā aur sugrá men se ek men to zarúr hadd i ausat kullí honá cháhiye.

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

Sátwán.—Agar kubrā aur sugrá donon juzíe hon, to kuchh natíja na niklegá.



SECTION II.

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,—

All liars go to hell.

Good men do not go to hell.

Therefore good men are not liars.

This may be stated thus—

Good men do not go to hell.

Liars go to hell.

Therefore liars are not good men.

And thus also—

None that go to hell are good men.

Liars go to hell.

Therefore liars are not good men.

In the first two syllogisms the middle term “go to hell” is the predicate of both premisses—in the third syllogism 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.

DÚSRÍ FASL.

Shakl.

I.—ABHÍ tak is bát ká kuchh liház na thá, ki ba-mújib mauqá, aur mahál hadd i ausat ke, qiyás kí kaí súraten hotí hain. Báz mauqá aisá hai, ki hadd i ausat ko mauzú gardánná kubrá men, aur mahmúl sugrá men sab se achchhá ma'lúm hotá hai, aur báz mauqá aisá ákar partá hai, ki jahán hadd i ausat kubrá aur sugrá donon men mahmúl hotá hai. Koí 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

Jhúthe dozakh ko jáwenge.

Nek log dozakh ko na jáwenge.

Pas nek log jhúthe nahín hote hain.

Aur is tarah par bhí is ko bayán kar sakte hain, ki

Nek log dozakh ko nahín jáwenge.

Jhúthe dozakh ko jáwenge.

Pas jhúthe nek log nahín hote hain.

Aur yún bhí ho saktá hai, ki

Jo log dozakh ko játe, nek log nahín hain.

Jhúthe dozakh ko játe hain.

Pas jhúthe nek log nahín hain.

Pahle do qiyás men hadd i ausat “dozakh ko jáná” kubrá aur sugrá donon men mahmúl pará hai. Tísre qiyás men kubrá men mauzú, uur sugrá men mahmúl pará hai.

Shakl se murád mauqá, aur mahal wáqi hone hadd i ausat ká hai. Agarhi auwal mubtadí ko bayán sh kl ká zará mushkil ma'lúm hogá, magar thore hí mashq men bakhúbí sáf ho jáwegá. Is kaifiyat se ágáh honá niháyat pur-zurúr hai, táki mukhtalíf súraten qiyás kí ba-ásání tamám istiamál 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.

II.—Yih zāhir hai, ki hadd i ausat chār mauqā par ā saktī hai.

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

Dúsré.—Agar hadd i ausat kubrá aur sugrá donoñ men mahmúl wāqī ho, to shakl i doyum hogí.

Tísre.—Agar hadd i ausat donoñ men mauzū ho, to shakl i seyum kahenge.

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

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

<i>1 Shakl.</i>	<i>2 Shakl.</i>	<i>3 Shakl.</i>	<i>4 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 men ek misál dí jātí hai, táki kaifiyat i kullí us kí khul jáwe. Hadd i ausat do lakíron ke bích men hai.

Shakl i auwal.

(Auron ke nuqsán se apná nafa takná) gunáh hai.

Júe men (apne nafa ke wáste gairon ká nuqsán táká játá) hai.

Pas, Júá gunáh hai.

Shakl i doyum.

Sab aqlmand ádmí (ilm ko azíz jánte hain.)

Bāze daulatmand (ilm ko azíz nahín jánte hain.)

Pas, bāze daulatmand ádmí aqlmand nahín hain.

Shakl i Seyum.

(Bāz nek ádmí) álim nahín hote hain.

(Bāz nek ádmí) qábil i tahsín hote hain.

Therefore some who are worthy of admiration
are not learned.

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.

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 predi-
cated.

By using the four categorical propositions accord-
ing 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

Pas, Bāz ʿilmī qābil i tahsīn, ʿālim nahīn hote haiñ.

Shakl i chahārum.

Koī kām zulm kā kisī ʿāmal-dārī men nafa i khalāiq nahīn.

Bāz kām nafa i khalāiq ke nahīn chalte haiñ.

Pas, Bāz kām jo nahīn chalte haiñ, zulm nahīn haiñ.

III.—Ab in chār shaklon par ba tartīb gaur karnī chāhiye.

Bayān shakl i auwal.

Zāhir hai, ki pahlī shakl kī aisī sūrat hai, ki Aristátális ke qaul se fauran parakhí jāe. Maslan, pahlī shakl kī aisī sūrat hai, ki us men—

Kullī kī nisbat kuchh kahā jātā hai.

Bāz chízen us kullī men shāmil kī jātī haiñ.

Pas In bāz chízon kī nisbat bhī wuh bāt kahí jātī hai.

Aur yihī sūrat Aristátális ke qaul kī hai.

Qāziya f hamliya kī chāron sūraton ko kulliyat o juziyat, aur íjāb o salb ke bamújib banāne se maʿlúm hotā hai, ki shakl i auwal men qiyās kī sirf chār sūraton ho saktí haiñ.

1.	2.	3.	4.
Sab H. A. hai,	Sab H. A. hai,	Koī H. A. nahīn,	Koī H. A. nahīn,
Sab S. H. hai,	Bāz S. H. hai,	Sab S. H. haiñ,	Bāz S. H. haiñ.
Sab S. A. hai,	Bāz S. A. hai,	Koī S. A. nahīn,	Bāz S. A. nahīn.

Is wāste ki shakl i auwal bamújib qaul i Arastátális ke hai, to mauzú ke kull afrād par mahmúl kā dāwā hogā. Pas zāhir hai, ki shakl i auwal men kubrá hamesha kulliya hotā hai, isī sabab se agar shakl i auwal men koī aisā qiyās ho, ki jis men kubrá juziya ho, to qiyās bātil hogā.

Chúnki bamújib i qaul i Arastátális ke, sugrá men dāwā is bāt kā hotā hai, ki mauzú us kā kubrá ke manzú men shāmil hai, is sabab se zāhir hai, ki shakl i auwal men sugrá mújiba honā chāhiye. Pas is shakl

sylllogism 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.*

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.

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. 96 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.

men koí qiyás kyún na ho, agar us ká sugrá sálíba hai, to wuh galat hogá.

Chunánchi is bayán ke bamújib pahlí shakl ke wáste do qáide hain :

1.—*Kubrá ká kulliya honá zarúr cháhíye.*

2.—*Sugrá ká mújiba honá zarúr cháhíye.*

Garaz ki is shakl men qiyás kí sirf chár súraten hain, jin kí sihat Arastátálís ke qaul se malúm hotí hai; magar aur shaklen chúnki ba súrati qaul i Arastátálís nahín hain, is jihat se zarúr hai, ki jo qawánín i badílí aur qawáid wáste sihat aqsám qiyás ke muqarrar hain, un se un kí sihat daryáft kí jáwe.

Bayán shakl i doyum.

Malúm hotá hai, ki shakl i doyum men natíja qiyáson ká zarúr sálíba honá cháhíye, is sabab se, ki sugrá aur kubrá donon men hadd i ausat mahmúl wáqi hotá hai, aur agar kubrá o sugrá donon mújibe hon, donon men hadd i ausat juzí hogá, hálánki cháhíye yih thá ki ek men kullí ho. Is wáste zarúr hai, ki ek qaziya sálíba ho, kyúnki sálíbon ká mahmúl kullí hai. Pas agar kubrá aur sugrá men se ek sálíba ho, to natíja bhí bamújib qáida i mazkúra ke zarúr sálíba hogá. [Saf. 97, Q. 2.]

Aur aláwa is ke, agar natíja sálíba ho, to us ká mahmúl, jo is shakl men kubrá ká mauzú wáqi húa thá, kullí hogá. Pas kubrá kulliya hogá.

Pas bamújib bayán i mazkúra e bálá ke dúsri shakl ke liye tén qáide nikalte hain, yane—

PAHLÁ.—*Kubrá zarúr kulliya honá cháhíye.*

DÚSRÁ.—*Kubrá sugrá men se ek zarúr sálíba honá cháhíye.*

TÍSARÁ.—*Natíja zarúr sálíba honá cháhíye.*

Jo koí qiyás is shakl ká qawáid i mazkúra e bálá ke khiláf hogá, galat hogá.

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 other. Two 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.

Secondly, *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

Bayān shakl i sayum.

Misāl is shakl 1 f, $\left\{ \begin{array}{l} \text{H. A. hai.} \\ \text{H. S. hai.} \\ \text{S. A. hai.} \end{array} \right.$

Auron kí banisbat is shakl kí kaí súraten hain. Is ke liye do qáide hain. AUWAL, *natíja juziya hogá* jaisá ki is shakl kí súraten se záhír 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 nájáiz 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 i qáida i mazkúra ke kisé tarah jáiz hí nahín hai, [*Saf.* 99. Q. 3.] *Auwal*, farz karo, ki kubrá sáliba ho, to is súrát men sugrá chúnki mújiba hogá, is báis se mahmúl us ká asgar juzí hogá. Pas natíja jis ká mauzú wáqi ho, wuhí mahmúl i asgar, jo juzí thá, sugrá men kyúnkar kulliya ho saktá hai? *Doyum*, farz karo, ki sugrá sáliba ho, to is súrát men kubrá zarúr mújiba, aur natíja sáliba hogá, bamújib qáidon i mazkúra ke. Pas agar 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 nájáiz akbar kí” thahartí hai. Garaz ki bahar súrát natíja is shakl ká juziya thahartá hai.

QÁIDA I DOYUM.—*Sugrá ká mújiba honá hamesha zarúr hai.* Zerá ki abhí sábit ho chuká hai, ki natíja isshakl ká hamesha juziya hotá hai, lekin agar sugrá sáliba ho, to mahmúl us ká asgar i kullí wáqi hogá, aur is súrát men táki mahfúz rahen, “kulliyat nájáiz” se, natíja kul-

universal conclusion to avoid an "illicit process," and we have just seen that the conclusion cannot be universal in this figure. Hence the two rules.

1.—*The conclusion must be particular.*

2.—*The minor premiss must be affirmative.*

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. 104] 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 an "illicit process" of the minor. Thus if either premiss be negative the conclusion also must be negative

liya nikálná paregá; háláunki abhí bayán ho chuká hai, ki natíja is shakl ká kulliya kisé tarah nahín átá hai. Pas bayán i mazkúra se do qáide nikalte hain:—

1.—*Natíja zarúr juziya honá cháhiye.*

2.—*Sugrá zarúr mújiba honá cháhiye.*

Bayán shakl i chahárum.

Chauthí shakl kí súrat 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, pahle men hadd i ausat asgar ká mahmúl hai, aur is men mauzú. Arastátális ne is shakl ká istiamál nahín kiyá; lekin aur Mantiqín i mutaakhkhirín ne is ko ikhtiyár kiyá. Baz is shakl ko nahín mánte hain kyúunki wuh samajhte hain ki yih shakl khlíf aql ke hai; lekin chúnki ihtimál hai ki kahín par ba báis betartíbí ibárat ke, kisé dalíl yá qiyás men yih súrat wáqi ho, is báis 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 hamliya natíja is shakl ká húa karte hain. 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 khlíf 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. 105. 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, zurúr kullí honá cháhiye, táki un kí kulliyat ek men to zarúr ho jáe.

[rule 2, p. 96;] hence its predicate which is the major term would be distributed [rule 4, p. 66] 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."

Thus there are three rules to which syllogisms in this figure must conform.

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 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 just 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 likely to be accepted, although false and injurious. It is thus useful in attacking and destroying the position of an opponent, rather than building up one of our own. In this figure, just as in the first, the major

Agar sugrá mújiba ho, to natíja zarúr juziya hogá.
 Agar aisá na ho to “kulliyat nájáiz asgar kí” thahregí; kyúñki agar sugrá mújiba ho, to us ká mahmúl, asgar juzí hogá, aur wuhí asgar ba báis wáqi hone mauzú natíja ke, zarúr juzí honá cháhiye, táki “kulliyat nájáiz” na ho.

Agar kubrá aur sugrá men se ek sáliba ho, to zarúr hai, ki kubrá kulliya ho, warna “kulliyat nájáiz akbar kí” thahregí. Maslan in donon men se agar ek sáliba ho, to natíja bhí zarúr sáliba hogá, [*Saf.* 97. Q. 2,] aur us ká mahmúl, jo akbar hai kullí hogá, [*Saf.* 67. Q. 4;] aur yihí mahmúl natíje ká, kubrá men mauzú hai; pas zarúr hai, ki wahán bhí kullí ho, warna yih akbar natíje men kullí hogá, aur kubrá men nahín,—aur yih k̤hiláf i qáida hai.

Pas tūn qáide hain, jin ke bamújib is shakl ke qiyás huá karte hain:—

1.—*Agar kubrá mújiba ho, to sugrá zarúr kulliya hogá.*

2.—*Agar sugrá mújiba ho, to natíja zarúr juziya hogá.*

3.—*Agar kubrá aur sugrá men se ek sáliba ho, to zarúr hai, ki kubrá kulliya ho.*

In chárón shaklon ke qáidon ko k̤húb zihn-nishín kar lená cháhiye, táki jis waqt mauqa pare, kám men láwen.

IV.—Gaur karná cháhiye, ki bajuz shakl chahárum ke, jo ittifáqiya dalíl betartíbí kí súrat men á partí hai, báqí tīnon shaklen apne apne mauqa par istiamál men áti hain.

Maslan shakl i auwal be-ʔinih̤ mutábīq qaul i Arastátális ke hai, is jihat se is láiq hai, ki jahán kahín kulliyat i musallama, yāne taslím kí húi se, yá ʔmm bátōn se natíja nikálná cháhen, so nikálen. Maslan agar koí is ʔmm bát ko máne; ki “auron ke nuqsán se apná nafa takná gunáh hai,” to agar ham

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 imposter, seeking to form a party for some selfish end." Now we may set about refuting this by laying down the proposition that,—

No imposter seeking to form a party for selfish ends would warn his followers that they would have to endure great persecutions.

Jesus did so warn his followers.

Hence Jesus was not an imposter.

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 super-human, however hedged in by difficulties, must be divine.

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 singular term. A singular term or proper name is not used as a predicate; hence in this figure, as the middle term is the subject of both premisses, a singular term may be used. Thus,—

Cæsar was a tyrant.

Cæsar was a conqueror.

Therefore some conquerors are tyrants.

An argument must thus sometimes take the form

sábit karen, ki júú kholná aisá fiál hai, jis men auron ká nuqsán se nafa takná hai, pas yihí natíja niklegá, ki júú kholná kaisá hí kyún na ho, gunáh hai.

Dúsrí shakl apná dawá yá bát ko qáim karne ke liye itní kárámad nahín hai, jitná ki dúsre kí bát ko kátne ke liye. Misl shakl i auwal kí, is shakl ká kubrá qaziya kulliya hotá hai, jis ko faríq sání, jis se bahs kí jáo, taslím kar lewe. Phir yih sábit kiyá játá hai, ki dawá faríq sání ká sahíh nahín ho saktá hai, is sabab se ki yá to us ke dawé men ek bát nahín páí játí hai, jo qaziya kulliya i musallama men hai, yá yih, ki us dawé men páí játí hai, magar qaziya i musallama men nahín hai; pas us ká dawá qábil i taslím nahín hai.

Maslan koí kahe, ki K̲hudáwand Ísá Masíh dagábáz thá, is wáste ki apne liye ek guroh ko mutíā karná cháhíthá thá, aur un kí bihtarí so kuchh sarokár na thá, to ham is ke radd men yih qaziya i kulliya lāwēn, ki “jo dagábáz apne matlab ke wáste ek guroh ko mutíā kartá hai, is amr kí ittilá us guroh ko na detá ki tumháre úpar mere mutíā hone ke sabab se barí barí musibaten áwengí.” Jab ham donon is ko taslím karen, to sábit karná cháhiye, ki K̲hudáwand 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 kí Baibal insán kí banái húi hai, kyúnki bahut báten us men insán kí małúm hotí hain, yá yih, ki bahut báten us men aisí hain, jin men insán kí galatí małúm hotí hai, to is súrat men sháyad har koí is qaziya i kulliya ko taslím karegá, ki

Koí kitáb, jis kí talím aur khássiyať aisí ho, ki insán kí táqat se báhar ho, go ki baz maqámát men kaisí hí mushkil báten hon, zarúr ilhámí hogí.

Baibal dar haqíqat aisí kitáb małúm hotí hai.

Pas Baibal zarúr ilhámí hai.

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 cannot 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 istiámál kí játí hai. *Auwal*, jahán ki hadd i ausat ism i *kháss*, yane ism i marífa hotá hai, kyúñki dar haqíqat ism i marífa mahmúl nahín hotá hai, aur chúnki is shakl men hadd i ausat mahmúl nahín wáqi hotá hai, balki kubrá sugrá donoñ men mauzú wáqi hotá hai, is jihat se agar ism i marífa ho, to kuchh muzáyaqa nahín.—Maslan,

Qaisar zálím thá.

Qaisar bará námwar thá.

Pas, Báz zálím námwar 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 istiámál kí játí hai, jahán ki faríq sání ke dawé par iatiráz pesh karná cháheñ, kab cháheñ, jab ki wuh faríq qaziye i juziye se bahs kare, jis hálát men, qaziya i kulliya se bahs karná cháheñ. To aisí jagah par ham subút karenge, ki agar yih dalíl ba sihhat likhí jáwe, to faríq sání ke matlab se bhí barhkar sábit hotá hai, yane *khud* us ke úpar iatiráz wárid hotá hai. Farz karo, koí shakhs kahe, ki fulání bát nahín mánní cháhiye, kyúñki samajh men nahín átí, aur koí use samjhá nahín saktá hai. Agar yih dawá batartíb qiyás ke likhá jáwe, to yún hogá, ki—

Báz báten, jo samajh men nahín átín, un ko na mánná cháhiye.

Fulání bát samajh men nahín átí.

Pas us ko na mánná cháhiye.

Aur yihí misál ba zaríq hurúf ke, yún hogí ki—

Báz A. B. hai.

J. A. hai.

Pas, J. B. hai.

Is misál se sáf záhir hotá hai, ki 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.

The subject of *Figure* and its rules being well understood we turn to another matter connected with syllogisms *viz.*, *Mood*.



Har ek bát, jo samajh men nahín átí, us ko nahín mánná cháhiye.

Fulání bát samajh men nahín átí.

Pas, us ko nahín mánná cháhiye.

Yahán par kubrá kulliya se, jo dalíl nikaltí hai, us dalíl se bhí barhkar sábit hotá hai, jitná ki faríq sání ko manzúr thá, yane khud us ke úpar iatiráz wárid hotá hai, tísrí shakl kí rú se. Maslan,

Rúh aur jism ke darmiyán iláqa jo hai, samajh men nahín átá, aur koí us ko samjhá nahín saktá hai.

Rúh aur jism ke darmiyán iláqa jo hai, ham us ko nahín mánte hain.

Pas baz báten, jo samajh men nahín átí hain, ham mánte hain.

Is qiyás se álániya sábit hai, ki agar dawá faríq sání ká ba sihat likhá jae, to kubrá galat thahartá hai.

Bayán shaklon aur un ke qawáid ká bakhúbí ho chuká. Ab ham ek aur bayán mutaalliq qiyás, yane *zarb* ká bayán shurú karte hain.



SECTION III.

Mood.

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.

TÍSRI FASL.

Bayán Zarb ká.

I.—ZARB se murád hai, tīnon qazīon i qiyás kí kulliyat o juziyat, aur íjáb o salb, yañe “*kam o kaif*.”

Yád rakhná cháhiye, kí chár álamaton, sab qazíon kí kulliyat o juziyat, aur íjáb o salb ke maḷúm karne ke wáste muqarrar kí gaí hain, yañe *M. K.*, wáste mújiba i kulliyat ke ; *S. K.*, wáste sáliba i kulliyat ke ; *M. J.*, wáste mújiba i juziya ke ; *S. J.*, wáste sáliba i juziya ke. Har qiyás kí zarb in cháron álamaton se likhte hain. Maslan, ek qiyás hai, kí

Mk. { Jis fīal men kí auron ke nuqsún se apná nafa ho, gunáh hai.

Mk. { Júá aisá fīal hai, jis men auron ke nuqsún se apná nafa hotá hai.

Mk. | Pas júá khelná gunáh hai.

Tīnon qaziye is qiyás ke, mújibe kulliye hain, pas zarb is qiyás kí, jis se murád hai batláná “*kam o kaif*” ká, ba zariā álamaton i muāiyana ke yih hai, *Mk. Mk. Mk.* Wázih ho, jahán kahín aisí álamaton wáqi hon, auwal álamat se murád *kubrā* ; doyum se *sugrá* ; seyum se *natíja* hogí. Záhír hai, kí cháron qaziya i hamliya, yañe, *Mk. Sk. Mj. Sj.* kí iwaz muāwize ke qáide se chaunsaṭh zarben ho saktí hain. Maslan, yih maḷúm hai, kí qiyás ke tīn qaziye hote hain, aur har qaziye kí chár súraten ho saktí hain, yañe *Mk. yá Sk., Mj. yá Sj.* Ab gaur karná cháhiye, kí *kubrā* in cháron men á saktá hai, aur har ek *kubrā* ke sáth *sugrá* kí chár súraten á saktí hain, yañe, *Mk. Sk. Mj. Sj.* ; pas *kubrā* aur *sugrá* ke solah joṛ húe, aur phir har joṛ ká *natíja* bhí inhin chár súraton par á saktá hai, to is tarah chaunsaṭh zarben niklengí:—

Majors,	Λ	E	I	O .
	$\underbrace{\hspace{1.5cm}}$	$\underbrace{\hspace{1.5cm}}$	$\underbrace{\hspace{1.5cm}}$	$\underbrace{\hspace{1.5cm}}$
Minors,	$A E I O.$	ditto	ditto	ditto.

Conclusions, $A E I O.$

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. 98, r. 3.] All moods with particular premisses are not allowable as they violate a rule [p. 110, 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 negative.

$E A E.$

$A E E.$

$E A O.$

$A O O.$

$O A O.$

$E I O.$

$A E O.$

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, be-

4 Kubre,	Mk.				Sk.	Mj.	Sj.
16 Sugre,	Mk.Sk.Mj.Sj.				Aizan	Aizan	Aizan.
				AizanAizanAizan			
64 Natije,	Mk.Sk.Mj.Sj.						

In chaunsaṭh zarben men bahut nádurust hain, is sabab se ki k̥hiláf hain un qáidon ke, jo mazkúr ho chuke hain, wáste qiyás aur shaklon ke. Maslan jo zarb, ki jis ká kubrá aur sugrá mújiba ho, aur natija sáliba ho, jaise *Mk. Mk. Sk.*, aur *Mk. Mj. Sj.* sahíh nahín, is wáste ki we k̥hiláf pahle qánún ke hong-e, [*Saf. 97, Q. 1.*] Kull zarben, jin ká kubrá aur sugrá sáliba hon, maslan *Sk. Sk.*, aur *Sj. Sj.*, aur *Sk. Sj.* qánún ke k̥hiláf hain, [*Saf. 99, Q. 3.*] Jin zarben ke kubrá o sugrá juziya hoto hain, wuh zarben bhí babáis k̥hiláf iqáida hone ke gir játí hain, [*Saf. 111, Q. 7.*] Chand zarben, jaise *Mj. Sk. Sj.*, ba sabab “kulliyat nájáiz” hone ke gir játí hain, [*Saf. 107, Q. 6.*] Chaunsaṭh men atháís zarben to sirf ba sabab sáliba aur juziya hone kubrá o sugrá ke gir játí hain. Garaz yih ki sirf gyárah sahíh rahtí hain; yane,—

<i>Chár Mújibe,</i>		<i>Sát Sálibe.</i>
Mk. Mk. Mk.	aur	Sk. Mk. Sk.
Mk. Mj. Mj.		Mk. Sk. Sk.
Mk. Mk. Mj.		Sk. Mk. Sj.
Mj. Mk. Mj.		Mk. Sj. Sj.
		Sj. Mk. Sj.
		Sk. Mj. Sj.
		Mk. Sk. Sj.

II.—Agar cháron shaklon men gyárah gyárah zarben istiamál kí játín, to kull chauálís zarben hotín, lekin yih bát nahín hai, balki báz zarben, jo ek shakl

cause they violate the rules against “undistributed middle” and “illicit process.” Thus the moods 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 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

men sahíh haiñ, dúsrí men galat, ba báis mukhá-lif hone un qawáid ke, jo dar báb na hone “juziyat hadd i ausat,” aur “kulliyat 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 seyum men sahíh hai, lekin auwal men nahín; kyúñki agar wahán istiamál men átí, to kulliyat nájáiz akbar kí hotí. Ğaraz ki is hí tarah par in gyárah zarbon ko cháron shaklon men jáñcho, to małúm hogá, ki har shakl men ehha zarben, yane kull chaubís sahíh rahtí haiñ. Magar in chaubís men se bhí páñch agarchi 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; zerá ki zarb Mk. Mk. Mk. kí bhí nikal saktí hai, jis men natíja zarb i auwal ká 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. Ğaraz ki is tarah par kull unnís zarben báqí rahtí haiñ; chár shakl i auwal kí; chár doyum kí; ehha seyum kí; páñch chahárum kí. Chunánchi sab zarben ba tartíb, zail men mundarj haiñ :—

Shakl 1.—Mk. Mk. Mk.,—Sk. Mk. Sk.,—Mk. Mj. Mj.

Shakl 2. Sk. 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.

Sirf yihí zarben sahíh haiñ, aur jo qiyás zurúb i mundarja e naqsha i bálá ke k̄hiláf hogá, nájáiz hogá. Agar naqsha zurúb ká bakhúbí yád kar liyá jáe, to jo

any syllogism proposed in an argument may be seen 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.

By some logicians, the moods of the first figure have been called perfect moods, because Aristotle's dictum, the law on which 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.

3. *Reduction* consists in either changing by conversion or transposition the form of the syllogism 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. 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. 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*" through the first figure, but the subject does not repay the labor of mastering it, since the rules given for testing the validity of syllogisms are sufficient for all practical purposes.

koí qiyás kisí bahs men pesh kiyá jáwe, us kí sihat fauran maḷúm ho jáwegí.

Naqsha e zurúb ke dekhne se maḷúm hotá hai, ki mújiba i kulliya sirf shakl i auwal hí ká natíja wáqí hotá hai, aur báqí aur qaziye bhí is ká natíja hotá hai. Shakl i doyum ká natíja sirf sáliba átá hai, aur seyum ká sirf juziya,

III.—Baz mantiqín shakl i auwal kí zarbon ko zurúb i bayána aur kámila kahte haiṅ. Is kí wajh yih hai, ki qaul i Aristátálís yaṇe wuh qánún, jis par biná qiyás kí hai, is shakl ke jitne qiyás haiṅ, un sab par bil mutábíqat sahíh átá hai. Tín aur jo shaklon rahíṅ, un kí zarben bamújib qánún “*khulf*” ke shakl i auwal men láte, yahán tak ki wuhí natíja is shakl men bhí nikal átá hai. *Khulf* kisí zarb kí tartíb ko badalne aur pahile shakl men láne ko kahte haiṅ. Aur yih do tarah par hai:—

Ek to yih, ki láná kisí qiyás ká bamújib qáida i aks ke, [yá is tarah par, ki kubrá ko sugrá, aur sugrá ko kubrá,] shakl i auwal kí kisí zarb kí súrat men karná, táki wuhí natíja nikal áwe, jo us qiyás men niklá thá. Yá aisá natíja nikále, ki aks karne se wuhí ho júe, jo us qiyás men thá.

Dúsre yih, ki shakl i doyum, yá seyum, yá cha-hárum ká koí qiyás ho, us ke natíje kí sihat 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 maḷúm hotá hai, ki tín aur shaklon kí zarben jo rahíṅ, un ke natíjon kí sihat shakl i auwal se bhí daryáft ho játí hai, aur baz mantiqín is garaz se bahut túl tawíl bayán karte haiṅ; lekin yih mihnát fuzúl hai, jis hál men, ki har qiyás kí sihat daryáft karne ko wáste qawáid káfi maujúd haiṅ.

SECTION IV.

Of Compound Arguments.

THE HYPOTHETICAL SYLLOGISM.

So far we have considered only purely categorical arguments and syllogism, that is, such as are formed from categorical propositions. We come now to consider hypothetical forms of argument and the syllogism formed from them. An argument containing a hypothesis may be called a hypothetical argument.

A syllogism containing a pure hypothetical proposition is called a hypothetical syllogism and the syllogism will take its name as "*conditional*" or "*disjunctive*" from the proposition contained in it. 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 the *conditional syllogism* which has for its major premiss a conditional 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.

Or If A is B, C is D.

But A is B.

Therefore C is D.

CHAUTHÍ FASL.

Bayán Qiyás Istisnái ká.

YAHÁN tak ham ne un qiyáson ká, jo murakkab hain hamliyát se bayán kiyá, aur jin ko *qiyás i iqtirání* 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 *istisnái* 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 ittisálí*, aur agar qaziya munfasila páyá jáwe, to *infisálí* kahenge. Qiyás istisnái 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 “*tálí*” kahte hain, aur báz jagah muqaddam píchhe á játá hai aur tálí 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” *tálí* hai, aur muqaddam agar tálí kí jagah á jáe, to yún hogá, ki—

“Zaid bímár hai, agar us ko bukhár hai.”

Upar bayán ho chuká hai, ki qiyás istisnái yá *ittisálí* hotá hai, yá *infisálí*.

Auwal ham bayán karte hain ittisálí ká, jis ká kubrá shartiya muttasila hotá hai, aur sugrá, munfasila. Misál is kí,—

Agar Zaid ko bukhár hai, to bímár hai.

Lekin Zaid ko bukhár hai.

Pas wuh bímár hai.

Wuhí misál ba zarífa hurúf,—

Agar A. B. hai, to J. D. hai.

Lekin A. B. hai.

Pas J. D. hai.

In this example it is plain that if we affirm the antecedent, the affirmation 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 may 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.*

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

Is misál se baḡhúbí roshan hai, ki agar muqaddam taslím kiyá jáe, to tálí ko bhí taslím karná paṛogá. Pas pahlá qáida niklá, ki—

1.—*Agar muqaddam taslím kiyá jáwe, to tálí ko bhí taslím karná paṛegá.*

Lekin agar muqaddam ká inkár kiyá jáe, to kuchh zarúr nahín, ki tálí ká bhí inkár kiyá jáe. Maslan,

Zaid ko buḡhár nahín hai.

Pas wuh bímár nahín hai.

Yih kuchh zarúr nahín hai, ki agar buḡhár na ho, to bímár bhí na hogá. Sháyad kisí aur sabab se bímár ho.

Agar tálí ká inkár kiyá jáwe, to muqaddam ká bhí inkár karná paṛegá. Maslan,—

Zaid bímár nahín hai.

Pas us ko buḡhár nahín hai.

Sáf záhír hai ki agar Zaid bímár nahín hai, to us ko buḡhár bhí nahín hai. Pas dúsrá qáida yih niklá ki,—

2.—*Agar tálí ká inkár kiyá jáe to muqaddam ká inkár bhí karná paṛegá.*

Lekin gaur karná cháhiye, ki agar tálí taslím kí jáwe, to kuchh zarúr nahín, ki muqaddam bhí taslím kiyá jáwe. Maslan, yún na kahná cháhiye,

Zaid bímár hai.

Pas us ko buḡhár hai.

Kyúñki sháyad kisí aur sabab se bímár ho.

Donon qáidon i mazkúra e bálá se tísrá qáida nikaltá hai :—

3.—*Agar tálí taslím kí jáe, yá muqaddam ká inkár kiyá jáwe, to kuchh natíja nahín niklegá.*

Jab muqaddam ko sádiq qarár dekar tálí ko sádiq ṭhahráwen, to dawá qáim hotá hai, aur jab ki tálí ko qarár dekar muqaddam ko kázib ṭhahráwen, to us waqt men dawá bátil ho játá hai. Auwal súrat ko *musbíta*, aur dúsrí ko *manfiyá* kahná cháhiye. Auwal súrat ke

syllogism then, we take the whole of the conditional proposition as the *major* premiss, the affirmation 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 conditional 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.

We may remark here that a conditional 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 conditional proposition depends on the consequent, that is, if the consequent follows from the antecedent the proposition is true, otherwise it is false. The conditional 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."

qiyás meṇ wáste qáim karne ḍawe ke kull qaziye muttasile ko kubrá gardánte haiṇ, aur us ke aīn muqaddam ko sugrá; pas *qīn tālī* us ká natīja niklegá. Chunnāchi misál is kí zail meṇ likhī hai :—

Agar yih shakhs gunahgár hai, to Kḥudá us se nákhush hai.

Lekin yih shakhs gunahgár hai.

Pas Kḥudá us se nákhush hai.

Wáste bátil karne ḍawe ke kull qaziya i muttasile ko, jaisá pahlī sūrat meṇ thá, kubrá karte haiṇ, aur naqíz tālī kí sugrá. Pas naqíz muqaddam kí natīja nikaltá hai. Maslan,—

Agar yih shakhs gunahgár hai, to Kḥudá us se nákhush hai.

Lekin Kḥudá us se nákhush nahīṇ hai.

Pas wuh gunahgár nahīṇ hai.

Dúsrī misál.—

Agar insáf ká qánún járí ho, to garīb gurbon ká haqq ṭhikáne rahtá hai.

Lekin garīb gurbon ká haqq ṭhikáne nahīṇ rahtá hai.

Pas insáf ká qánún járí nahīṇ hai.

Jánná cháhiye ki qaziya i muttasilá dar haqíqat kulliya hotá hai, khwáh us ká muqaddam aur tālī kullī ho yá juzí, mújiba ho yá sáliba. Maslan,—

“Agar koí shakhs gunáh kare Kḥudá us se khush na hogá.”

Dekho agarchi yahán par muqaddam mújibá kulliyá aur tālī sáliba kulliya hai táham kull qaziya mújiba kulliya hai. *Sidq* aur *kizb* ‘qaziye muttasile ká’ uskí tālī par mauqúf hai, yāne agar tālī muqaddam ko lázim hai, to qaziya sachohá warna jhúṭhá. Maslan,—

Agar Zaid ko bukhár hai to wuh bímár hai.

Yih qaziya muttasila sachohá hai kis wáste ki tālī muqaddam ko lázim hai.

This proposition is true although both its members are false.

The conditional 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 "in case of" and "the present case." The proposition then becomes categorical, with the antecedent for its subject and the consequent for its predicate ; thus,

In case . Zaid has a fever he is sick.

The present case is a case of Zaid having a fever.

Therefore in the present case Zaid is sick.

The same rules apply for testing the validity of conditional syllogisms as for categorical.

Second, 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.

Lekin agar koí kahe ki—

“Agar yih ádmí chor hai to Hindú hai.” Qaziya jhúthá hai kyúñki is kí tálí muqaddam ko mutlaq lázim nahín hai, zeráki tálí aur muqaddam ke darmiyán kuchh iláqa zarúrí nahín hai. Aur aisá bhí hotá hai, ki kull qaziya muttasila sádiq hotá hai, lekin muqaddam aur tálí donoñ kázib hote kain. Maslan,

“Agar ilm burí chíz hai to chhor dená cháhiye.” Is qaziye ke sádiq hone men kuchh kalám nahín, magar donoñ juz is ke kázib hain, yane na to ilm burí chíz hai na yih, ki us ko chhor dená cháhiye.

Qiyás ittísálí ko iqtirání ki taraf pherte hain yane iqtirání banáte hain, is tarah par ki kubrá kí álamat ittísál “agar” ko dúr karke us kí jagah lafz “jis mauqe par” yá “jis hálát men” aur “is mauqe par” yá “is hálát men” barháte hain. Maslan,

Jis hálát men Zaid ko bukhár hai wuh bímár hai.

Is hál men Zaid ko hálát bukhár kí hai.

Pas, is hál men wuh bímár hai.

Qiyás ittísálí kí sihhat daryáft karne ke wáste yihí qawáid mustamil hain jo iqtirání ke wáste the.

Dúsrá bayán qiyás infísálí.

Qiyás infísálí wuh hai, jis ká kubrá qaziya manfa-sila aur sugrá hamliya ho. Súrat us kí yih hai.

Yih A. yá B. hai yá J. hai.

Yih A. hai B.

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 malúm hogá, ki kubrá men do juz infísálí hote hain, aur sugrá men donoñ men se ek mújiba hotá hai, aur natíje men dúsrá sáliḡa yá baráks is ke jaise dúsrí misál se záhir hai.

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 is denied, the remaining one, or some one of those that remain, may be affirmed, and vice versa.

This rule, however, is not without exception, for in some instances by affirming one we are not authorized to deny the other; thus,

“Virtue tends to procure us either the esteem of mankind or the favor 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.



Aur jánná cháliye ki yih kuchh zarúr 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.

“Ālam qadím hai, yá az k̄hud ban gayá hai yá kisí dāná aur bíná ká banáyá hai.”

Lekin ālam na to qadím hai na az k̄hud ban gayá.

Pas kisí dāná o bíná 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. zarúr bará hogá záviya 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 jae gá.*

Jánná cháliye ki kabhí is qáide āmm ke k̄hiláf bhí wáqi húa kartá hai. Maslan—

“Basabab nekí ke ham yá insán kí nazar men pasand áte yá K̄hudá kí nazar men.”

Yahán par mumkin hai, ki donon juz sáliq hon. Jis bayán men aisá qaziya wáqi ho to wahán par tarz i bayán se malúm ho jae gá ki donon juz sádiq hain, yá sirf ek.



SECTION V.

Other forms of Argument.

THE DILEMMA.

THE *dilemma* is a compound argument or syllogism of which the major premiss is a compound conditional proposition, and the minor premiss a compound disjunctive proposition.

In the dilemma there are in reality two or more conditional 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.

AN other 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.

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,—

PĀNCHWĪN FASL.

Qiyās Murakkab Istisnái.

Qiyās murakkab istisnái usko kahte haiñ, jis ká kubrá qaziya muttasila murakkabá hotá hai, aur sugrá qaziya munfasila.

Is qiyás men dar haqíqat do yá is se ziyáda qiyás hote haiñ, jin sab ko ikhtisár ke liye milákar ek kar dete haiñ.

Qiyás murakkab istisnái kí kaí súraten haiñ, Maslan *auwal súrat* wuh jis men kaí ek muqaddam hote haiñ, aur tálí ek hotí hai, yá tálí kaí ek aur muqaddam sab ká ek.

Misál 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.

Misál 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 súrat wuh hai, jis men kaí kaí muqaddam hote haiñ, aur har muqaddam kí tálí 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.

Yih sab misálen mazkúra musbita haiñ, agar ham cháhen, manfiya baná sakte haiñ,

Auwal súrat kí misál yih hai, ki—

Agar pák logon ko bihisht men kisi bát kí khwáhish nahín hotí hai, yá hoti hai aur púrí ho játi hai, to un ko kamál ráhat hogí.

Lekin un ko yá to khwáhish nahín hotí, yá hoti hai to púrí ho játi hai.

- 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 per-
 fectly happy.

It was remarked that the Dilemma is in reality two or more 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 perfec-
tion, he is either a brute or a divinity.

But man is neither a brute nor a divinity.

Therefore he can make progress towards per-
fection.

This also may be resolved into two syllogisms.

If man cannot make progress towards perfection
he is brute.

But man is not a brute.

Therefore he can make progress toward per-
fection.

Again. If man cannot make progress towards
perfection he is a divinity.

Pas pák logon ko bihisht men kamál ráhat hotí hai.

Upar mazkúr ho chuká hai, ki *qiyás i murakkab istisnáí* dar haqíqat 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 bāt 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 kisí bāt 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 púrí ho jáegí, to we kamál ráhat men hongé.

Lekin un kí cháh bihisht men púrí ho jáegí.

Pas pák log bihisht men kamál ráhat men hongé.

Dúsrí misál.—Tálí kaí ek, aur muqaddam ek.

Agar insán nekí o ilm kí taraqqí nahín kar saktá hai, to wuh haiwán i mutlaq hai, yá K̲hudá ke barábar hai.

Lekin na wuh haiwán i mutlaq hai, na K̲hudá ke barábar hai.

Pas wuh nekí o ilm kí taraqqí kar saktá hai.

Is ke bhí do qiyás ho sakte hain, maslan—

1.—Agar insán nekí o ilm kí taraqqí nahín kar saktá hai, to wuh haiwán i mutlaq hai.

Lekin wuh haiwán i mutlaq nahín hai.

Pas wuh nekí o ilm kí taraqqí kar saktá hai.

2.—Agar insán nekí o ilm kí taraqqí nahín kar saktá hai, to wuh K̲hudá ke barábar hai.

Lekin wuh K̲hudá kí barábar nahín hai.

Pas insán nekí o ilm kí taraqqí kar saktá hai.

Qiyás i murakkab kí dúsrí súrat kí misál, jis ke kaí muqaddam hote hain, aur har muqaddam kí tálí judá hotí hai:—

But man is not a divinity.

Therefore he can make progress toward perfection.

An example of the third or compound form of the dilemma, in which there are several antecedents each with its own consequent, is—

Major, { If this man was 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.

But he either does it in jest or in earnest or in *Minor*. forgetfulness.

Therefore he is either not wise or not good or *Con*. not a lover of humanity.

This dilemma may be thus 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 conditional syllogism is that the dilemma really contains in a contracted form two or more conditional 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-

Agar yih ádmí aqlmand hotá, to Kḥudá kí nisbat be-tamízí ká kalima jhúṭh muṭh bhí zabán par na látá, aur agar nek hotá, to haqíqat meṇ aisá na kartá, aur agar kḥair-kḥwáh insán ká hotá, to bhúlkar bhí aisá na kartá.

Lekin wuh yá to jhúṭh muṭh, yá haqíqatan, yá bhúlkar aisá kartá hai.

Pas wuh yá to aqlmand nahín, yá nek nahín, yá insán ká kḥair-kḥwáh nahín.

Is qiyás meṇ bhí tīnoṇ qiyás judá judá ho sakte haiṇ :

1. { Agar yih ádmí aqlmand hotá, to Kḥudá kí nisbat be-tamízí ká kalima jhúṭh muṭh bhí zabán par na látá.
Lekin wuh be-tamízí ká kalima jhúṭh muṭh zabán par látá hai.
Pas wuh aqlmand nahín hai.
2. { Agar yih ádmí nek hotá, to Kḥudá kí nisbat be-tamízí ká kalima haqíqat meṇ zabán par na látá.
Lekin wuh be-tamízí ká kalima Kḥudá kí nisbat zabán par látá hai.
Pas wuh nek nahín hai.
3. { Agar yih ádmí kḥair-kḥwáh-insán ká hotá, to Kḥudá kí nisbat be-tamízí ká kalima bhúlkar zabán par na látá.
Lekin wuh Kḥudá kí nisbat be-tamízí ká kalima bhúlkar zabán par látá hai.
Pas wuh kḥair-kḥwáh insán ká nahín hai.

Qiyás murakkab i istisnái, aur qiyás i ittisálí ke darmiyán itná farq hai, ki qiyás i murakkab i istisnái do tīn qiyásoṇ i ittisálí se, jo ikhtisár ke sáth hoṇ, milkar bantá hai.

Qiyás murakkab i istisnái bhí qiyás i iqtirání kí súrat meṇ ho saktá hai, aur wáste daryáft karne sihat is qiyás ke bhí wuhí qawáid, jin ká bayán úpar á chuká istiamál kiye jáweṇ, aur jaisá ki qiyás i ittisálí ko iqtirání kí taraf pherne ke wáste lafz “*jis mauqa par,*” aur “*is mauqa par*” wg. mustamal haiṇ. Maslan,

Jis mauqa par A. B. hotá yá J. D. hotá hai, us mauqa par R. S. hotá hai.

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.



Is mauqā par A. B. hai, yá J. D. hai.

Pas is mauqā par R. S. hai.

Agar muqaddamát taslīm kiye jāen, to jo natíja
un se niklegá, us ko zarúr mánná cháhíye.



SECTION VI.

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 92, 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.

The completed syllogism may readily be 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 pre-

CHHATHWÍÑ FASL.

Qiyás i Mukhaffaf.

Qiyás i Mukhaffaf us ko kahte haiñ, jis ká ek qaziya yāne kubrá yá sugrá mukaddar ho. Pas us ko *qiyás i mukhaffaf* samajhná cháhiye. Jaisá ki is kitáb men bayán ho chuká hai (*Saf.*, 93, 5.) aksar yún húa kartá hai, ki dalílon men mufassal bayán nahín hotá hai, is liye ki us dalíl ko ham waisá hí samajhte haiñ, agarchi baz qaziye ehhor-te jáen. Mukhaffaf dalílen aksar isí súrat men húa kartí haiñ. Aur yih ikhtiyár hai, ki kubrá sugrá men se jaun sá cháhen mukaddar karen. Maslan ek dalíl hai, ki—

Kull insán fání haiñ.

Zaid insán hai.

Pas Zaid fání hai.

Ab agar ham cháhen, to kubrá ko is dalíl men na zikr karen. Maslan,

Zaid insán hai.

Pas Zaid fání hai.

Donon tarah dalíl púrí hai, kyúñki qaziya i mukaddara zihnan samjhá játá hai, go ki lafzan maujúd na ho.

Jánná cháhiye ki mukhaffaf qiyás se púra qiyás ba ásání ban saktá hai, kyúñki tínon juz qiyás ke, yāne akbar aur asgar aur hadd i ausat maujúd haiñ. Qiyás i mukhaffaf ke natíje ke dekhne se malúm ho játá hai, ki akbar aur asgar yih haiñ, kyúñki natíje men hame-sha yih juz maujúd hote haiñ. Pas chúñki mauzú natíje ká asgar hotá hai, aur us ká mahmúl akbar, yih malúm ho játá hai, ki yih qaziya qiyás i mukhaffaf men kubrá hai yá sugrá. Maslan pahlí misál i mazkúra e bálá qiyás i mukhaffaf men malúm hotá hai, ki

miss 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 inverted and joined by the conjunction "*therefore*," and then the syllogism can be constructed from them. Thus with the above,—

Cæsar is a man.

Therefore Cæsar 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.

pahlá qaziya jo hai, sugrá hai, is sabab se ki natíje ká mauzú us men páyá jātá hai; aur dúsarí misál men, jo qaziya páyá jātá hai zarúr kubrá hogá, kyúñki natíje ká mahmúl us men maujúd hai. Pas jab malúm ho jātá hai, ki fulána muqaddama is qiyás men maujúd nahín hai, us hí ko láke púra qiyás baná lete hain, aur us kí sihhat ba zariá un qawáid ko, jo wáste púra karne qiyás ke muqarrar hain, daryáft kar lete hain.

Jánná cháhiye ki aksar dalíl men kubrá mukaddar húa kartá hai, is wajh se ki wuh ek aisá mashhúr o marúf qaziya hai, ki dil bagair zikr karne ke ba ásání use taslím kar letá hai. Pas qáida yih hai, maslan agar koí bayán kare, ki Zaid fání hai, to kubrá, yane *kull insán fání hain*, is ko mukaddar karegá, kyúñki adná aur álá is haqíqat se wáqif hain, ki sab ádmí marnewále hain. Pas wuh yún kahegá ki—

Zaid insán hai.

Pas wuh fání hai.

Baz mauqa par qiyás i mukhaffaf qiyás kí súrat par nahín hotá hai, jaisá koí kahe:

Zaid fání hai,—

Kyúñki wuh insán hai.

Jahán kahín koí harf illat ká, jaisá “*chúñki*” “*kyúñki*” “*is báis se*,” wg. kisí qiyás i mukhaffaf ke qazíon ko báham-dígar rabt de, to agar ham cháhen, un ká aks, yane muqaddam ko muakhkhar, aur muakhkhar ko muqaddam karenge, aur harf i illat ko dúr karke ákhir ke qaziya men lafz *pas* barhá denge, to is hálát men púra qiyás banne ke láiq hogá. Pas úpar kí misál ko agar is súrat men láwen, to yún hogí,—

Zaid insán hai,—

Pas Zaid fání hai.

Qiyás i mukhaffaf se púra qiyás banáne ká qáida yih hai:—

Agar kisí muqaddame men mauzú natíje ká páyá jáwe, to wuh sugrá hai, aur agar mahmúl páyá jáe, to kubrá.

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 proposition. 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 not matter.

That which is not matter is indissoluble.

That which is indissoluble is immortal.

Therefore the mind is immortal.

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,—

Qiyás i Musalsal.

Qiyás i Musalsal shakl i auwal ke qiyáson mukhtasar ke silsile ko kahte hain. Yih úpar zikr ho chuká hai, ki bahs mubáhise men har dalíl ko bajinsihí ba súrat i qiyás álahida álahida karke nahín bayán karte hain, balki baz qaziye aise mauqa par mukaddar karte hain. Agar kaí ek qiyás silsilowár is tartíb se bayán kiye jáwen, ki natíja har qiyás ká dúsre ká muqaddama wáqi ho, to aise ikhtisár ko *qiyás i musalsal* kah-te hain. Aur yád rakhná cháhiye, ki qiyás i musalsal men mahmúl qaziya i auwal ká dúsre qaziye ká mauzú hotá hai, aur tísre ká mahmúl chauthe ká mauzú wáqi hotá hai; hattá ki sab se ákhir ke qaziye ká mahmúl qaziya i auwal ke mauzú 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 jism nahín hai.
Jo chíz jism nahín, gairfání hai.
Jo chíz gairfání hai, abad tak rahegi.
Pas zihn abad tak rahega.

Agar is dalíl i mukhtasar men jitne qiyás dákhil hain, un sab ko judá judá karke rakhen, 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 húí. Qazíon kí misál yih hai :

- 1 { A thinking substance is spirit.
The mind is a thinking substance.
Therefore the mind is a spirit.
- 2 { A spirit is not matter.
The mind is a spirit.
Therefore the mind is not matter.
- 3 { That which is not matter is indissoluble.
The mind is not matter.
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 that 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 F through B C D E.

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. 122 r. 1.) and in the *Sorites* all the other proposition 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

1. { Qúwat i darráka rúh hai.
Zihn ek qúwat i darráka hai.
Pas zihn rúh hai
2. { Rúh jism nahín hai.
Zihn rúh hai.
Pas zihn jism nahín hai.
3. { Jo chíz jism nahín hai, gairfání hai.
Zihn jism nahín hai.
Pas zihn gairfání hai.
4. { Jo chíz gairfání hai, abad tak rahegí.
Zihn gairfání hai.
Pas zihn abad tak rahegá.

Ab dekhna cháhiye, ki yih sab qiyás shakl i auwal ke hain, aur qiyás i musalsal se muqábala karne se malúm hotá hai, ki B. J. D. R., jo qiyás men do do bār áe hain hadd i ausat hain. Aur malúm hogá, ki qiyás i musalsal men utne hadd i ausat hote hain, jitne auwal qaziye aur natíje ke bích men qaziye hote hain. Pas záhir hai, ki jitne hadd i ausat hain, utne hí qiyáson se ikhtisár karke qiyás i musalsal baná hai. Aur aláwa is ke in qiyáson ke qiyás i musalsal se muqábala karne se malúm ho játá hai, ki is men sugrá sirf ek hotá hai, yane "A. B. hai," aur báqí sab kubrá hote hain. Garaz ki yih záhir hai, ki qiyás i musalsal men asgar ko leke ek hadd i ausat ko dústre se silsilawár miláte chale áte hain; hattá ki natíje men ákar us hí asgar ko sab se ákhírí qaziye ke mahmúl se nisbat dete hain, is tarah goya ki sirf ek hí qiyás hotá hai. Chunánchi misál i mazkúra e bálá se záhir hai, ki asgar B. akbar S. se ba. zariá hadd i ausat B. J. D. R. ke nisbat diyá gayá hai.

Jab ki yih bát qarár páí, ki qiyás i musalsal qiyáson shakl i auwal ká ikhtisár hai, to malúm húa ki qiyás i musalsal men bajuz qaziya i auwal ke, aur koi juziya hotá hí nahín, is sabab se ki pahlá qaziya sugrá hotá hai, aur shakl i auwal men sugrá hí juziya átá hai na yih ki kubrá; (*Saf.* 121. 3,) aur báqí sab kubrá hote hain. Aur yih bhí malúm húa, ki is qiyás men

have a negative conclusion which becomes the minor premiss of the following syllogism, but in the first figure the minor premiss cannot be negative. 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 preceeding 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.

The same in proposition thus,—

That which is indissoluble is immortal.

That which is not matter is indissoluble.

A spirit is not matter.

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 propois-

sirf ek hí qaziya i sáliba hotá hai, aur wuh ákhirí hai, kyúñki agar aur koí qaziya i sáliba ho, to aláwa qiyás ákhirí ke, ek aur qiyás, qiyás i musalsal men aisá hogá, ki jis ká natíja sáliba niklegá, aur yih natíja qiyás men sugrá wáqi hogá, lekin shakl i auwal men sugrá sáliba nahín hotá hai. Pas ek qáida zail men likhte hain :—

Qiyás i musalsal men 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 muqaddamat se, jo natíja nikaltá hai, us dúsre qiyás ká sugrá karte hain, aur is hí 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 aks bhí ho saktá hai, chunánchi 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.

Misál qazíon kí yih hai,—

Jo ohíz gairfání hai, abad tak rahegi.

Jo ohíz jism nahín, gairfání hai.

Rúh jism nahín hai.

Qúwat i darráka rúh hai.

Zihn qúwat i darráka hai.

Pas zihn abad tak rahega.

tion 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.

The hypothetical sorites may be reduced to the categorical one by the rule for reducing hypothetical to categorical propositions (p. 150.) 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. 150.]

Yahán par dekhná cháhiye, ki is súrāt meñ bhí wuhí natíja nīklá, jo pahlí súrāt meñ nikálá thá, go ki qaziye qiyás ke sab ulṭe ho gae hain.

Yih bhí maḷúm karná cháhiye, ki is aks kí súrāt meñ 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, ki yúñhín dalíl láná chehhá hotá hai.

Qayás i musalsal qaziyon i muttasila se bhí murak-kab hotá hai, aur tab *qiyás i musalsal i istisnái* kahte hain. Qiyás i musalsal i istisnái, qazíon muttasilon ke silsile se murakkab hotá hai, aur wuh qaziye is tarah par áte hain, ki tálí har qaziya i auwal kí apne má baḍ ká muqaddam wáqi hotí hai, aur natíja yá to pahle muqaddam ko ákhirí tálí ke sáth nisbat isbát dene se hásil hotá hai, yá ákhirí tálí ko pahle muqaddam ke sáth nisbat nafí dene se. Maslan,

gar 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 auwal qiyás i musalsal i istisnái bil íjáb kí :—

Agar Kḥudá pák hai, to bání gunáh ká nahín hai.

Agar wuh bání gunáh ká nahín hai, to qismat ká masla galat hai.

Lekin Kḥudá pák hai, pas qismat ká masla ga-lat hai.

Misál dúsrí qiyás i musalsal i istisnái bis salb kí :—

“Agar júá khelná achchhí bát hai, to us ká khel-ná 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.”

Qiyás i musalsal i istisnái ko usí qáida kí rú se, jo shartiyát ko hamliyát meñ lāne ke wáste muqarrar hai iqtirání bhí kar sakte hain, [*Saf.* 151 ;] aur phir sihhat us kí, qáidon qiyás i musalsal se maḷúm ho játí hai,

We may now briefly recapitulate the whole subject of hypothetical, compound and abridged syllogisms.

Recapitulation.

Syllogisms are divided thus,—

Syllogisms	{	Categorical Hypothetical	{	Conditional.
				Disjunctive.
Compound and abridged syllo- gism, &c.	{	Dilemma. . Enthymeme Sorites	{	Simple.
				Compound.

Rules.

1.—For the conditional 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 preceeding the conclusion may be negative.

aur yá yih ki us qiyás i musalsal men jitno qiyás i istisnái dákhil hain, un sab ko judá judá karke phir un kí sihhat usí qáide kí rú se jo qiyáson i istisnái kí sihhat malúm karne ke wáste muqarrar hai, daryáft kí jáwe. [*Saf.* 151.]

Ab ham kull bayán *qiyáson i istisnái*, aur *murakkab*, aur *mukhaffaf* ká bil-ijmál likhte hain :—

Bayán i Muajmal..

Qiyás is tarah par munqasam hai :—

Qiyás, $\left\{ \begin{array}{l} \text{Iqtirání,} \\ \text{Istisnái,} \end{array} \right\} \left\{ \begin{array}{l} \text{Ittisáli.} \\ \text{Infisáli.} \end{array} \right.$

Aur qism ká qiyás, $\left\{ \begin{array}{l} \text{Qiyás i Murakkab.} \\ \text{Qiyás i Mukhaffaf.} \\ \text{Qiyás i Musalsal.} \end{array} \right.$

QAWÁID.

1.—*Qiyás i Ittisáli ke liye.*

PAHLÁ.—Agar muqaddam taslím kiyá jáwe, to tálí bhí zarúr 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 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 i 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.

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 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.

CHAUTHA HISSA.

MANTIQ I ISTIAMÁLF.

MANTIQ i Istiamálf se yih murád hai, ki is ilm ko, jahán kahín hájat pare, amal men láná. Chunáñchi mantiq i istiamálf us ilm i mantiq se, jo sirf zihn men ho, sirf isí bát men mukhtalif hai. Kisí ilm ká ján lená aur bát hai, aur us ká mashq rakhná is tarah par ki roz-marra kám men áwe, aur bát hai. Maslan, yih mumkin hai ki koí shakhs jitne hathyár barhaí ká kám karne ke hon, sab ká nám baqhúbí jántá ho, aur is bát se bhí wáqif ho, ki fuláná hathyár fuláne kám men átá hai, aur is ko is tarah istiamál men láná cháhiye. Garaz ki sab báten barhaígarí kí jántá ho, magar baín hama, cháhiye ki koí chíz un hathyáron se barhaí kí tarah baná le to kabhí na banegí; pas mashq rakhná barhaí ke kám ká aur bát hai, aur sirf ján lená us ká apne zihn men aur bát hai. Isí tarah agar koí shakhs ek kitáb ko parhkar paimáish ke qáidon se wáqif 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 mantiq se faráгат páí. Ab iráda hai, ki áge chalkar is kitáb men mufassal bayán taríqon istiamál i mantiq likhen, aur yih batláwen, ki kis tarah is ko roz-marra amal men láná cháhiye. Auwal bayán mukhtalif súraton mugálte, jo aksar áke parte hain, likhenge; aur phir taríqa un mugálton ke rafa karne ká, ba zariá misálon ke batláwenge; aur phir chand taríqe dalíl láne ke samjháwenge.

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 in reasoning, or into which one may 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, notwithstanding an error in some term or proposition of the syllogisms. The first are called "*logical or formal fallacies*" the second "*non-logical or non-formal fallacies.*" The first great class will be described.

Logical or formal Fallacies.

The fallacies of this class include all violations of

PAHLÍ FASL.

Bayán Mugálte ká.

DALÍL aur qiyás kí sab súraton ke bayán se farágat páí, ab zarúr hai, ki mugálta, jo aksar dalíl láne men partá hai, us kí mukhtalíf qismon ká bayán bit-tashríh likhen. *Mugálta* nádurust dalíl ko kahte hain. Chunnáñchi istiamál ilm i mantiq ká is bát par bahut munhasar hai, ki mugálte ko bakhúbí pakaṛ lená, aur ma-lúm kar lená, is wáste bayán mugálte ká khúb 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 galatíán, jo bar waqt dalíl láne ke ho jáyá kartí hain, un se mahfúz rahne ke wáste bhí kám átá hai. Mugálta tén jagah partá hai, maslan jab koí lafz yá juz mashkúk manon men, yá do manon men istiamál kiyá jáwe, yá koí qaziya galat ho jáwe, yá tartíb qiyás kí nádurust ho jáwe.

Yih záhir hai, ki sab galatíán do qism par ho saktí hain, *Auwal*, jahán ki tartíb i qiyás galat ho, ~~ya~~ yane wuh natíja muqaddamát se nahín hásil hotá hai. *Doyum* yih, ki jahán tartíb i qiyás galat nahín hai, yane sahíh natíja muqaddamát se hásil hotá hai, lekin us qiyás ke kisí juz yá qaziye men galatí wáqi hai. Pahlí qism ke mugálte ko, yane jab ki qiyás kí tartíb men galatí wáqi hotí hai, *Mugálta i Súrí* kahte hain, aur dúsrí qism ke mugálte ko, yane jab ki qaziye ke manon men galatí wáqi hotí hai, *Mugálta i Manawí* kahte hain.

Qism auwal, Mugálta i Súrí.

Is qism men wuh mugálte dákhil hain, jo ba báis khiláf hone qául i Arastátálís ke, aur qáidon qiyás

Aristotle's dictum and the rules for syllogisms. They are of five kinds.

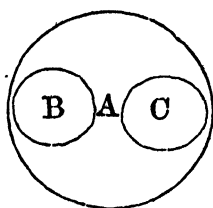
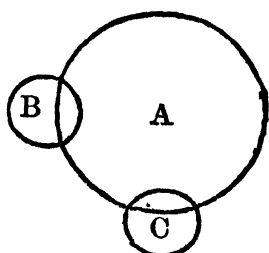
1. Undistributed middle.
2. Illicit process of the major or minor term.
3. Negative premisses.
4. Affirmative conclusion from a negative premiss or *vice versa*.
5. More than three terms in the argument.

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.

1. Undistributed middle.

Form of fallacy.

Some A is B.	or	All B is A.
Some A is C.		All C is A.
Therefore some B is C.		Therefore all B is C.



ke wáqi húa karte haiñ. Aur yih páñch tarah par haiñ :

- 1.—Hadd i ausat juzí.
- 2.—Kulliyat i nájáiz, akbar yá asgar kí.
- 3.—Muqaddamát i sálíbe.
- 4.—Natíja i mújiba muqaddame sálíbe se, yá bar-aks is ke.
- 5.—Ek qiyás men tñ juzon se ziyáda ká honá.

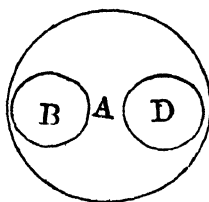
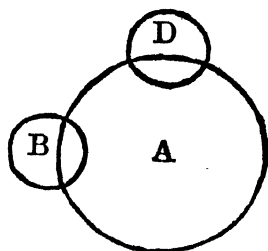
In sab súraton kí galatí súrát i qiyás se małúm ho játí hai, jab ki apní súrát men bayán kiyá jáwe. Lekin galatí ke pakarne men mushkil aksar us waqt áke partí hai, jab dalíl mukhaffaf ho, yane koí qaziya wahán mukaddar ho, yá yih ki bahut sí lafzon kí tal men galatí aisí chhip gaí ho, ki ba ásání na małúm hotí ho. Aise waqt men agar dalíl ko apní púrí súrát men láwen, yá yih ki un bahut sí lafzon ke janjál ko dúr karkar ba tartíb i qiyás rakhen, to us waqt galatí sáf záhír ho jáegí. Galatíon ká thorá sá hál qiyás kí sihhat daryáft karne ke qáide nikálte men ham ne bayan 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 agarchi ba iatibár apne mane ke sahíh ho, lekin un muqaddamát se wuh natíja na nikaltá ho, pas dalíl ba har nahj náqis rahegí.

1.—*Hadd i ausat juzí kí.*

Súrát mugálte kí yih hai :—

Baz A. B. hai,
Baz A. D. hai,
Pas baz B. D. hai,

Sab B. A. hai.
Sab D. A. hai.
Pas sab B. D. hai.



Here it will be observed that neither the major or 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.

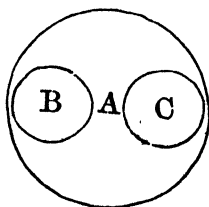
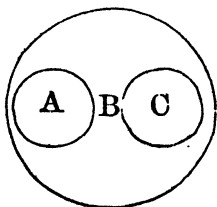
Therefore the Hindu religion is true.

Here the middle term, “believed and taught by good men” being the predicate of two affirmatives is undistributed (p. 64 r. 3) hence the conclusion is an error.

2. *Illicit process of the major or minor term.*

Form of the fallacy.

All A is B.		All A is B.
No C is A.	or	All A is C.
Therefore No C is B.		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.

Dekho is misál men na akbar aur na asgar hadd ausat ke kull afrád se muqábala kiyá gayá hai, yāne hadd i ausat kullí nahín hai juzí hai; pas is sabab se lalíl galat hai, aur isí wajh se yih natíja jo yahán par likhá hai, un muqaddamát se nahín nikaltá hai. Farz karo, koí shakhs dalíl láwe, ki Hindúon ká mazhab haqq hai, kyúnki baz achchhe ádmí us par ímán láe hain, aur us kí talím dí hai. Yahán hadd i ausat juzí hogí, jaisá ki qiyás ko púrí súrat men likhne se záhir hai. Maslan,—

Haqq mazhab ko achchhe ádmí qabúl karte hain,
aur us kí talím dete hain.

Hindúon ke mazhab ko achchhe ádmí qabúl karte hain,
aur us kí talím dete hain,

Pas, Hindúon ká mazhab haqq hai.

Is misál men *hadd i ausat* “achchhe ádmí qabúl karte hain,” ba báis wúqí hone mahmúl do mújibon pe juzí hai, [*Saf.* 65, Q. 3,] is sabab se natíje men galatí hai.

2.—*Nájíz kulliyat akbar yá asgar kí.*

Súrat is qism ke mugálte kí yih hai :

Sab A. B. hai.

Koí J. A. nahín.

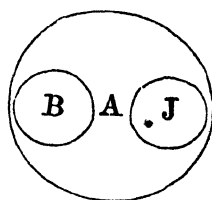
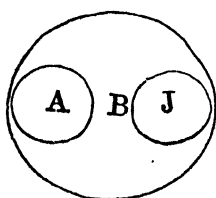
Pas koí J. B. nahín.

Yá

Sab A. B. hai.

Sab A. J. hai.

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 púrí likhí jáwe, to yún hogí:—

Sab zálím bádsháh bure bádsháh hote hain.

Zaid zálím na thá,

Pas Zaid burá bádsháh na thá.

Here the major term "bad king" is distributed as the predicate of a negative [p. 66 r. 4] in the conclusion but not in the major premiss, because the predicate of an affirmative [p. 64, 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_e 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.

3. *Negative premisses.*

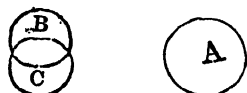
The form of this error is as if one would say,

No A is B.
No C is A.
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 thus,—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

Is misál men asgar “bure bádsháh” kullí hai, natíje sálíbe men, kyúñki us ká mahmúl pará hai, [*Saf.* 67, Q. 4;] lekin kubrá men kullí nahín hai, kyúñki qaziya i mújibe ká mahmúl pará hai, [*Saf.* 65, Q. 3,] pas kulliyat nájáiz akbar kí húi.

Doyum misál.—Farz karo, koí shakhs dalíl láwe, ki talím kisí tarah kí kyún na ho, auraton ko talím dená burá hai, kyúñki fulání fulání kharáb auraton ne talím pái thí. Yih dalíl agar púrí súrat men likhí jáwe, to kulliyat nájáiz asgar kí záhír ho jáwegí. Maslan,

Fulání auraton burí thín.

Un auraton ne ilmon kí talím pái thí.

Pas kisí tarah kí talím kyún na ho, auraton ko ilm kí talím dená burá hai.

Is misál men asgar “auraton ko ilm kí talím dená” natíje men kullí hai, lekin sugrá men kullí nahín hai, kyúñki mújibe ká mahmúl pará hai, pas dalíl sahíh nahín hai.

3.—*Muqaddamát i sálíbe.*

Yih aisí galatí hai, jaise koí kahe,—

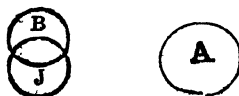
Koí A. B. nahín hai.

Koí J. A. nahín hai.

Pas koí J. B. nahín.



Yih záhír hai, ki hadd i ausat “A” wásta muqábala karne ká in donon juzon ke darmiyán men nahín hai; aur agarahi is súrat men yih natíja sahíh hai, magar mumkin hai, ki koí súrat aisí ákar pare, ki B. aur J. A. men na dákhil hon, magar táham ápas men iláqa rakhen. Maslan,—



Pas yih dalíl galat thahrí.

Farz karo, koí shakhs dalíl láwe, ki ilm aur neki men kuchh iláqa nahín, kyúñki fulání qaum tarbiyat-yáfta na thí, aur phír badzát qaum na thí. Yih misál

example of negative premisses from which he 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 versa.*

First case. If one of the premisses is negative we can not 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. 94 a. 2.] Hence any syllogism or argument, in which an affirmative conclusion follows where one of the premisses is negative, must be erroneous.

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. 94 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 through-

muqaddamát i sálibon kí hai, is liye kuchh natíja níkalná jáiz 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 mujíba muqaddamát sálibon se, aur bar-aks is ke.*

Súrat i auwal.—Agar koí muqaddama sáliba ho, to natíja mujíba nahín níklegá, aur agar níklegá, 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 láham-dígar nisbat is bát kí rakhege, aur yih bát qiyás ke qánún i badíhí ke khiláf hai, [*Saf.* 95 Q. 2;] pas koí dalíl yá qiyás, jis ká natíja mujíba níkle, jis hálát men ki us dalíl yá qiyás ke muqaddamát men se ek sáliba ho, zarúr galat hogá.

Dúsrí súrat.—Muqaddamát i mujibon se natíja sáliba nahín níkaltá hai, aur agar níkle 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 dústre ke munáfí ho jáwenge, aur yih bát qiyás ke qánún i badíhí ke khiláf hai, [*Saf.* 95, Q. 1;] pas jo koí qiyás aisá ho, jis ke muqaddamát mujibon se natíja sáliba níkle, galat hogá.

5.—*Ek qiyás men tén juzon se ziyáda ká honá.*

Yih záhiq hai, ki jo koí dalíl, ba tartíb i qiyás sahíh likhí játi hai, to zarúr us men sirf tén juz hote hain, Pas jis dalíl men tén juz se ziyáda hongé, wuh dalíl zarúr galat hogí.

Is qism ká mugálta do súrat men ákar partá hai, yá to yih ki akbar yá asgar mushtarak ul mána hon, yá hadd i ausat mushtarak ho. In donon suraton men se jis kisí súrat men hadd i ausat ke ek hí mane kull qiyás men qáim na rahen, to beshakk qiyás men tén

out 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.

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

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 náhaqq qaidkháne men dál diyá,

Pas qaidkhána zulm kí jagah hai.

Yahán par is sabab se galatí wáqi húi hai, ki “ná-haqq qaidkháne men dál diyá,” ke aur “qaidkháne” ke ek hí mané liye hai, yane 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 hai.

Hindú gunáh aksar karte hai.

Pas baze gunahgár Hindú ímándár hote hai.

Yahán akbar kubrá ká, yane “ímán rakhte hai,” us akbar se, jo natíje men áyá hai, yane, “ímándár mukhtalíf hai. Garaz akbar aur asgar ke muqaddamat men aur natíje men ek hí mané rahen, warna us qiyás men tén juz se ziyáda ho jáwenge.

Lekin aksar is tarah ká mugálta, yane ek qiyás men tén juz se ziyáda ká honá us súrat men ákar partá hai, jab ki hadd i ausat mushtarak hai; pas hadd i ausat par khúb liház rakhná cháhiye, táki galatí na pare. Báz lafz jo hadd i ausat men wáqi hotá hai, us ke mukhtalíf mané muqaddamat men liye játe hai, yane ek hadd i ausat men kabhí shirkat mané kí, á partí hai. Maslan, agarahi ímárah aur ímándár, dono ká masdar ek hí hai, lekin in ke mané hamesha ek hí nahín rahte hai; maslan,—

Zaid ímán men pukhta hai.

Ímándár naját páwenge.

Pas Zaid naját páwegá.

Mumkin hai ki Zaid apne mazhab ká pukhta aur khúb sakht ho, lekin ímándár na ho; pas yihí wajh mugálte kí hai.

Ek lafz ke káí mané hone ke chand sabab hai. *Auwal* yih, ki mushábahat lafzí ho, jaise lafz “ág” ká, ki

“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. There may be an accidental resemblance as “*light*” opposed to darkness and “*light*” opposed to heavy. There may be some *resemblance* between the different things for which the same word is used. Thus *spear* is used for a weapon and for a blade of grass. 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. *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. 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.

wáste darakht aur ág, donon ke mustamal hai, yá lafz “lahsan” ká, ki wáste us chíz ke, jo per se paidá hotí hai, aur wáste us dág ke, jo larakpan men ádmíon ke badan par kahín na kahín hotá hai. *Doyum* yih, ki ba sabab mushábahat súrát ke ek hí lafz do mukhtalíf chízon ke wáste bolá jáwe, jaise lafz “*bhdle*” ká, ki hal men lagá hotá hai, us ko bhí kahte hain, aur charkhe men jo hotá hai, use bhí kahte hain. Yá lafz “*kamán*” ká, ki wáste kamán ke aur baggí ke kahte hain. *Se-yum* yih, ki ba sabab mushábahat maqsad ke ek hí lafz bolá jáwe, jaise lafz “*páya*” ká, ki wáste páya i chaukí, aur wáste páya i shámiyána, donon ke bolá játá hai. Donon páe ek hí maqsad ke wáste 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 baithne ke liye hotí hai, aur wáste us fiál ke jo sawár se hotá hai, yane donon ke wáste mustamal hai; maslan koí kahe, ki baggí ek sawárí hai, yá yún, ki fulána shakhs achchhí sawárí kartá hai; alá ház-al-qiyás lafz “*gharí*” ká. Agar is bayán par bagaur liház rahe, ta hadd i ausat kí sharákat máne ká jánná aur záhir karná á jáegá. Taríqa rafá karne sharákat máne aur pakarne galatí ká yih hai, ki jo lafz ausat wáqi ho, us ke ek hí máne muqarrar kiye jáen; aur phir yih dekhá jáe, ki áyá in donon muqaddamon men wuhí máne qáim rahte hain yá nahín?

Do aur súraten mugálte kí hain, jin ká bayán yahán par zarúr karná cháhiye, kyúnci un ke sabab se hadd i ausat men galatí par játí hai.

The first of these is,

The Fallacia Accidentis.

This 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 simple illustration of this error may be given, 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.

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 there 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. 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.

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

Awal, Mugálta i ʔrizí.

Yih galatí us súrāt men ʔke partí hai, jab ki ek muqaddame men hadd i ausat ke zátí mane liye jáwen, aur dúsre men ʔrizí mane, yane mana i ittifáqiya, yahán tak ki natíje men ʔkar do aisí bāten, jo ek dúsre ke munáfi hotí hain, jama ho játí hain. Ek sahl sí misál is qism kí galatí kí yahán par dí játí hai :—

Bázár se wuh chízen kharídí játí hain, jo ham kháte hain.

Kachchá gosht ek chíz hai, jo bázár se kharídá játá hai.

Pas kachchá gosht ek chíz hai, jo ham kháte hain.

Kubrá men hadd i ausat, yane “ *bázár se wuh chízen kharídí játí hain* ” jo hai us ke zátí mane liye hain, aur sugrá men us ke ʔrizí mane : pas jab ek muqaddama men ʔmm mane hadd i ausat ke, aur dúsre men mane ittifáqí, yane kháss mane liye, to dar haqíqat do hadd i ausat ho gae, jin ke sabab se natíje men mugálta partá hai. Aisí galatí rafa karne ke wáste yih liház rakhná cháhiye, ki hadd i ausat ke ek hí mane dono muqaddamon men qáim rahen, yane agar kubrá men hadd i ausat ke zátí mane liye hon, to cháhiye, ki wuhí mane sugrá men qáim rahen.

Dúsrá, Mugálta i taqsim aur jama.

Yih galatí us súrāt men wáqi hotí hai, jab ek muqaddama men hadd i ausat ba maní jama istiamál kí jáwe, aur ek men bataur i taqsim. Pas agar kubrá men ba maní jama istiamál kí jáwe, aur Sugrá men bataur i taqsim, to us ko “ *mugálta i taqsim* ” kahte hain ; aur agar hadd i ausat kubrá men bataur i taqsim istiamál kí jáwe, aur sugrá men ba maní jama, to us ko

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.

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.

“*mugálta i jamā*” kahte haiṇ. Ek sahl sí misál yahán par dí játí hai:—

Hindú butparast haiṇ. (*ba mañí i jamā.*)

Rám Chandar Hindú hai. (*ba mañí i taqsím.*)

Pas Rám Chandar butparast hai.

Yih “*mugálta i taqsím*” hai, kyúnki kubrá meṇ Hindú ba mañe jamā istiamál kiye gae haiṇ, yañe ba liház qaumiyat butparast haiṇ, magar sugrá meṇ ba-taur i taqsím, is wajh se yún nahín kah sakte haiṇ, ki sab Hindú butparast haiṇ, kyúnki mumkin hai, ki Rám Chandar butparast na ho.

Dúsrí misál,—

Zaid, Amr, Bakr, Musalmán haiṇ.

Musalmánon ne gadar par kamar bándhí thí.

Pas Zaid, Amr, Bakr ne gadar par kamar bāṇdhí thí.

Yih “*mugálta i jamā*” hai, kyúnki kubrá meṇ hadd i ausat “Musalmán” ba taur i taqsím ke áí hai, yañe fard fard ke wáste áí hai; lekin sugrá meṇ hadd i ausat “Musalmán” ba mañe jamā mustamal hai, wáste ek qaum ke, jis ne gadar macháne par kamar bāṇdhí thí. Pas jab ki hadd i ausat kubrá meṇ ba taur i taqsím, aur sugrá meṇ ba mañe jamā istiamál kí jáwe, to wahán mugálta jamā par játá hai; pas yih kahná, ki Zaid, Amr, Bakr ne gadar par kamar bāṇdhí thí, galat thahartá hai; sháyad unhon ne kuchh bhí na kiyá ho.

Ek aur sahl sí misál donon qism ke mugálte kí yih hai.

Pāñch ek ādad hai.

Tín aur do pāñch hote haiṇ.

Pas tín aur do ek ādad hai.

Yih “*mugálta i taqsím*” hai.

Tín aur do do ādad haiṇ.

Pāñch tín aur do hote haiṇ.

Pas pāñch do ādad haiṇ.

Yih “*mugálta i jamā*” hai.

This error is checked by seeing that the middle term be used in the same collective or distributive sense in both premisses.

Second,—Non-logical or non-formal 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 conclusion from a premiss that depends on the truth of the conclusion, or is the same in sense as the conclusion. 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

Is qism ká mugálta rafā karne ke wáste is amr par liház rakhná cháhiye, ki agar hadd i ausat ba māne jamā mustāmal ho, to donoṃ muqaddamon meṃ ba māna jamā rahe, aur agar bataur i taqsīm ho, to donoṃ muqaddamon meṃ bataur i taqsīm rahe.

BAYÁN MUĠÁLTA I MAṆAWÍ KÁ.

UPAR zikr ho chuká hai, ki “mugálta i maṇawí” us ko kahte hain, jahān tartīb i qiyás meṃ galatí na wáqī ho, balki un qazíṃ ke maṇon meṃ galatí ho, jin se wuh qiyás baná ho. Is qism ke mugálton meṃ natíja to muqaddamát se nikaltá hai, aur qiyás kí súrat meṃ koí galatí nahín maḷúm hotí hai, lekin qaziye ke maṇon, yaṇe mádde meṃ galatí par játí hai, aur galatí mádde meṃ, yá yih ki muqaddamát galat hon, yá be-mauqā istīāmál kiye gae hon to partí hai; yá yih, ki wuh natíja nikálá jáwe jo gair matlúb ho. Ġaraz ki mugálta i maṇawí kí do súraten hain:—

Mugálta muqaddamát meṃ.

Mugálta natíje meṃ.

Pahle.—Bayán us mugálte ká, jo muqaddamát meṃ partá hai. Is kí kaí súraten hain, yá to yih ki muqaddama natíje par mauqúf ho, yaṇe be-mauqā áyá, agarchi wuh sachchá ho, yá wuh khud bilkull galat ho.

1.—*Muqaddama natíja par mauqúf hai.*

Is qism ke mugálte meṃ yih bát hai, ki natíja nikaltá hai aise muqaddamát se jo mauqúf hon natíje ke subút par, yá aise muqaddamát se jo māne meṃ natíje ke muwáqif ho; pas jab natíja aise muqaddamát se nikale, jo us par mauqúf hain, yá māne meṃ ek hí hain, to natíja kyá sábit hogá. Balki cháhiye, ki natíje ke subút meṃ aise muqaddamát áwen, jo us se aḷahida hain. Is qism ke mugálte meṃ yih bát hai, ki natíja nikaltá hai aise muqaddame se, jo mauqúf ho

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" in this 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

natíje ke subút par, yá aise muqaddame se, jo manē men natíje ke muwáfíq ho. Farz karo, ki koí shakhs is qaziye ko, ki “K̤hudá azalí hai,” is tarah par sábit karná cháhē, ki wuh bagair ibtidá aur intihá ke hai, to subút natíje ká, aur natíja jo niklá hai, donon filwáqaf 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.

K̤hudá be-ibtidá aur be-intihá hai.

Pas K̤hudá azalí hai.

Is misál men muqaddamát bilá-shubha sahíh hain, lekin qiyás nádurust hai, kis wáste ki muqaddamát natíje ke manon men hain, aur yih bát bejá hai. Ek aur misál is qism kí galatí kí dí játí hai. Farz karo, koí shakhs dalíl láwe, ki fulána mazhab barhaqq hai, kyúnki us mazhab kí kitáben K̤hudá kí taraf se áí hain. Is misál men sihhat i mazhab ke subút men, jo qaziya áyá hai, us ke manē haqíqat men yih hain, ki mazhab barhaqq hai; kyúnki agar mazhabí kitáben K̤hudá 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 cháhíye thá ki dawá sábit hotá, do aise muqaddamát se, jin men na to koí natíje par mauqúf ho, aur na koí manon men muttahid ho. Agar is bát par bakhúbí liház rahe, ki áyá yih muqaddamát natíje par mauqúf hain, yá natíje ke manon men hain, to is qism kí galatí záhir ho jáwegí.

2.—*Daur i tasalsul* us mugálte ko kahte hain, jahan muqaddamát bejá istiamál kiye jáwen, yane natíja par mauqúf hon; magar mugálta i mazkúra i bálá se is men itná farq hai, ki is ke muqaddamát aur natíje yih kuchh zarúr nahín, ki manē 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, yane is tarah par, ki natíja ke subút ke wáste muqaddama láyá jáwe, aur

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 an independent proof for the last proposition 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 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

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 nádurust hai, aur phir dalíl láwe ki wuh nádurust hai, kyúnki wuh auraton kí talím hai, to yih "*daur i tasalsul*" hogá. 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, yani pahle qaziye se pichhle tak jo auwal par mauqúf hai, jitne bahut se qazíe hongé, usí qadr 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 nájáiz; 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*" kisé 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. Baza 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 tarah kí áfaton ke batláte hain. Maslan gahan ko báis batláte hain tarah tarah kí tásíron ká, jin ká iláqa gahan se mutlaqan nahín hai. Koí ádmí bímár ho jáwe yá mar jáwe, to kahte hain, fulána deotá yá bhút us se nákhush thá.

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 effects produced. In case of a question the fact assumed should not be accepted till proved.

is sabab se aisá húa. Ek bádsháh ká sar kaṭ gayá, aur us ká betá takht par baithá. Ek martaba aisá ittifáq húa, kí is bete ne us shakhs ko, jis ne us ke báp ká muqábala kiyá thá, dekhá ki andhá ho gayá hai, to kahne lagá, Kaho ab tum nahín jánte, ki tum ne kaisí barí khatá mere báp ke sáth kí thí, jis ke sabab se Kḥudá ne tum ko aisí sazá dí, ki tumhári ánkhen játí rahín. Us andhe ne jawáb diyá, ki nahín kḥudáwand i niāmat, jahán-panáh, agar is khatá ke sabab se merí ánkhen játí rahín, to maḷúm hotá hai, ki áp ke báp ne koí is se bhí barí bhári khatá kí hogí, jo Kḥudá ne aisí sazá dí, ki us ká sar kaṭ gayá, merí to sirf ánkhen hí gaín. Bádsháh apní wajh gair muwajjih ke jawáb bá sawáb ko sunkar bahut qáil húa, aur dekhá, ki jo iātiráz main is par kartá hún, wuh kḥud mere úpar áid hotá hai. Isí tarah ek misál “wajh gair muwajjih” kí yih hai, ki aksar log Sarkár i Angrez par ittihám rakhte hain, ki báis bagáwat ká Hindustán men Angrezon ká zulm thá; agarchi dar haqíqat sabab is ká kuchh aur hí thá, yañe harárat i díní, aur hawass mulkgírí kí. Baz mauqá par wajh gair muwajjih ká, jab ba súrat suwál áke partá hai, to galatí chhip sí játí hai. Ek martaba ek shakhs ne suwál kiyá, ki pání bhare bartan men machhlí dālo, to wuh bartan banisbat qabl ke kyún nahín bhári hotá hai? Dúsrá shakhs is ká sabab daryáft karne lagá, magar yih na sochá, ki yih suwál hí galat hai, kyúnki machhlí dālne se wuh bartan bhári ho jáwegá. Is galatí ke pakarne ká yih qáida hai, ki maḷúm karná ki áyá yih sabab durust hai yá nahín; aur jab tak dalíl i sháfí is bát kí na dí jáwe, ki yihí haqíqí sabab hai is muámale yá tásir ká, us waqt tak use taslím karná na cháhiye. Kísí suwál ke dāwe ko taslím na karná cháhiye, jab tak

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 an "irrelevant conclusion." There are various forms of this error as will be seen when we come to speak of them at length. 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, prejudices, personal opinions, vanity, modesty &c. of an opponent or those whom it is desired to convince. An

sábit na ho. Mugálta i maṇawí, jo muqaddamát men par jáyá karte hain, aksar yih tīn hain, yaṇe “*Muqaddama natīje par mauqūf*,” “*Daur i tasalsul*” “*Wajh gair muwajjih*.”

Bayān un mugálton ká, jo natīje men hote.

Is qism kī galatī ko aksar “*mugálta i natīja i gair matlúba*” kú kahte hain. Jo natīja chāhiye, wuh nahīn nikálá jātá hai, balki koī aur aisá hotá hai, jo natīja i matlúba kī taraf se dhyān ko haṭá letá hai. Ğaraz ki “*mugálta natīja gair matlúb*” kú us ko kahte hain, ki wuh natīja muqarrar kiyá jáwe, us dalíl men jo matlúb na ho, khwáh wuh natīja ná-samjhí se nikal áwe, yá ján bújhkar nikálá jáwe. Maslan, farz karo koī shakhs suwál kare, ki is ádmí ne fulání chorí kī. Aur dúsrá shakhs jawáb denewálá dekhe, ki chorí sábit nahīn hotí, to idhar udhar kī báten lākar sábit kare, ki agar chor nahīn hai, to bahar hál badmāsh to hai. To yih “*mugálta natīja i gair matlúb*” ká hogá, kyúnki us kī badmāshí par bahs na thí, balki bahs us kī chorí par thí. Is mugálte kī bahut súraten hain, jin ká zikr áge chalkar likhá jáwegá. Bāz martaba aisá hotá hai, ki ḍawe ko chálúkí se badal kar kuchh ká kuchh kar dete hain. Aur kabhí jawáb denewálá bahs karnewále ke dil men aisí báten ḍál detá hai, ki galat natīje ko wuh shakhs qubúl kar lewe. Pas is qism ke mugálton se mahfúz rahne ke wáste chāhiye, ki jis bát par bahs ho usí par qáim rahe, aur agar koī bát bahs se judá yá natīja gair matlúb páwe, us ko bilá taammul radd kare.* Is mugálte kī chand súraten, jo aksar áke partí hain, zail men likhí jātí hain.

1.—*Mugálta i tamalluq-ámez* wuh hai, jis men jawáb denewálá bad muámalí se bahs karnewále ke dil ko, yá jis kisí ko qúil karná manzúr ho, aisí targīb de, ki us ke dil men josh yá taassub paidá ho jáwe, yá

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.

If 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, and 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 thing 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*."

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.

us ke dil kí sí kahno lage, yá us ko barháwe ki ap aise hain aur waise hain, yá hayá diláwe wg. Aksar haqíqat kí bát par gusssa diláte hain yá thatthe men uráte hain. Thatthe se bhí haqíqat kí bát chhip játí hai, yá us se nafrat paidá ho játí hai. Chand misálen sahíh sí is galatí kí yahán par likhí játí hain, jin se us ká hál baḡhúbí khulegá.

Agar koí náláiq faqír tumháre darwázo par áwe, aur tum us se kaho, ki tú is láiq nahín hai, ki tujh ko ḡhairát dí júwe, 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; kyúñki garíb-parwarí aur rahm karná aur ḡhairát dená umúman farz hai. Is men kalám na thá, balki is men thá ki áyá yih faqír ḡhairát dene ke láiq hai yá nahín? Wuh faqír suwál 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 auraton kí talím men muzáhimat karte hain, subút i kámil is amr ká nahín dete, ki talím se auraton 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 laḡkíon ko iskúl men bhejne se hamáre ḡhándán kí badnámí hogí. Garaz 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* 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 spirit is wrong, but failing in this, he quietly sets about proving that the drinking of 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 a 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

2.—*Mugálta i tagaiyur i mazmún.* Is bát ko yád rakhná cháhíye, ki yih bahs natíja i gair matlúb kí hai, yāne natíja matlúb na nikále jáwe balki koí aur aisí bát gair matlúb, ki agar qáim kí jáwe, to ba záhír małúm ho ki yih wuhí hai. Garaz yih fareb, yāne “tagaiyur i mazmún” jawáb denewálá aksar is maq-sad ke wáste kartá hai, ki mubáhise men jab wuh dekhtá hai, ki main apní bahs par qáim nahín rah saktá hún, to us bahs ko chhor kar aur bát par, jo bilkull mukhtalif ho, yá bilkull na ho balki kuchh ho, bahs karne lagtá hai. Maslan farz karo, koí shakhs sábit karne cháhé, ki tez nashe ká ek qatra bhí píná gunáh hai, mugar sábit na kar sake, to chálákí se bahs ko badalkar kahne lage, ki tez nashe ká bahut sá píná gunáh hai. To yih bahs auwal se bilkull mukhtalif hogí. Yih mugálta kaí tarah áke partí hai. Maslan baz jagah lafz mushtarak yá ámm nám istiamál kiyá játá hai, aur jab ek mane qáim nahín rah sakte hain, to muqábilwálá दूसरे तिसरे mane istiamál karne lagtá hai. Maslan koí sábit karne cháhé ki fuláne log Kḥudá par is tarah ímán lāe hain, ki us ko baḥhúbí 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 juz'ya sábit kiyá játá hai, jab ki kulliya sábit karná cháhíye. Maslan bāze log jab yih nahín sábit kar sakte hain, ki Ísáí mazhab achchhá nahín hai, to is bahs ko chhor kar kahne lagte hain, ki baz shakhs is mazhab ke ach chhe nahín hain: pas yih wuh natíja nahín hai, jo nikálná cháhíye thá, aur agar yih sábit bhí ho jáwe, ki baz shakhs is mazhab ke achchhe nahín hain, to kyá, asl dāwe se yih bát bilkull alag hai.

Baz dafa muqábilawálá bar waqt mubáhise ke, ek muqaddame ko chhor kar, दूसरे par bári bári se bahs karne lagtá hai Jab ek muqaddame par iatiráz nahín

than this in a 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 clamor 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

ho saktá hai, to दूसरे par iatiráz karne lagtá hai, aur jab दूसरे par bhí iatiráz nahín ho saktá hai, to phir pahle par á játá hai. Garaz ki kisé bahs ko púra nahín kartá hai. Agar bahs karnewálá kam aql ho, to us ko is se bahkar aur koí mugálta nahín partá hai, ki ek qaziye ko ohhokar दूसरे par chalá játá hai, hamesha idhar udhar ghúmtá phirtá hai, kisé bahs par bakhúbí qáim nahín rahtá hai. Mazhabí mubáhison meñ ham ne aksar dekhá hai, ki muqábilawálá ek masle par iatiráz kartá hai, aur phir aur par bare shor o gul ke sáth. Zara thahartá nahín, ki púra jawáb páwe yá áp radd kare, yá iqbal apne qáil hone ká kare. Pas aise mugálte se mahfúz rahne ke wáste yih khúb taríqa hai, ki agar koí lafz mushtarak ho, yá ámm ho to auwal us ke mane muqarrar kiye jáwen, aur auwal hí auwal khúb jatá diyá jáwe ki isí par bahs rahe; aur phir agar muqábiawálá ek muqaddame yá qaziye ko ohhokar दूसरे muqaqdame yá qaziye par bári bári se jáne lage. to use muttalá kartá rahe, ki jab tak ek bát par bahs púrí na ho jáwe, दूसरी ko na pakre.

3.—*Mugálta iatirázon ká.* Mugálta iatirázon ká us ko kahte hain, jab ki iatiráz kisé 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.

Mugálta iatirázon ká bhí “natíja i gair matlúb” kí qism se hai, kyúñki sirf is qadr natíja nikálná, ki fuláne qaziye par iatiráz ho sakte hain; natíja i matlúba nahín hai, balki yih batláná cháhiye, ki fuláne qaziye iatiráz ziyáda yá us kí isbát i sihhat kí dalílen ziyáda hain, yane yihí bát sábit karná cháhiye, ki *áyá iatiráz dalílon se ziyáda hain yá nahín?* Bahut baten aisi hain, jin ke subút meñ us qadr dalílen hain, ki koí un ke qubúl karne meñ kisé tarah ká taammul nahín kar saktá hai; magar ba in hama un ke úpar kuchh iatiráz ho sakte hain. Agar koí muqábilawálá un báton

their favor that no one should hesitate for a moment to accept them, and yet there may be some plausible objections urged against them. An 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 that 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 favor 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 favor than can be urged against it, it is not disproved and this point should be kept clear above all the clamor 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

par bare shor o gul ke sáth iatiráz uṭháke záhir kare, ki in báton ko radd karná cháhiye, pas yihí mugálta iatirázon ká húá.. Masal to maslan, koí dawá ho, jis se bísion marizon fáida húá ho; magar ek-ádh dafa kisi ko na húá ho, to yih kahná ki yih dawá náqis hai galat hogá Yá maslan, Baibal ke subút men bahuterí pakkí dalílen hain, ki yih kitáb Kḥudá kí hai, aur sálhá sál se tá ba áj tak bajinsihí bagair tahríf chalí átí hai, magar táham, chúnki baz jagah diqqat áke partí hai, aur ba záhir chand iatiráz ho sakte hain, is sabab se baz ádmí kahne lagte hain, ki is ko radd karná cháhiye. Yih mugálta iatirázon ká húá. Yahán par yih suwál¹ 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 iatiráz” kí yih hai, ki baz ádmí umúrat i saltanat men rafáh i kḥaláiq ke wáste kisi tarah ká tagaiyur amal men áwe, to iatiráz kar sakte hain, agarohi us tagaiyur men us mulk kí bahut bihtarí ho, táham ba sabab do ek iatiráz ke baze log radd karne lagte hain.

Jis mubáhise men, ki mugálta iatiráz ká wáqi ho, to us ke jawáb men yih qáida baratná cháhiye, ki jitní dalílen subút i sihhat men hain, is se ziyáda iatiráz jab tak na hon, us waqt tak use radd karná na cháhiye, aur kaisá hí shor o gul kyún na maache, is qáide ko háth se na de.

4.—*Mugálta subút i juzí ká.* Yih mugálta “mugálta i iatiráz” ke baraks hai. Mugálta i iatiráz men juzí par iatiráz karke kullí ko radd karte hain, aur is men juzí ko sábit karke dawá karte ki kullí sábit hai. Maslan farz karo, koí shakhs suwál kare, ki áyá fulání

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 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.

First then, 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

kitáb achchí hai yá nahín? aur us ke jawáb men kahá jáwe, ki chand bayánát us kitáb men achchí hai, is sabab se wuh kitáb achchí hai, to yih “*mugálta sabút juzí ká*” hogá; kyúñki juzí ke hál se kullí kí taraf dalíl pakartá hai. Suwál is bát men thá, ki wuh kitáb sab tarah se achchí hai yá nahín? Pas yahán par natíja juzí nikálná, jis súrát men kullí cháhiye gair matlúb hai. Dúsrí misál, farz karo, koí shakhs suwál kare, ki fulání sarkár achchí hai yá nahín? to us ke jawáb men sirf do tén báten us amal-dárá kí achchí sábit karná káfi na hogá, balki kull báton par gaur karke natíja nikálná cháhiye, aur agar kull báten achchí sábit na hon, balki juzwí báten, to yih natíja yahán par gair matlúb hogá, kyúñki bahs hamárá *kull* par thí na *juz* par. Garaz ki “*mugálta i subút i juzí*” se mahfúz rahne ke wáste kullí par dalíl talab karná cháhiye, aur is amr se ágáh kar dená cháhiye, 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 cháhiye, ki jitní bát ho, utná hí dawá karná cháhiye na yih ki ziyáda; kyúñki agar ziyáda dawá kiyá jáwe, to kull sábit na ho sakegí, aur dalíl men iatiráz “*mugálta i juzí*” ká paidá hogá. “*Natíja gair matlúb*” aksar inhín chár qismon ke mugálton men, yane “*tamalluq-ámez*,” aur “*mugálta i 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.

Auwal, dalíl ko ba súrát i qiyás karná cháhiye, aur dalíl khwáh zabání ho yá tahrírí, aur tahrírí khwáh kull kitáb men yá báb men yá fasl men ho, ba súrát i qiyás is tarah láná cháhiye, yane dekho ki ákhírí bahs kyá hai, kyúñkar aksar wuhí natíja hogá, aur phir yih daryáft kare, ki kis biná par wuh ákhírí

obtained the syllogism or syllogisms, as the case may be, can be constructed which may then be tested by the rules of syllogisms.

1st. Observe whether the syllogism be categorical or hypothetical. If hypothetical the rules for the hypothetical 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.

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.

bahs qáim hai, yāne kin dalílon se wuh natíja niklá hai, aur wuh biná yāne dalílen muqaddamát hongē; pas is tarah qiyás ban jáwegá, aur jab qiyás ban jáwe to us kí sihhat un qáidon se, jo wáste daryáft karne sihhat qiyáson ke muqarrar hain, daryáft karná chāhiye.

Auwal.—Yih dekho, ki wuh qiyás iqtirání yá istisnái hai, agar istisnái hai, to unhín qáidon se, jo wáste istisnái ke muqarrar hain, sihhat us kí malúm karo.

Doyum.—Agar qiyás iqtirání ho, to yih dekho, ki us men kitne juz hain.

Seyum.—Agar sirf tén juz hon, to yih dekho, ki hadd i ausat kullí hai yá nahín, aur ba manē mufrad istiāmál kí gaí hai, yá nahín.

Chahárum.—Yih dekho, ki donon muqaddamát sálíbe hain yá mújibe, aur agar sálíbe hain, to manan yá lafzan, aur agar ek muqaddama sálíba ho, to dekho ki natíja bhí sálíba hai yá nahín? agar donon muqaddamát mújibe hon, to yih dekho ki natíja bhí mújiba 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 súrāt shakl i auwal ho, to yih daryáft karo, ki bamújib “qaul i Arastátálís” ke hai yá nahín?

Pas agar wuh qiyás in sab nuqson se khálí ho, yāne us kí súrāt 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 badhí hai yá nahín?

Dústre.—Agar badhí na ho, balki muhtáj subút ká ho, to yih dekho ki wuh biná yāne dalíl, jis par wuh qáim hai, sahíh hai yá nahín?

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 ;—

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.		
		4 { Affirmative conclusion from negative premisses and vice versa.		Ambiguous major or minor.
				5 { More than three term in the argument.

II. NON-LOGICAL or material, error in matter.	{	<i>first</i> , fallacy in the premisses.	{	1 Petitio principii.
				2 Arguing in a circle.
				3 Non causa pro causa.

II. NON-LOGICAL or material, error in matter.	{	<i>Second</i> , fallacy in the conclusion, "ignoratio elenchi," or irrelevant conclusion.	{	Argumentum ad hominem.
				Shifting ground.
				Fallacy of objections.
				Fallacy of proving only a part.

Tisre.—Yih dekho ki muqaddamát dar haqíqat wuhí hai, jo natíja hai, yá natíja par mauqúf hai.

Agar muqaddamát sahíh aur iatiráz se khálí ho, to natíje kí taraf mutawajjih ho.

Pahle.—Yih dekho, ki natíja matlúba hai, yane wuhí hai jo is dalíl men cháhiye thá?

Dústre.—Yih, ki natíja wuhí hai, jo bahs karne-wále ne sábit karná cháhá thá, yá bahs badal gai hai?

Tisre.—Yih dekho, 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 men ho, baqhúbí malúm ho jáegí. Mugálte kí har súrát par, jo zail ke bayán i mujmal men likhí hai, tá waqte ki us kí kaifiyat baqhúbí malúm na ho jáwe, aur har súrát kí misál apní taraf se na baná sake, khúb dhyán dená aur gaur karná cháhiye.

Mugálton ká mujmal bayán.

- | | | | | |
|--------------------------------------|---|---|---|--|
| 1. <i>Mugálta</i>
i <i>Súri</i> , | { | 1. Hadd i ausat juzí.
2. Kuliyat i nájáiz.
3. Muqaddamát i sálíbe.
4. Natíja i mújiba muqad-
damát sálíbon se, yá bar-
aks is ke.
5. Ek qiyás men tín juzon
se ziyáda ká honá. | { | Akbar yá asgar yá
hadd i ausat mush-
tarika.
Mugálta i arzí.
Mugálta i taqsim o
jama. |
|--------------------------------------|---|---|---|--|

- | | | | | |
|--|---|--|---|---|
| 2. <i>Mugálta</i>
i <i>Manawí</i> , | { | <i>Auwal</i> ,—Mugálta muqad-
damát men.

<i>Doyum</i> ,—Mugálta natíje
men, yane “natíja gair
matlúb.” | { | 1.—Muqaddama na-
tíje par mauqúf.
2.—Daur i tasalsul.
3.—Wajh i gair-mu-
wajjih.

Mugálta i tamalluq-
ámez.
Mugálta i tagaiyur i
mazmún.
Mugálta iatirázon ká.
Mugálta subút juzí. |
|--|---|--|---|---|

SECTION II.

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 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 truths from particular truths or facts that have passed under observation. 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 in chemical analysis yields but two gases *oxygen* and *hydrogen* 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” is found-

DÚSRÍ FASL.

Bayán chand taríqon istiamál 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 ek hí taur par dauṛtí 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 juziyat se kulliyat malúm karná, yane chand báton se us qism kí kull báton ke liye koí qáida i ámm nikálná. Jab chand dafa ham ne dekhá, ki jab ek amr hotá hai, us ke sáth fulání bát hotí hai, pas us se ham natíja nikál lete hain, ki is qism kí jitní báten 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 nikalá ki dháten pighal játí hain. Dúsrí misál, ham ne dekhá, ki gáe bhains, bakríán, aur síngwále jánwar jugálí karte hain, pas qáida nikalá 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 hissa haidrojen, pas natíja nikalá, ki jitná khális pání hai, do unsar se, yane áksijen aur haidrojen se, is tarah par ki áth hissa áksijen aur ek hissa haidrojen murakkab hai.

2.—Ab jánná cháhiye ki bunyád istiqrá kí is yaqín

ed 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; and 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 unfavorable influence on the birth of children, because perhaps, in some instances, unfavorable births have taken place in connection with eclipses; although there is no possible bad influence in the eclipses over the birth of a child, as the thousands of favorable 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, proved bad, we should not therefore infer that there is some unfavorable sign in an animal crossing our track. On the contrary, a correct induction would show us that the instances are vastly more

par hai, ki “*qudratī qánún ek hí rahte haiñ badalte nahín,*” aur yih yaqín bhí sháyad istiqrá se hásil húa, kyúñki larakpan se ham dekhte haiñ, ki áftáb barábar tulú hotá hai aur gurúb hotá hai, aur rát aur din pai dar pai hote rahte haiñ; ek hí tartíb par ek mausim átá hai, bíjon men kallá phúttá hai, aur darakht barhte haiñ, aur phalte phúlte haiñ ek hí tartíb par; pas dekhte dekhte hamáre dil par yih yaqín jam gayá hai, ki “*qawánín i qudratī badalte nahín,*” ek hí rahte haiñ. Jab kaí ek martaba ham dekhte haiñ, ki fuláne wáqí ke sáth fulání bát hotí hai, to natíja nikálte haiñ, ki chúnki qudrat ke qánún hamesha ek hí rahte haiñ, is sabab se fuláne wáqí ke sáth fulání bát hamesha hotí rahegí.

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 húe dekhkar ek ámm qáida nikálná, ki jab fuláná amr hogá, to us ke sáth fulání bát zarúr hogí. Yih galatí aksar wáqí hotí hai, kyúñki bárhá dekhne men átá hai, ki jab koí bát kisí amr ke sáth do ek martaba hotí ho, to log kahne lagte haiñ, ki us bát aur us amr men íláqa zarúr hai. Maslan, Hindú log aksar kahte haiñ, ki gahan parte waqt larke ká paidá honá manhús hotá hai, kyúñki baz martaba ázmá dekhá hai, ki jab aise waqt men larhá paidá hotá hai, manhús hotá hai, agarchi is bát kí kuchh asliyat nahín; kyúñki 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 natíja nikálná na cháhiye, ki musáfirat men jánwar ká rásta kátkar nikal jáná shugún i bad hai; balki barákhiláf is ke istiqrá e kámil se ham ko yih bát sábit ho jáwegí, ki jánwar ke nikalne se

numerous where the crossing of our track by an animal was followed by a prosperous journey.

Induction will 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 still further, as new observations are made and new facts are compared.

kuchh nahín hotá, kyúñki saikron martaba jánwar rásta kátkar nikal gae, aur safar ba khairiyat tamám húa.

Jis qadr báten hamárá 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 hamárá nazar se guzar jáen. Lekin yih amr aksar gair mumkin hai, aur haqíqat men kuchh zarúr bhí nahín hai, jab kí tabíat ke chand hí martaba dekh-ne se qarár wáqai itmínán ho, ki hán yih ámm qáida nikaltá hai. Maslan yih zurúr nahín hai, ki tamám dunyá ke pání ko judá karke dekhen, táki yaqín ho jáwe ki pání do gáson, yane do hawáon se murakkab hai, kyúñki chand martaba ázmáne se dil ko qarár wáqai 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 bárhá 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 jama karne se ilm ban gae hain. Ilm i Hayat, ilm i Tarkíb i Zamín, ilm i Kímiyá, ilm i Tibb, wg. isí tarah nikle hain. Saikron baras kí ázmáish aur tahqíqát se baz ilm is kámiliyat tak pahunché hain. Istiqrá se aur bhí in ilmon ko pukhtagí ho jáwegí, kyúñki tahqíqát i jadída hotí játí hai, aur naí báten nikaltí játí hain.

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 to which they belong. This is an induction, and put in the syllogistic form would stand thus,—

A is true of X, Y and Z.

B is the class to which X, Y and Z belong.

Therefore A is true of B.

To illustrate this by an example:—

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.

The full syllogisms are,—

Lead is a metal.

Lead is fusible.

Therefore some metal is fusible.

And,

Silver is a metal.

Silver is fusible.

Therefore some metal is fusible.

5.—Dalíl i istiqrá kisé tarah kyúñ na ho, ba súrat i qiyás ho saktí hai. Aksar to dalíl i istiqrá ba súrat i qiyás mukhaffaf hotí hai, jis ká kubrá muqaddar hotá hai. Jab ek qism kí chand ohízon ke ek se hálat bárhá hamárí nazar se guzarte hain, to ham natíja nikál lete hain, ki jo hál un chand ohízon par sádiq átá hai, wuhí us qism kí kull ohízon par sádiq áwegá. Yihí istiqrá húá. Agar ba tartíb i qiyás likhá jáwe to yún hogá :—

A. jo hai, J. D. R. par sádiq átá hai.

B. jo hai J. D. R. kí qism men hai.

Is sabab se A., B. par sádiq átá hai.

Misál is kí yih hái :—

Jo bát ki gáe bher bakrí haran wg. par sádiq átí hai, gáliban sab síngdár jánwaron par sádiq áwegí.

Jugálí karná gáe bher bakrí haran wg. par sádiq átá hai.

Pas jugálí karná gáliban sab síngdár jánwaron par sádiq átá hai.

Istiqrá men auwal sirf yih málúm kar lete hain, ki fulání ámm bát ek qism kí chand ohízon men páí játí hai, aur phir yih natíja nikálte hain, ki is qism kí kull ohízon men yih bát páí játí hai. Upar kí misál dekhne se málúm hotá hai, ki aisí dalílon se istiqrá men kubrá muqaddar hotá hai, aur wuh kubrá muqaddar koí aisá qaziya hotá hai jaisá ki, *Jo bát fulání qism kí chand ohízon par sádiq átí hai, wuhí us qism kí kull par sádiq áwegí.*

Dalílon istiqrá ko bhí judá judá karke ba súrat i qiyás rakh sakte hain. Maslan “sísá pighal játí hai, pas baz dhát pighal játí hai;” “Chándí pighal játí hai pas baz dhát pighal játí hai;” pas ham ko málúm ho játá hai, ki “kubrá sísa dhát hai,” “chándí dhát hai,” muqaddar hai. Agar yih istiqrá ba súrat i qiyás likhá jáwe to yún hogá :—

From a number of such inductive syllogisms, reduced to one single syllogism, we get a general fact or law as a conclusion. Thus,—

Lead, silver, gold, iron, &c., are metals.

These are fusible.

Therefore metals are fusible.

Of Deduction.

Deduction is just the opposite of induction. In *induction* we infer general laws or principles from *facts*; in *deduction* we deduce 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 taken one of these things he is poisoned. This is a *deduction*. In the same way we conclude that any horned animal, newly discovered, is a ruminant, because the general fact has been discovered by induction that horned animals are ruminant. 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*. In induction, we infer a general fact from a number of particular cases, but in the argument from example, we infer something in regard to one particular case from another case or cases. Thus we might infer that a certain traitor will come to a bad end because the traitor Náná

*Istiqrá auwal ba sú-
rat i qiyás,* { Sísá dhát hai.
Sísá pighal játá hai.
Pas báz dhát pighal játí hai.

*Istiqrá dúsrá ba sú-
rat i qiyás* { Chándí dhát hai.
Chándí pighal játí hai.
Pas báz dhát pighal játí hai.

In sab qiyáson istiqráí 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 Istikhráj ká.

Istikhráj thík thík *istiqrá* ke baráks hai. Istiqrá men juziyat se kulliyat subút kí játí hai, aur istikhráj men kulliyat se juziyat sábit kí játí hai. Istiqrá se ham ko yih bát malúm húi hai, ki fulání chízen zahrdár hain. Pas is ámm qáide se, jo ham ko malúm húá hai, ham yih natíja nikálte hain, ki agar-chi in zahrdár chízen men se koí bhí, kisí shakhs ne khá lí hai, to us par zahr ne asar kiyá hogá. Isí ko *istikhráj* kahte hain. Isí tarah agar koí nayá jánwar síngdár kahín mile to ham natíja nikál lenge, ki yih jugálí karnewálá hai; kyúñki yih ámm qáida dalíl i istiqrá se malúm ho ohuká hai, ki síngdár jánwar jugálí karte hain. Garaz istikhráj kulliyat se juziyat par dalíl láne ko kahte hain, aur istiqrá juziyat se kulliyat par dalíl láne ko kahte hain.

Bayán Tamsíl ká.

Tamsíl men istiqrá aur istikhráj kuchh kuchh donon páe játe hain. Istiqrá men juziyat se kulliyat par dalíl láte hain. Tamsíl men ek juzí se dúsrí juzí par, yane ek chíz se dúsrí chíz par hawála diyá játá hai. Maslan koí natíja nikále, ki fuláne bágfí ká anjám burá hogá, kyúñki Náná Ráo bágfí ká anjám burá húá. Sháyad yahán par istiqrá aur istikhráj donon páe játe

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 where we live and Mars, Jupiter, 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 particu-

haiṇ, kyúṇki tamsíl Náná Ráo se istiqrá ke taur par yihí bát nikaltí hai, ki kull bágíon ká anjám burá hotá hai. Pas chúnki yih ádmí bágí hai, is sabab se us ámm qáide se istikhraj ke taur par yih bát nikaltí hai, ki is ká bhí anjám burá hogá. Patras Rasúl ne, jo gunah-gár firishton kí halákat ká, [2 Pat. 2, 4-9] aur qabl túfán i Núh, jo log dunyá men ábád the, un ká aur Sadúm o Gamúra ke logon ká hawála diyá hai, táki sábit ho jáwe, ki sharír badzát sazá páwenge; wuh dalíl tamsíl hai. Yih taríqa dalíl láne ká bahut sáf aur sahíh hai, kuchh hájat aur misál láne kí yaháṇ par nahín hai.

Bayán Qaríne ká.

1.—Ámm muháware ke mutábiq *qaríne* ke maṇe mushábahat ke haiṇ, aur mushábahat kái tarah par hai, yá *súrí* hai, yá *maṇawí* yá *nisbat* kí. Misál auwal, *qarína i súrí*, jaise zamín aur chánd donon ká gol honá, aur donon ká apne apne mihwaron par ghúmná. Misál doyum, *qarína i maṇawí*, ki jaise bázú machhlí ká aur paṇand ká, ki donon wáste ek hí matlab ke bane haiṇ, yaṇe wáste uṛne aur daṛne ke. Misál tísrí, *qarína i nisbat*, jaise mulk ká sadr maqám dár-us-saltanat hai, isí tarah jism ká sadr maqám dil hai. Dekho yaháṇ par jo nisbat mulk ko apne dár-us-saltanat se hai, wuhí jism ko apne dil se hai, pas yih misál mushábahat nisbat kí húi.

Qaríne kí rú se dalíl láne men is tarah par natíja níkalte haiṇ, ki jab ek chíz dúsrí chíz se chand báton men mushábahat rakhtí hai, to aur báton men bhí mushábih hogí. Aur beshakk jis qadr mushábahat hogí usí qadr dalíl pukhta hogí. Ek dalíl *qarína* kí mundarja misál i zail hai. Maslan ham dekhte haiṇ, ki yih zamín jis par ham rahte haiṇ, saiyáron, Útarid Mushtarí, Zuhl wg. se bahut báton men mushábahat rakhtí hai. Sab zamín kí misl

lars they resemble the earth. Now as the earth is inhabited, it is 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 *revelation*. 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

zî-jirm ma'lûm hote haiñ; sab áftáb ke ás pás gardish karte haiñ, aur us se roshní hásil karte haiñ, jaise zamín ká hál hai, aur jaise hamárí zamín ke apne mihwar par ghúmne se din aur rát hote rahte haiñ, isí tarah un men bhí din aur rát hote rahte haiñ. Pas jab ham ne dekhá, ki yih saiyáre bahut báton men hamárí zamín se mushábahat rakhte haiñ, to qaríne se ham natíja nikálte haiñ, ki jaise zamín ábád hai, waise we bhí ábád haiñ.

2.—Dalíl i qarína, dalíl i istiqrá aur tamsíl, donon se mushábahat rakhtí hai, magar istiqrá se mukhtalíf 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 nikál liyá játá hai, ki aur báton men bhí mushábih hongé. Qarína tamsíl se is bát men mukhtalíf hai, ki tamsíl men ek chíz ko dúsrí chíz se mushábih dekhkar ham dalíl láte haiñ; lekin qaríne men ek chíz ko dúsrí chíz se kuchh báton men mushábih dekhkar qaríne se ma'lûm kar lete haiñ, ki baqí aur báton men bhí mushábahat rakhte haiñ. Is qism kí dalíl kí ek aur misál yih hai. Agar koí shakhs iatiráz kare, ki Baibal men aise masle haiñ, jo samajh men nahín áte haiñ, to us ke jawáb men ham yih bát kahén, ki *khillqat* aur *ilhám* donon us lá-intihá Kḥudá ke kám haiñ. To is bát men *khillqat* aur *ilhám* donon ek húe. Ab chúnki *khillqat* men bahuterí báten aísí haiñ, ki samajh men nahín átí haiñ, isí sabab se gálib hai, ki *ilhám* men bhí bahuterí báten aísí hön, jo samajh men na áwen; aur jaise zamána ba zamána gaur karne se bhed *khillqat* ke khulte játe haiñ, isí tarah *ilhám* ká hál ho. Aur haqíqat men ham dekhte haiñ, ki zamána ba zamána gaur karne se wuh báten Kalámi

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. 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 resemblance in all. 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

Iláhí kí, jo ba záhír mushkíl 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, kisé 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 shikárí thá. Agar yih dalíl i qarína ba súrát i qiyás likhí jáwe, to yún hogí:—

Jin jánwaron ke tez dánt aur tez panje hote hain
we shikárí hote hain.

Is jánwar ke tez dánt aur tez panje hain.

Pas yih jánwar shikárí hai.

Isí tarah ek misál Baibal kí, jo abhí úpar ho chukí hai, ba súrát i qiyás ho saktí hai.

Khilqat ke dekhne se ma'lúm hotá hai, ki us lá-intihá Kháliq ke kám men baz báten aisé hon, jo insán kí samajh men nahín áti hon.

Ilhám us lá-intihá Kháliq ká kám hai.

Pas ilhám men baz báten aisé hon, jo insán kí samajh men na áti hon.

Dalíl i qarína barí hoshyárí se láná cháhiye, kyúñki bagair dekhí bát men aksar gunjáish iatiráz kí hotí hai, aur bahuterí chízen aisé hain, jo baz báton men báham-dígar mushábihat rakhtí hain; magar kull bát-on men nahín. Maslan agarchi Zamín, saiyáron U tárid, Mushtarí, Zuhál wg. se bahut báton men mushábihat rakhtí hai, táham ba yaqín i kámil ham yih natíja nahín nikál sakte hain, ki we zamín kí misl ábád hain, kyúñki sháyad hálát garmí o sardí, aur pání, aur jo jo chízen zindagí ke liye cháhiye, zamín ke misl un saiyáron men na hon, to wahán parwarish ján kí gair mumkin hai.

Báze yih samajhte hain, ki chúnki haiwánát aur nabítát ke darmiyan men barhne aur ghatne aur mar-

like the former, and man with them. But this conclusion is not warranted ; for animals are sentient, active creatures 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.

Hence analogy must be used with caution. It may generally be used as a strengthening and confirming argument rather than as absolute proof.

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 should hear that a man has been bitten by a mad dog, we would naturally infer that he will die from hydrophobia. Believing that God is a merciful, allwise 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

ne men mushábahat hai, haiwánát maḥ insán aur nabátát, donon ṭhík ṭhík ek hí taur far nest ho játe haiṇ. Lekin yih natíja nikálná gair jáiz hai, kyunki haiwánát zí-hiss o harkat jism haiṇ, aur is bát men haiwánát, nabátát se mushábahat nahín rakhte haiṇ. Har ek wujúd men bará farq hai, zará sí mushábahat dekhkar natíja nikálná, ki we marte bhí isí tarah hongē, kisí tarah jáiz nahín hai. Pas barí hoshyári se qarne ká istiamál karná cháhiye. Dalíl i qarína aur dalílon ke istihkám ke wáste láte haiṇ, aisá kam hotá hai, ki wuh bajáe khud dalíl ho.

“*Illat se maḥlúl sábit karná,*” aur “*maḥlúl se illat sábit karná,*” “*adná se ḡlá ko sábit karná.*” Yih tinoṇ dalíl kí súraton ke nám haiṇ. In súraton ká, aur un ke istiamál karne ke taríqe ká bayán ham yahán par likhte haiṇ :—

1.—“*Illat se maḥlúl sábit karná*” us ko kahte haiṇ, ki sababon i maḥlúma se musabbab daryáft kiye jáwen, aur qawáid yá qawánín i muqarrara se natáij nikále jáwen. Garaz ki wujúd illat se wujúd maḥlúl ká natíja nikálne ko “*illat se maḥlúl sábit karná*” kahte haiṇ. Maslan jis waqt áftáb tulú hogá, ham jánte haiṇ ki din zarúr hogá, kyunki áftáb chashma roshní ká hai. Tulú honá áftáb ká illat hai, jis se wujúd maḥlúl ká, yaṇe din ká honá sábit hotá hai. Yá agar chánd, áftáb aur zamín ke darmiyán á jáwe, to zarúr gahan paṛegá. Pas dekhe yahán par háil honá chánd ká illat hai, jis se wujúd maḥlúl ká, yaṇe gahan ká paṛná hotá hai, yá agar ham sunen, ki kisí shakhs ko báole kutte ne káṭ kháyá hai, to ham ján lenge, ki wuh shakhs kutte kí bímári se mar gayá hai. Isí tarah jab ham ne jáná, ki Khudá rahím aur karím, quddús o hakím i haqíqí hai, to ham natíja nikálte haiṇ, ki Khudá Taálá insán par rahmat kí nazar rakhtá hai, aur bání gunáh ká nahín hai.

Ilm i Riyázi men is qism kí dalíl kí bahut misálen

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 met, we infer that they are not parallel. So on 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 "*a priori*" 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 *cause*.

Familiar examples of reasoning "*a posteriori*" are 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 com-

páí jātí hain, kyúñki ilm i ríyází men chand qawáid i muqarra yá usúl i mauzú se natáij sábit kiye játe hain, yá yih sábit kiyá jātá hai, ki fulán dawá galat hai. Maslan ek qáida yih hai, ki k̤hutút i mutawáziya kabhí nahín milte hain, par jahán kahín kisí dawē men aisá sabab áke pare, to ham sábit karenge, ki yih k̤hutút kabhí na milenge, kyúñki mutawáziya hain, yá yih sábit karenge, ki yih k̤hutút mil jáwenge, kyúñki mutawáziya nahín. Garaz isí tarah par bahut aur natáij sábit kar lete hain, aur sab ilmon se isí taríq par bahs kí jātí hai.

2.—“*Mālúl se illat sábit karná.*” Yih thík awal ke [baraks hai. Is men mālúl se illat sábit kí jātí hai; maslan jab chánd gahan partá hai, to chánd ká aks 'zamín par gol partá hai, pas is se mālúm hotá hai, ki zamín gol hai. Aks gol parná mālúl hai, jis se illat, yane zamín ká gol honá mālúm hotá hai. Is qism kí dalíl kí bahuterí misálen us mauqā par áti hain, jahán ki wujúd i mālúl se wujúd i illat ká sábi, karná cháhte hain. K̤hún ke muqaddama men aksar is amr kí tahqíqát, ki kis chíz se qatl húá, aur kis kis tarah par húá, isí taríq par karne se qátíl mālúm ho jātá hai.

Isí dalíl kí rú se ham apná wujúd, aur k̤hilqat ká wujúd, aur tarah tarah kí hikmaten wg. dekh kar K̤hudá ká wujúd, aur us kí zát o sifát sábit karte hain. Isí tarah ham dekhte hain, ki Baibal kí talím niháyat umda hai, aur wuh wuh báten páí jātí hain, ki insán kí táqat o liyáqat se báhar hai; pas is se sábit hotá hai, ki Baibal ilhámí 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 ádmí kí banáí hai.

Is qism kí dalíl ko barí hoshyári aur k̤habardári se istiamál karná cháhiye. Jab tak illat aur mālúl ke

mitted. 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 B.

C is greater than A.

Therefore C is greater than B.

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

darmiyán koí iláqa qarár wáqai na páyá jáwe, us waqt tak kuchh natíja nikálná nahín cháhiye, warna sūrat “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 álá ko sábit karná.*”—Is dalíl men kisé amr yá dāwa e musallama se, usí qism ke kisé aur amr, yá dāwe ko sábit karte hain. Aur jo amr yá dāwá ki sábit kiyá jātá hai, us ko taslím karne ke wáste us se bhí barh kar subút hote hain, jitná ki us amr yá dāwá e musallama ke subút ke liye hote hain. Yih dalíl is sūrat kí hotí hai.

A. barábar hai B. ke.

J. A. se bará hai.

Pas J. B. se bará hai.

Masíh apne shágirdon, aur, aur logon ke sáth bár-há is qism kí dalíl láyá. Maslan (dekho Matí 6 : 28-30.) “Aur poshák kí kyún fikr karte ho, janglí sosan ko dekho, kaise barhte hain, wuh na mihnāt karte na kátte hain. Par main tnmhen kahtá hún, ki Sulaimán bhí apní sárí shán o shaukat men un men se ek kí mánind pahine na thá. Pas jab Kḥudá maidán kí ghás ko, jo áj hai, aur kal tanúr men jhonkí játí, yún pahinátá hai, to kyá tum ko ai sust-iātiqádo, *ziyáda* na pahináwegá?”

Agar yih dalíl ba sūrat i qiyás qáim kí jáwe, to yún hogí:—

Janglí sosan aur ghás ko poshák dí.

Tum un se bahut bare ho.

Pas tum ko *bahut ziyáda* poshák Kḥudá bakhshegá.

Dúsrí misál, (Matí 12 : 10-12.) “Aur dekho, wahán ek shakhs thá, jis ká háth súkh gayá thá. Tab unhon ne is iráde se, ki us par nálísh karen, us se pú-chhá, ki Kyá sabt ke din changá karná rawá hai? Us ne unhen kahá, ki Tum men se aisá kaun hai, ki jis ke pás ek bher ho, agar wuh sabt ke din garhe men

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

gire, wuh use pakarke 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 álá ko sábit karná” kahte hain, jis men qaziya i musallama aisá sáf nahín hotá, jaisá ki 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.—İllat se mālúl sábit karná.
- 6.—Mālúl se illat sábit karná.
- 7.—Adná se álá ko sábit karná.



CONCLUSION.

We have now gone over the subject of Logic and it only remains to add a word by way of conclusion. The entire subject of Logic, as 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 sum and substance of true logic, as taught by the ancients and moderns, is presented in this book. If it be mastered, a knowledge 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 is 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 should be made to practice correct reasoning in every day life. An effort should be made to detect and

ḲHÁTIMA.

MANTIḠ ke bayán se faráḡat páí; ab sirf itná aur rahá hai, ki ek ádh bát ḡhátíme ke taur par likhen. Kull hál Mantiḡ ká, jis qadr ki sikhláyá játá hai, is kitáb men maujúd hai. Agar koí shakhs az ráh i dho-khá-dihí apná ilm jatáne ko kisí tálib i ilm se yih ḡawá kare, ki “is kitáb men kull hál ilm i mantiḡ ká nahín likhá hai; mantiḡ bahut bará ilm hai, is zará sí kitáb men nahín samá saktá hai,” to is bát par hargiz yaḡín na láná cháhiye.

Matálib aur maṇe sahíh mantiḡ ke, jaisá ki muta-qaddamín aur mutaakḡḡhirín sikhláte chale áe haiṇ, is kitáb men maujúd haiṇ. Jo kuchh hál ilm i mantiḡ ká aur kitábon ke paṛhne se átá hai, wuh sab is kitáb se hásil hai. Jo kuchh kitáben ilm i mantiḡ kí is mulk men murauwaj haiṇ, un ká paṛhná is garaz se cháhiye, ki mukḡtalif tarz i bayán aur istiláhát wg. se ki har kitáb kí mukḡtalif hotí haiṇ, wáḡif ho jáwe, aur istiamál men láwe.

Magar koí tálib i ilm yih na samjhe, ki ekádh kitáb yá bahut sí kitáben ilm i mantiḡ kí agarchi wuh kámil hí kyún na hon, paṛh lene se mantiḡí ho jáwegá. Agar koí is kitáb ko paṛhkar us ke istiláhát aur qawáid aur alfáz bar zabán yád karke us ko tah kar rakhe, aur us ko istiamál men na láwe, to mantiḡí na hojáwegá, kyúnki “kár ba kasrat hai.” Har ilm o hunar men *malika* cháhiye. Kárigaron ko dekho, ki auwal hathyáron ke nám, aur un ke istiamál karne ke taríqon se wáḡif hokar bādahú roz marra un hathyáron ko kám men láte haiṇ, to kahín ek muddat men jáke hoshyár ho játe haiṇ. Isí tarah paimáish ko dekho, ki bād jánne qawáid paimáish ke ek muddat tak us ká mashḡ

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, some 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

kartá hai, to paimáish men pukhta ho játá hai. Alá-ház-al-qiyás har shakhs ko qabl is se, ki wuh apne ko mantiqí kahláwe, is ilm ke istiamál se wáqif honá zarúr hai. Usúl aur istiláhát, aur qawáid is ilm ke auwal khúb samajhná cháhiye; aur phir roz marra sihhat ke sáth bahs karne ke liye malika paidá karne kí koshish karní cháhiye. 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 tahrirí, khúb gaur ke sáth dekhne kí údat dálni cháhiye. Har dalíl kí súrat aur pukhtagí aur khámí par hamesha nazar rahe. Jahán kahín koí pukhta aur qawí dalíl dekhne men áwe, us ko apne wáste ek namúna samajhná cháhiye. 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 us ke *khiyálát 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 malika 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.

Dúsré in sab báton mazkúra i bálá par liház rakhne se *zihn men barí qúwat á játí 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 tabíat insán kí zor par á játí 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 árásta o pairásta ho játá hai*. Khudá kí ba-

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.



náí 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 hiqarat 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.



QUESTIONS FOR 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 Mahommedans ?

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 ?

IMTIHÁN KE LIYE CHAND SUWÁLÁT.

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 men kyá kaifiyat paidá hotí hai ?

İlm i Mantiq ke haqq men báz ádmí kyá samajhte haiñ ?

İlm i Mantiq ibtidá men kin logon men thá ?

Auwal yih ilm kis qaum men íjád húa ?

Yih ilm silsilawár is zamáne tak kis tarah pahunchá ?

Is ilm ke mashhúr musannifon ká nám, aur un ká zamána bayán karo ?

Filhál ahl i Islám men yih ilm kis súrat par páyá játá hai ?



PAHLÁ HISSA.

İlm i Mantiq zihn se kaun sí súrat men iláqa rakhtá hai ?

Zihn kyá shai hai ?

Hawáss i khamisa ká nám lo ?

“Mahsús” kis ko kahte haiñ ; “maqúl” kis ko kahte haiñ ?

İlm i Mantiq zihn kí kaun sí tín báton se mutaalliq hai ?

Tasauwur kis ko kahte haiñ ?

Tasdíq kis ko kahte haiñ ? Tasdíq ko qaziya kis hálat men kahte haiñ ?

What is *comparing, abstraction, generalization* ?

What is *language* ?

What are *words* ?

SECTION I.

Define and illustrate a *simple apprehension* ?—a *complex apprehension*.

Wherein does an *apprehension* differ from a *term* ?

SECTION II.

What is a *simple term* ?—a *complex term* ?—*singular term* ?—*common 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 *definition* made up ?

How many kinds of *definition* are given ?

What are the *rules* for *definitions* ?

Dalíl aur *burhán* kis ko kahte haiñ ?

“*Gaur*” aur “*muqábila karná*,” aur “*qúwat i tafríqa*,” aur “*qúwat i jinsí*” kaun sí zihní *qúwaton* ko kahte haiñ ?

Qúwat i nátiqa ká kuchh bayán karo ?

Lafz kí *taríf* karo ?

PAHLÍ FASL.

Tasauwur kí *taríf* aur us kí *qismen* bayán karo ?

DÚSRÍ FASL.

Tasauwur aur *ism* men kyá farq hai ?

Ism i mufrad, aur murakkab, aur juzí, aur kullí kis ko kahte haiñ ?

Lafz kaun sí hálat men “*tamám*” aur “*ná-tamám*” kahá játá hai ?

Ism bin-nisbat, aur bilá-nisbat kis hálat men kahá játá hai ?

Ism i mushtarak, aur gair-mushtarak, aur muta-rádif kí *taríf* bayán karo ?

Ism i mutanáqiza, aur mutazádda men kyá farq hai ?

TÍSARÍ FASL.

“*Jins*” aur “*nañ*” kí *taríf* bayán karo ?

Aqsám i *jins* bayán karo, aur un kí misál do ?

Taqsím i *ajnás* aur *anwá* kis bát par munhasar hai ?

Fasl kis ko kahte haiñ ?

Arz kis ko kahte haiñ ?

Us kí *qismen* maa misálon ke batláo ?

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 ?

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.

SECTION II.

What is meant by the “distribution of terms” ?

On what does the distribution of the subject depend ?—of the predicate ?

Give the four rules for the distribution of terms.

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 ?

CHAUTHÍ FASL.

Muarrif kis ko kahte haiñ?
 Muarrif kí tarkíb men kaun kaun chízen dákhil
 haiñ?
 Muarrif kai taur par ho saktá hai?
 Qawáid i muarrif bayán karo?

DÚSRÁ HISSA.

PAHLÍ FASL.

QAZIYA kis ko kahte haiñ, maá misál ke bayán
 karo?
 “Mauzú” aur “mahmúl” aur “nisbat i hukmiya”
 kis ko kahte haiñ?
 Qazíon kí qismen bayán karo?
 “Mádda” kis ko kahte haiñ?
 Mádda men kai súraten haiñ?
 Mádda i nisbat ke qawáid bayán karo?

DÚSRÍ FASL.

Ilm i Mantiq men lafz i Kamm kis ko kahte haiñ?
 Mauzú kí *kulliyat* aur *juziyat* kis bát par mauqú
 hai?
 Aur mahmúl?
 Kaun se chár qawáid kamm ke wáste haiñ?

TÍSRI FASL.

“Áks kis ko kahte haiñ?
 “Mákúsa” aur “*gairmákúsa*” kis ko kahte haiñ?
 Áks kaun sí súrát men sahíh hogá?
 Áks kai qism haiñ; un ke nám maá misál ke ba-
 yán karo?
 Áks karno ká qáida kyá hai?

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 seven 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 ?

Which are called the "perfect moods" and why ?

What is "reduction" ?

CHAUTHÍ FASL.

“Naqíz” kis ko kahte haiñ ?

Naqíz káitarah par hotá hai, maq misál bayán karo ?

Naqíz ke qawáid bayán karo ?

TÍSRA HISSA.

PAHLÍ FASL.

Dalíl aur *hujjat* kí taríf bayán karo ?

Dalíl men kaun se do juz i álá haiñ, har ek ká nám maq 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 Arastátálís kis ko kahte haiñ ?

Qiyás ke qánún i badíhí bayán karo ?

Sát qáide jo wáste jáñchne qiyás ke haiñ, bayán karo ?

DÚSRÍ FASL.

Shakl kis ko kahte haiñ ?

Cháron shaklon ká bayán karo ?

Cháron shaklon ke qáide batláo ?

Har ek shakl ke istíamál kí súrat bayán karo ?

TÍSRA FASL.

Zarb kis ko kahte haiñ ?

Har shakl men kitní sahíh zarben haiñ ?

Zurúb i kámila kin ko kahte haiñ ?

Khulf kis ko kahte haiñ ?

SECTION IV.

- What is a hypothetical argument ?
 What is a hypothetical syllogism ?
 What is the "antecedent?" the "consequent?"
 What is a conditional syllogism ?
 Give the three rules for the conditional syllogism.
 What is a "constructive" argument ?
 What is a "destructive" argument ?
 How may a conditional syllogism be reduced to a simple categorical one ?
 What is a "disjunctive" syllogism ?
 Give the rule for disjunctives ?

SECTION V.

- What is the "dilemma?"
 What is a simple dilemma ? a compound dilemma?
 What is the difference between the dilemma and any conditional syllogism ?
 How may the dilemma be tested ?

SECTION VI.

- 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 168.]
 Give the rule for testing the sorites.
 Give the rule for resolving the sorites.
 What is the "Goalenian sorites." The hypothetical sorites?
 How is the hypothetical sorites reduced ?

PART VI.

- What is meant by *applied* logic ?
 Illustrate this subject.

CHAUTHÍ FASL.

Qiyás i istisnái kis ko kahte haiñ ?

Usko "ittisálí" kab kahte haiñ, aur "infisálí" kab?

"Muqaddam" aur "tálí" kis ko kahte haiñ ?

Qiyás i ittisálí ke tín qáide batláo ?

Qiyás i ittisálí ko "musbita" kab kahte haiñ, aur
"manfiya" kab?

Qiyás i ittisálí ko iqtirání kí taraf kaise pherte
haiñ ?

Qiyás i infisálí ká kyá qáida hai ?

PÁNCHWÍN FASL.

Qiyás murákkab i istisnái kis ko kahte haiñ ?

Is qiyás kí kai súraten haiñ ?

Is qiyás kí sihhat daryát karne ke wáste kaun qáida
hai ?

CHHATHWÍN FASL.

Qiyás i mukhaffaf kis ko kahte haiñ ?

Is qiyás se púrā qiyás kyúnkar ban saktá hai ?

Is ká qáida bayán karo ?

Qiyás i musalsal kis ko kahte haiñ ?

Qiyás i musalsal men dalíl kí kyá súrāt hai ?

Qiyás i musalsal ke jáñchne ke liye kyá qáida hai ?

Qiyás i musalsal ko púre qiyáson men lāne ke liye
kyá qáida hai ?

Qiyás i musalsal ká aks bayán karo ?

Qiyás i musalsal i istisnái kis ko kahte haiñ ?

Qiyás i musalsal i istisnái iqtirání kyúnkar baná-
te haiñ ?

CHAUTHÁ HISSA.

MANTIQ i Istiāmálí se kyá murád hai ?

Is bát kí misál do ?

SECTION I.

What is a "fallacy?"

In what parts of the syllogism may fallacies occur?

How are fallacies divided?

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 that error?

What is the "fallacy of composition?"—of "division?"

What are "non-logical fallacies?"

How are they divided?

Define and illustrate the "petitio 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 "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?

PAHLÍ FASL.

İlm i Mantiq men mugálta kis ko kahte hain?

Mugálton kí taqsím karo?

In mugálton ká maḥ misál bayán karo, yaṇe hadd i ausat juzí,—kulliyat i nájáiz akbar yá asgar kí,—muqaddamát i sálibe,—natíja i mújiba muqaddame sálibe se, yá baraks is ke,—ek qiyás men tín 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 jamá ká maḥ misál bayán karo.

Mugálta e maṇawí kis ko kahte hain?

Us kí taqsím kaisí hai?

In mugálton ká maḥ misál bayán karo; yaṇe muqaddama natíje par mauqúf,—daur i tasalsul,—wajh i gair muwajjih,—mugálta e tamalluq-ámez,—mugálta e tagaiyur i mazmún,—mugálta i 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 sihat dalílon ke hain, bayán karo

DÚSRÍ 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?

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.



Istikhráj kis ko kahte haiñ, aur wuh istiqrá ke kis bát men k̄hiláf hai?

Dalíl men *tamsíl* kaise láte haiñ?

Mantiq men *qarína* kis ko kahte haiñ?

Qarína kai taur par hotá hai?

Qaríne se dalíl láná kis bát men istikhráj aur tam-síl ke k̄hiláf hai?

Is bát kí misál do, ki qaríne kí dalíl qiyás kí sú-rat men á jáwe?

Qaríne kí dalíl men kaisí k̄habardáří cháhiye?

Illat se ma'lúl sábit karná kis ko kahte haiñ?

Is kí misál do?

Ma'lúl se illat sábit karná kis ko kahte haiñ?

Is kí misál do?

Adná se álá ko sábit karná kis ko kahte haiñ?

İlm i Mantiq men pukhtagí hásil karne ke liye kaun sá taríqa cháhiye?

İlm i Mantiq se zihn ko kaun se fawáid hásil hote haiñ?



FROM

J. H. LLOYD, ESQUIRE,

Offg. Jr. Secretary to the Government of the

NORTH-WESTERN PROVINCES.

TO

THE OFFG. DIRECTOR OF PUBLIC INSTRUCTION,
NORTH-WESTERN PROVINCES.

Dated Nynce Tal, the 19th August 1871.

SIR,

I am directed to acknowledge receipt of your docket No. 1112 dated 10th August with which you submit a review on an Oordoo manuscript treatise on Logic, entitled "Qawáif ul Mantiq" by the Reverend T. J. Scott, Missionary, Bareilly.

2. In reply I am to state that His Honor the Lieutenant Governor considers the work, as described in your review, well worthy the reward proposed and has accordingly been pleased to sanction the grant of Rupees 200 to the author.

I have, &c.,

(Sd.) J. H. LLOYD,

Offg. Jr. Secretary to Govt. N. W. P.

