CHAPTER II

Syllogism and Theory of Relation

1. Introductory:

If we examine closely the immediate inference as well as mediate inference of Aristotelian Logic, we come to know that if we accept one as true, the inferred proposition can be decided as true or false on the strength of the first one. We can do this on the strength of theory of Internal relation, according to which the predicate of the proposition is implied by the subject. The inferred proposition differs from its predecessor either in quality or in quantity or both. Very often the subject and predicate or both of the inferred proposition also differs from the proposition from which it is inferred. We start from the truth or the falsity of the given proposition and inferred another proposition the truth or falsity of which follows necessarily from that of the given proposition.

2. Eduction:

There are four types of eductions:

1. Conversion
2. Obversion
3. Contra-position and
4. Inversion
Out of these four forms of immediate inferences, the first two conversion and obversion are regarded as fundamental and the other two are derived by applying the first two basic processes of conversion and obversion.

**CONVERSION:**

Conversion may be defined as a form of immediate inference in which, from a given proposition, we infer another proposition having subject of the given proposition as its predicate and the predicate of the given proposition as its subject. Obviously this is possible only when the subject and the predicate of the given proposition are bound together by some sort of Internal Relation. Internal Relation is a relation between two terms which imply each other or in which one term implies another. In conversion, the subject term of the given proposition implies the predicate term of the same proposition. When a new proposition is inferred, the subject term of the given proposition becomes predicate term of the inferred proposition and predicate term of the given proposition becomes the subject term of the inferred proposition. The new proposition is called Converse of the given proposition convertend. In converting the given proposition, the rule of the distribution of terms i.e. no term must be distributed in the converse unless it is distributed in the convertend - must also be observed for example,
'A' All men are mortal (Convertend)

'I' Some mortals are men (Converse)

In doing so the quality of the inferred proposition remains the same. The given proposition is affirmative, the converse is also affirmative. If we draw a universal proposition as the converse of the given proposition, we would violate the rule regarding the distribution of terms, therefore we are required to inferred particular affirmative i.e., Some P is S. as converse by limitation because the quantity of given proposition differs the quality of given proposition. This again indicates that in conversion the relation of being either affirmative or negative between the convertend and the converse remains the same, though their quantity is changed. It should however be noted that a conversion of universal affirmative proposition is legitimate only when the subject and the predicate are both singular terms Coextensive with each other.

Similarly conversion of 'E' proposition e.g.

No men are perfect

No perfect beings are men.

remains the same both with regard to quantity as well as quality because in drawing proposition from the given E proposition. There is no violation of the rule regarding the distribution of terms. It should be noted here that if the given proposition is negative
its converse must also be negative because the positive or negative are the terms of the relation. We bring this out by taking another example:

'I' Some S is P
Some P is S

In this example because the given proposition is affirmative, its converse must also be affirmative. The conversion of 'O' proposition involves violation of the rule of distribution of terms because in conversing 'O' proposition the subject of given proposition is not distributed and therefore must not also be distributed in the converse. If we convert 'O' proposition the inferred proposition involves the violation of the rule of distribution. Similarly 'I' proposition cannot be contraposed because it involves violation of the rule of distribution of terms. Contraposition is a kind of immediate inference in which from given proposition we inferred another proposition having for its subject the contradictory of the given predicate. An 'I' proposition when obverted gives 'O' but an 'O' proposition cannot be converted.

While operating through obversion and conversion we have keep in mind that this processes involve relation between the terms of proposition e.g. in obversion, a new proposition is obtained which is negative equivalent for an affirmative proposition obtained from a negative proposition given. Thus a change in quality is affected
by bringing about the contradictory subject of the proposition given. Similarly in conversion, the quantity of the proposition remains the same, the quality also remains the same, but there is a change in the subject and predicate terms.

3. Opposition of Propositions:

In case of opposition of propositions it is maintained in Aristotelian Logic that by the word opposition, we are to mean that it is particular kind of relation between two propositions and hence it is also a kind of immediate inference, they are of four kinds i.e.,

(1) Sub alternation
(2) Contrary
(3) Sub-contrary
(4) Contradictory

Opposition as a form of immediate inference or a particular kind of relation between two propositions, means the inferring of one proposition from another in any one of the above four kinds of relation.
(1) Sub-alternation:

Sub-alternation is a relation existing between two propositions having the same subject and the same predicate, but differing in quantity only. It is a relation between A and I propositions and E and O propositions. The rules of sub-alternation imply that the truth of the universal proposition implies truth of the corresponding particular but not conversely. Similarly the falsity of the particular proposition implies the falsity of corresponding universal proposition but not conversely e.g. if the proposition, 'All men are mortal' is true then the proposition, 'Some men are mortal', certainly true. Similarly if the proposition, 'No men is perfect' be true, the proposition, 'Some men are not perfect' must also be true. But the converse of this rule is not true. If the particular proposition be true, the universal is doubtful i.e., Sometimes true, sometimes false e.g. the particular proposition 'Some men are mortal' is true and the corresponding universal proposition, 'All men are mortal' is also true but the particular proposition, 'Some men are wise' is true while the corresponding universal proposition, 'All men are wise' is false. Thus when the particular is true the universal is doubtful. With regard to falsity the reverse is the case i.e., if the particular be false, the universal is false e.g. if I is false, A is false and if O is false, E is false. If the proposition, 'Some men are perfect' be false, the corresponding universal pro-
position, 'All men are perfect is certainly false. Similarly if the proposition, 'Some men are not mortal be false, the corresponding universal proposition, 'No men is mortal' a certainly false, but the converse is not true i.e., if the universal be false, we cannot infer anything definitely with regard to the corresponding particular i.e., particular may be false or may be true, For example the universal proposition, All men are perfect' is false and if the same time the corresponding particular proposition, 'Some men are perfect' is also false. But the universal proposition, 'All men are wise' is false while the corresponding particular proposition, 'Some men are wise' is true. Thus when the universal is false, particular is doubtful.

2. CONTRARY OPPOSITION:

Contrary opposition is the relation between the two universal propositions having the same subjects and the same predicates, but differing in quality i.e., the relation between A and E proposition. The rule of contrary opposition implies that the truth of the one implies the falsity of the other, but not conversely. If A is true, E is false and if E is true, A is false, e.g. If the proposition 'All men are mortal' be true, the corresponding 'E' proposition 'No men are perfect' be true, the corresponding 'A' proposition 'All men are perfect' is false, then 'No men are perfect' is true.
The converse is not true i.e., the falsity of the one does not imply the truth of the other. Thus the 'A' proposition, 'All men are wise' is false, and corresponding E proposition 'No men are wise' is equally false. But the 'A' proposition 'All men are perfect' is false, while its corresponding E proposition, 'No men is perfect' is true. Thus A be false E is doubtful similarly if E is false, A is doubtful.

3. **SUB-CONTRARY OPPOSITION**:

Sub contrary opposition is the relation between two particular propositions having the same subject and the same predicate but differing in quality. It is a relation between 'I' and 'O' propositions the rule governing the relation of sub contrary opposition is; the falsity of one implies the truth of the other but not conversly. This means that if I proposition be false, O is true and if O be false, I is true e.g. 'Some men are perfect' be false the corresponding 'O' proposition, 'Some men are not perfect' be true. If the O proposition, 'Some men are not perfect' be false, the corresponding I propositions 'Some men are mortal' is true.

But the converse is not true i.e., the truth of the one does not imply the falsity of other. Thus the I proposition 'Some men are wise' is true and at the same time the corresponding 'O' proposition 'Some men are not wise' is equally true, but the
proposition, 'Some men are mortal' is true while the corresponding
the 'O' proposition 'Some men are not mortal' is false. Thus
if I be true O is doubtful, similarly it can be shown that if O
be true, I be doubtful.

4. CONTRADICTORY OPPOSITION:

Contradictory opposition is the relation between two
propositions having the same subject and the same predicate but
differing in quantity and in quality i.e., to say,
the relation between A and O, E and I. The rule governing
contradictory relation is this, the truth of the one implies the
falsity of the other and vice versa. Contradictory opposition
implies that if one be true, the other is false, if one be false,
the other is true. Both cannot be true, simultaneously one of them
must be true and one of them must be false. Thus in contradictory
opposition the relation of opposition is reciprocal, in no other form
of opposition, two proposition are opposed to each other with
regard to both truth and falsity. Symbolically there are eight
forms of contradictory opposition.
(i) If A be true, 0 is false
(ii) If A be false, 0 is true
(iii) If 0 be true, A is false
(iv) If 0 be false, A is true
(v) If E be true, I is false
(vi) If E be false, I is true
(vii) If I be false, E is true
(viii) If I be true, E is false

4. **Modality:**

From the point of view of modality, propositions are divided into (i) Necessary (ii) Assertory and (iii) Problematic.

It is a form of inference in which we infer a proposition of one modality. The rules governing modal relations are the following.

(i) The truth of a proposition of higher certainty implies the truth of the proposition of lower certainty but not conversely.

(ii) The falsity of a proposition of lower certainty implies the falsity of a proposition of higher certainty but not conversely.

This means that if a necessary proposition is true, the corresponding assertory and problematic propositions are true e.g. "must be". If the proposition, 'A' must be 'B' be true and A may be B are certainly true. Similarly if assertory proposition is true, the corres-
ponding problematic proposition is also a true. It is clear from this that the converse of this is not true, i.e., we cannot infer that because a proposition of lower certainty is true, therefore, the corresponding proposition of higher certainty is true. If a problematic proposition is false, the corresponding assertory and necessary propositions are certainly false, but the converse of this is not true i.e. we cannot infer that because a proposition of higher certainty is false, therefore a corresponding proposition of lower certainty is also false.

5. **Change of Relation**:

We have seen that propositions have been classified as categorical, Hypothetical and Disjunctive. The last two are known as Conditional propositions and there is internal relationship among them. This is known as change of relation which means that one or more propositions can be inferred from a categorical, hypothetical and disjunctive propositions. Inferring a proposition of one relation from a proposition of different relation is what we mean by change in relation, which does not alter the meaning of the proposition. We inferred

(i) A hypothetical proposition from a categorical proposition
(ii) A categorical proposition from a hypothetical proposition
(iii) A hypothetical proposition from a disjunctive proposition
(iv) A disjunctive proposition from a hypothetical proposition
While changing the relation in inferring one proposition from another we shall keep in mind the following conditions.

(A) The antecedent of a hypothetical proposition corresponds to the subject of a categorical proposition.

(B) The consequent of a hypothetical proposition corresponds to the predicate of a categorical proposition.

(C) The quantity of a hypothetical proposition depends on the quantity of its antecedent and

(D) The quality of a hypothetical proposition depends on the quality of its consequent e.g.

\[ \text{'A' Proposition} \]

\begin{align*}
\text{All } S & \text{ is } P \\
\text{All men are mortal} & = \\
\text{If } S \text{ is, } P \text{ is} & \\
\text{If men are exists mortality is, 'exists'} & \\
\end{align*}

\[ \text{'E' Proposition} \]

\begin{align*}
\text{No } S & \text{ is } P \\
\text{No men is perfect} & = \\
\text{If some } S \text{ is, 'Exist' } P \text{ is not exist} & \\
\text{If men are 'exists' perfection is not.} & \\
\end{align*}

\[ \text{'I' Proposition} \]

\begin{align*}
\text{Some } S & \text{ is } P \\
\text{Some men are wise} & = \\
\text{If some } S \text{ is, } P \text{ is} & \\
\text{If some men is exists, wisdom exist} & \\
\end{align*}
'O' Proposition

Some S is not P
Some men are not wise

Hypothetical
If some S is, P is not
If some men exist wisdom does not exists.

Similarly a categorical proposition be inferred from a hypothetical one e.g. A proposition
If A is B, than C is D.
All cases of A being B are cases of C being D

Similarly E, I and O propositions can be changed into their categorical forms. In case of inferring hypothetical proposition, from a disjunctive proposition or a disjunctive proposition from a hypothetical proposition, we have to keep in mind that if the disjuncts of a disjunctive proposition are strong, then the affirmation or negation of one of disjuncts implies negation or affirmation of another disjuncts, but not conversely e.g.
If A is either B or C can be changed into two propositions.

(i) If A is not C, then A is B
(ii) If A is not B, then A is C

In this regards Ueberweg differs from Mill, according to whom from the disjunctive proposition A is either B or C. There are four possibilities.
6. **Inference by Added Determinants:**

Inference by added determinants is a process of drawing an inference from a given proposition, another proposition of a narrower extent by limiting both the subject and the predicate of a given proposition in an identical way e.g.

A comet is a material body

A visible comet is visible material body

While inferring a proposition from a given proposition by this process, we have to keep in mind the rule that the subject and the predicate must be determined or limited in the same way so that the inference will be necessarily true and the meaning of the determinant will be exactly the same, in case of the subject and the predicate. If this rule is not kept in mind then inference will be fallacious.

7. **Inference by Complex Conception:**

This is a process of inferring one proposition from another proposition given by employing the subject and the predicate of a proposition as parts of more complex conception without altering the relation between them e.g.

A horse is an animal

The head of a horse is the head of an animal.
We have to keep in mind that in case of an inference by added determinants, the determinant or qualification is added to the subject and the predicate, while, in inference by complex conception, the subject and the predicate themselves are used as determinants or qualification of a third term. This kind of inference is liable to fallacy, if the new complex conception has a different meaning in case of the subject and the predicate e.g.

All judges are lawyer

A majority of judges is majority of lawyers

This is an example of fallacious inference by complex conception.

8. Syllogisms:

(i) Aristotelian syllogism have been defined as a form of mediate deductive inference, in which the conclusion is drawn from two premises taken jointly, it is a form of deductive inference, and therefore the conclusion cannot be more general than the premises. The conclusion is drawn from two premises taken jointly and not from one premise only as is the case with immediate inference.

e.g. All men are mortal

All Kings are men

All Kings are mortal
The premises are such propositions in which there is one term is common. This term is known as a middle term and constitutes a link joining the both propositions with a view to facilitate the drawing of conclusion. The conclusion is contained in two premises taken jointly. The rules of the syllogisms specify the mode of distribution of the terms. There are three and only three terms. This again also means that one term is always common in both the premises. The mode of distribution of the terms serves to establish relation between two premises. The concept of distribution of the terms is also an important one, for it spells out the boundary or the limit of the application of a term considered as a class. If a term comprehends within itself the whole class of the objects comprised under it, without exception, then it is considered as distributed. If it applies to a part of the class of objects comprised under it, then it is considered as undistributed. Out of the four types of propositions i.e. A, E, I, O. In A proposition only the subject is distributed, in E proposition both subject as well as predicate terms are distributed, in I proposition neither predicate nor the subject is distributed while in O proposition only predicate is distributed.
(ii) Even in case of the structure of syllogisms there are three terms i.e. major term, minor term and the middle term, each of which occurs at least twice. The major and the minor term are joined together by the middle term in conclusion. The conclusion seeks to establish a relation between two extreme terms, the major term and the minor term, the middle term brings about a relation between the major term, is compared with the middle term in major premise and the minor term is compared with the middle term in the minor premise. Ultimately a relation is established between the major term and the minor term in the conclusion. Thus middle term performs the task of a common standard of a reference with which both terms are compared and the passage to the conclusion is facilitated. The premise in which major term occurs is considered major premise and the premise in which minor term occurs is considered minor premise. The conclusion contains both the terms major and the minor.

(iii) The kings of Syllogisms

Syllogisms have been classified primarily as

(1) Pure
(2) Mixed
Pure syllogisms are again classified into
(a) Categorical
(b) Hypothetical
(c) Disjunctive

Mixed syllogisms are again classified into
(a) Hypothetical - Categorical
(b) Disjunctive - Categorical
(c) Dilemma

In pure syllogisms all the constituent propositions are of the same relation. If all the constituents are categorical, the syllogism is pure categorical; if all constituents are hypothetical, the syllogism is pure hypothetical and if all the constituents are disjunctive, the syllogism is pure disjunctive.

In mixed syllogisms the constituent propositions are of different relation. In hypothetical - Categorical syllogism, the major premise is hypothetical, the minor premise is categorical and the conclusion is categorical. In disjunctive categorical syllogism the major premise is disjunctive, the minor premise is categorical and the conclusion is also categorical.

In case of dilemma the major premise is a compound hypothetical proposition, the minor premise is disjunctive and the conclusion is either categorical or disjunctive.
(iv) Figures of Syllogisms

With a view to test validity of the conclusion drawn from two premises, various figures of syllogism are constructed, keeping in view the position of the middle term in the premises e.g.,

In figure first, middle term forms the subject of the major premise and the predicate of the minor premise. In second figure the middle term forms predicate in the major premise and the subject in the minor premise. In the third figure the middle term is the subject in both premises while in fourth figure the middle term is predicate in the major and the subject in the minor premise. The moods are determined by the quality and the quantity of the constituent premises. It is surprising to note that out of the sixteen moods in each figure, eight moods do not yield any conclusion whatsoever in any figure. We do not go into the details of rules governing various figures, the possible valid moods etc. because such details are not relevant to our purpose but if we explore further the relationship of the premises in yielding valid conclusion, we would gather that the relationship of the terms of the premises strictly determines the validity of or otherwise of the conclusion. e.g. The special rules of the first figure i.e.

1. The major premise must be universal
2. The minor premise must be affirmative
Clearly indicates the nature of the conclusion i.e. that it will be universal affirmative proposition. Similarly one of the minor rules of syllogism shows that if one of the premises is particular, the conclusion must be particular and if the premise is negative, the conclusion must also be negative; two particular premises and two negative premises never yield any conclusion in any figure.

Similarly, by close analysis of the special rules of rest of the figures it will be observed that the nature of the premises jointly determine the nature of the conclusion.

The procedure of reduction shows transformation of the moods of any figure into moods of any other figure. In this sense the moods of the first figure may be reduced to the moods of the second figure, the moods of the second figure, to the moods of the third figure and the moods of the third figure to the moods of the fourth figure. In fact there may be reduction of any mood of any figure into the mood of any other figure, though the reductive procedure is restricted, in its use to the process of transferring moods of the second, third and fourth figure into the moods of the first figure.
5. *Dictum de Omni et Nullo*:

Aristotle called the first figure the only perfect figure because the dictum is directly applicable to it. While in case of moods of second, third and fourth figure, dictum is applicable only when they are reduced to the form of the first figure. The prefection of the second, third and fourth figures is reduced by the process of reduction. It is proved that the moods of second, third and fourth figures are also correct.

The reduction is effected either directly or indirectly. In doing so, in case of direct reduction the process of the conversion, obversion, contraposition and inversion are employed. While in case of indirect reduction, with the help of perfect figure it is proved that the contradictory of the conclusions of the moods of imperfect figures are false and hence the conclusions are true. The process of redition shows that the different forms of syllogistic reasoning are transferable into one another and the apparent diversity is due to the expression of one fundamental principle. It demonstrates essential unity of all forms of syllogistic inferences.


Mixed syllogisms is one in which the constituent propositions are not of the same relation.
(i) It has three sub divisions i.e. hypothetical, categorical or simply, hypothetical syllogism

(ii) Disjunctive categorical or simply, Disjunctive syllogism

(iii) Dilemma

(i) **Hypothetical Syllogism:**

If we examine the definition and the rules of hypothetical syllogisms, it will be clear to us (a) that its constituent is a hypothetical major premise, a categorical minor premise and a categorical conclusion.

(ii) The rules governing hypothetical syllogism state (a) if the antecedent of a hypothetical syllogism is affirmed the consequent is also affirmed but not conversely i.e. affirmation of consequent does not necessarily imply the affirmation of antecedent.

(b) The denial of consequent implies denial of the antecedent but not conversely i.e. The denial of antecedent does not necessarily imply denial of consequent.

The constructive form of hypothetical syllogism is known as Modus ponens in which affirmation of antecedent of major premise implies the affirmation of the consequent of the major premise in the conclusion e.g.
If A is B, C is D
A is B
C is D
It rains he will not come out
It rains
He will not come out

(iii) Modus Tollens:

The destructive form of hypothetical syllogism is known as Modus Tollens in which the denial of the consequent of the major premise implies denial of the antecedent in the conclusion e.g.

If A is B, C is D
C is not D
A is not B

If he comes I shall go
I shall not go
He does not come

The violation of these rules leads to the fallacies of

(a) fallacy of denying the antecedent and
(b) the fallacy of affirmation of consequent.
The hypothetical syllogism may be reduced to pure categorical syllogism by reducing the major premise into a categorical proposition.

2. **Disjunctive Syllogism**

   The disjunctive syllogism has a disjunctive major premise, a categorical minor premise and a categorical conclusion.

   The rules imply (a) The denial of any alternative of the disjunctive major premise implies affirmation of other alternative in the conclusion.

   (b) Either $A$ is $B$ or $C$ is $D$

   $A$ is not $B$

   $C$ is $D$.

   Either $A$ is $B$ or $C$ is $D$

   $C$ is not $D$

   $A$ is $B$

3. **Dilemma**

   Dilemma is a mixed syllogism in which the major premise is a compound hypothetical proposition, the minor premise is a disjunctive proposition the alternative of which are either affirmed or the consequents of which are denied, the conclusion is either
categorical or disjunctive.

(i) The dilemma assumes two forms
(a) Constructive
(b) Distructive

If the minor premise alternatively denies the consequents of the compound hypothetical major premise, the dilemma is distructive.

The constructive or distructive of the dilemma depends upon the minor premise. The constructive and distructive dilemma may be either simple or complex. In a simple dilemma the conclusion is a categorical, while in a complex dilemma the conclusion is a disjunctive. Thus whether a dilemma is a simple or complex depends upon the conclusion.

There are four forms of dilemma

(1) Simple Constructive
If A is B, C is D and If E is F, and C Is D
Either A is B or E is F
C is D

(2) Complex Constructive
If A is B, C is D and If E is F, G is H
Either A is B or E is F
C is D or G is H
(3) Simple distructuve

If A is B, C is D and If A is B, E is F

Either C is not D or E is not F

A is not B

(4) Complex distructuve

If A is B, C is D and If E is F, G is H

Either C is not D or G is not H

A is not B or E is not F

The process of rebuttle of dilemma depends upon the change of relationship between the major premise and the minor premise and consequent change in quality. Only fallacious dilemma can be rebutted. Valid dilemma cannot be rebutted.

For testing the validity of the dilemma it should be examined whether the rules relating to the mode of arguments have been observed or not and whether propositions constituting the dilemma are true as a matter of fact.

7. Enthymeme and Episylogism:

In case of bridged syllogisms the conclusion is drawn without specifically stating both the premises. In other words
one of the premise is suppressed. In ordinary discourse we seldom express our thoughts in the manner in which conclusions are stated in syllogistic form. Such abridged train of thinking is ordinarily employed, whenever we think outside the field of logic. In such trains of reasoning, we do not fully state what we want to express for the understanding of others. Enthymemes are the forms of the reasoning in which some part of syllogism is suppressed. They are of three types.

(i) First order enthymeme in which the major premise is suppressed but the minor premise and the conclusion are fully stated e.g. Hanisha is mortal, for she is but a woman. If we express this chain of reasoning it would be of the following form.

All men are mortal
Hanisha is man
Hanisha is mortal.

In this form of Enthymeme the major premise, 'All men are mortal' is suppressed hence it is of first order.

(ii) If in syllogism the minor premise is suppressed the Enthymeme is of second order. e.g. 'Hanisha is mortal' for All men are mortal. In this example the minor premise 'Hanisha is man' is suppressed.
(iii) If in a syllogism the conclusion is omitted but the premises are stated, it is known as an Enthymeme of third order. e.g. 'Man is mortal and Hanisha is but a man'. In this case 'Hanisha is mortal' is suppressed.

(B) Episyllogism:

When a train of syllogistic reasoning is combined into two or more syllogisms connected with one another and ultimately leading to a single conclusion, form of reasoning is known as episyllogism. e.g.

(i) All B is C
    All A is B
    All A is C

(ii) All C is D
    All A is C
    All A is D

In such form of reasoning the syllogism are connected in such a way that the conclusion of one becomes the premise of another until the last conclusion is reached. It is otherwise known as polysyllogism.
(C) **Sorites**:

It is a form of abridged progressive train of syllogistic reasoning in which the conclusion of all the pro syllogisms are suppressed. It proceeds from prosyllogism to an episyllogism. Sorites is a series of enthymeme. They are of two types:

(i) Aristotelian and  
(ii) Goklenian

It is needless to enter into the details of their technicalities and hence we now proceed in the next chapter to modern mathematical logic as developed by Russell and George Boole and others. It was our general observation that the whole of Aristotelian logic was based upon the theory of internal relations which he distilled out of his metaphysical first principle or his Theory of Being qua Being which again implied the relation among the constituents of a whole among themselves and with the whole. It seeks to establish monism in theory of knowledge or epistemology subordinating their by the role of logic. In the post Aristotelian Era, logic became merely instrument of pedagogic exercise and ceased to have an autonomous status as well as progressive character. We shall take into consideration, how an effort at establishing the lost autonomy and the progressive character of science of reasoning by modern and contemporary logical thinkers like Russell, Carnap,
Whittgenstein and others have contributed to the development and expansion of the Horstung of the science of logic and how it provided a very powerful instrument of analysis in the hands of philosophers.