CHAPTER VII

IS UNAIBILITY OF LOGICAL STRUCTURE POSSIBLE?
Carrying further the concept of depth analysis (which alone formulates the concept of logical structure), should it not be possible to come to an objective standard? This of course, will require the formal systems, and then alone can the rigour of a logical or a mathematical system may be reached.

1. Logical Structure and Deep level Analysis

That there are types of analysis need not detain us any longer. Hence, it can be seen in brief what we mean by the logical structure. We shall not concentrate on the structural scheme when we look for the logical structure, but mainly the functional one. The functional scheme may tend to appear relativistic, because the function of the word may take the shade of the context. In other words, the context may affect
the word so as to serve the necessary function. Hence, the function of a word may have as many shades as the contexts themselves.

And then, where is the unanimity of functional structure? That is to say, how can a singular function of the word be expected?

Now, if at all a unanimity could be expected, it could be expected at the structural level wherein a formata is given. The form is a pre-decided one. It could be decided on the basis of logic or convention. If it is decided according to some definite rules of logic, then the schema becomes logical. It is called 'a logical form' in logic. If it is decided on the basis of some conventions then it may be called a linguistic framework, wherein language is assumed to be flexible and open to modifications. Obviously, the linguistic framework is less rigid than the logical form.

Whereas logical form can claim structural unanimity, linguistic framework may not; for, even for its structural make-up it depends on the functional expectations of that language. That is to say, functional expectations play a prominent role in linguistic framework.

Hence, it may be properly said that functional schema has much to do with linguistic framework rather than logical form.
Then universals and particulars cannot be having a place in the logical structure. It may have a place in the linguistic framework. In other words, logical structure does not recognise the distinction between universals and particulars. It is not logically allowable because in the first place, the distinction between universals and particulars is functionally oriented. And secondly, no principle of classification which is the ground for such a distinction can be accommodated in logic. The only principle in logic is its consistency and consistency may not have any other function, except being the principle of logic.

2. Consistency

Regarding the nature of consistency, R.I. Aaron has the following remarks to make. He says that consistency is not the sole mark of rationality, though an important mark of course: for it is the most universal one, the most widely accepted. The fundamental place still held in logic by the law of non-contradiction is witness to this fact. Even if a principle is arbitrarily accepted for a system, it is difficult to think of a system which lacks the principle of consistency. But if it is thought to be necessary to a system as a matter of fact, then an interesting consequence follows. "There cannot be alternative logics such as possessing wholly different principles, for this principle of consistency would be common to all". In the next chapter, this point shall be discussed at length. But it is

1 Cf. Contemporary British Philosophy Series III. 2. 3 ff.
quite agreeable that we might admit alternative logics in a loose sense. Especially in case of those systems which differ remotely, say, chemistry and philosophy. It may be argued that the fundamental principles of these inquiries are so different that in their case, we could talk of alternative logics. But, if both systems have an inner consistency, then there is that much in common between them logically. To establish alternative logics in the full sense of the word, it would be necessary to prove that the systems differ from one another in every principle, and this would presumably not be the case so long as inner consistency was demanded of the two systems.

The author (R. I. Aaron) also questions the place of consistency in life, in general. Some philosophers do allot consistency to successful use of language; that is to say that the logical principle (of rationality) is explained in terms of the requirements of language. Aaron says that consistency is certainly required in one's use of language, but this answer is too narrow. For, we use language to speak of the world, and if we do so successfully, does not this point to a certain relationship between the logical structure of the language and that of the world? Max Black too holds similar view in his article 'Language and Reality'.

Logicians can remain unconcerned about questions beyond his field. He would be at fault though, if he refused to admit their relevance.
The principle of consistency and principle of non-contradiction go together. One cannot be understood intelligently without understanding the other. Hence, quite sensibly we may agree with those who admit non-contradiction, as principle of the world in general. We learn it by experiences. It is not generalisation through observation as held by Mill, as a result of which he regarded even the logical and mathematical principles as empirical ones. Severe criticism is provoked against his doctrine.

Formation of any principle is (also)² a psychological problem according to Aaron. And that field would do better in explaining it. When we demand validity, we challenge logic, and not psychology.

Explaining further, Aaron says that to think in accordance with one's deepest tendencies - is to think consistently. We are already disposed to assume without questions that what contradicts itself is false. Hence, the acceptability of this principle at any moment. Consistent thinking always has an applicability in principle to the world; it may apply even when our thinking is of systems which appear very remote from the experienced world. To avoid misunderstanding, it should however be added that consistency, though necessary, is never a 'sufficient condition of such applicability'. Nevertheless, the mixing of the rational

---

² 'Also' - my addition. Because, formation of 'formal principles' cannot be merely psychological. At most, we can say so on the basis of their being human formulations. They may be mere discoveries.
and empirical elements at any level may be accounted for as a feeling for consistency and rejection of the contradictory.

I said that consistency may not have any other function, except being the principle of logic. Now, principle of classification is not so rigorous; it is flexible and takes the colour of its contexts, as has been said before. Hence consistency, which is the principle of logic, is not on the same par with principle of classification which makes the distinction between universals and particulars. In other expression, principle of classification is private to the context, whereas consistency is a public affair. In fact, a system has no choice but be consistent. Consistency is an imposition, while principle of classification is only an improvisation. The former emphasises structural adjustment between the units, whereas the latter is only functional. The former is fundamental to any discipline; it may be looked upon as having an unchallenged status of an axiom. The latter, if not truly arbitrary, is at least one which may be challenged; but this point, in no way diminishes the impact of our study, because, having accepted a line of argument or analysis, it will definitely bring to light, the factors which compel some dichotomies like universals and particulars. The principle is explanatory and functional. It does not impose itself, but has to be arrived at. It is not a proposition in logic which may be studied with logically decided methods. It is only a proposal. And hence, there are no definite rules of analysing it. Each
context must explain it for itself, keeping in view, the consistency.

Thus, we may understand that the question of discussing the role of universals and particulars in logical form does not seem very intelligent.

However, the question appears in another form. It is this: Is logical form or logical structure universal? Or still in another mode as, "what can we say about the universality of 'logical structure'?" It may be observed that it is not quite customary amongst philosophers to talk about the 'particularity' of anything, so much as the 'universality'. The levels of universality are discussed by Karl Popper (in 'Logic of Scientific discovery') where he tried to give the highest place to law-statements on the universality hierarchy.

This of course, may be envisaged as using the name 'less universal' instead of particular. But, we should be aware then, of the difference between the kind, and the degree. 'More or less' have the meaning within a certain kind of discussion. Degree has meaning only within its domain. Outside this domain, it is insignificant to talk of degrees. There is no comparison between two kinds on the same par as there is comparison between two degrees. Now, 'particular' may mean anything - a degree or a kind. Hence, using the word 'particularity' instead of 'less universal' will not suggest whether the reference made is to the degree or to the kind. Whereas 'less universal' definitely informs
Hence, coming back to the point whether logical structure has universality or not, will amount to asking the question about the 'oneness' of logical structure. This is one interpretation of the question. This interpretation will have a channel that leads to deep level analysis. For instance, we can ask whether the logical structure behind an argument \((p \lor q) \land p\) and behind the argument \((p \land q) \cdot p \lor q\) is identical, one, or the same, then there is provision in logic to refer to the rules of reduction, and verify the relation. In this case, the relation is that of equivalence. However, for that matter, the stroke-function (given by Sheffer) allows all symbolic expressions of formal logic (propositional calculus) to reduce to the form \(p/\lor q\). Now, the above two examples that we have selected belong to the discipline of logic which is formal. And hence, the analysis employed will be deep level analysis, since we deal with symbols.

But we can also think of an instance from a less rigorous field, say, the sentence, 'poets are not prosaic'. This sentence may be analysed variously, from the point of view of different contexts.

There is an approach which may decide the acceptability or non-acceptability of the sentence. This approach is the most vague 'one, and hence, most difficult to decide precisely within the limited equipment of language, that we have. It is vague.
because it has the widest possible range of application. This approach may be called 'total approach'. I have deliberately coined this phrase in order to suggest the comprehensiveness of the approach. Otherwise it would not have been queer to call it a semantical approach. But therein too, there is no ontological commitment. The relation between thing and language is considered and not the relation between the 'thing' and ontology. The 'thing' is the 'thing of the universe of discourse'; it is the thing of the definite range of reference. It is not the 'thing' of an indefinite, or undecided or unqualified range of reference. However, the total approach does not consist in total inability to decide the range of reference but it consists in comprehending as many as possible, the other definite ranges of reference. The inability, if any, is not in the 'ambiguity', but in the 'incompleteness'.

The possibility is always there, of including newer and newer ranges of application. (We have referred to the distinctions made by Waismans between vagueness, ambiguity and essential incompleteness in the chapter two).

'Poets are not prosaic' may be appreciated thus: the meanings of the words 'poets' and 'prosaic' could be taken into account. Now, the 'meanings' of these words will not mean the meaning which is taken in a particular context alone. Of course, the word 'poet' may not have any other meaning than the one that is conventionally given. But the word 'prosaic' may be having various 'meanings'. It is however, important to maintain
that there is possibly the 'meaning' of a word, which cannot be challenged, authentically. This 'meaning' must be understood rather than given or defined or discovered in a dictionary. Of course, these above-mentioned ways are important in understanding the 'meaning'. On the contrary, one would be at a loss without being properly acquainted with them.

So, 'the poets are not prosaic' has a definite meaning, even from the point of view of total approach, which itself is not so definite in a sense. Of course, this point could be further analysed thus; there is a sense in which people can be called poets. This could be analysed further, and said that there is a sense in which people are poets. Perhaps, there is a sense in which living beings are 'people'. But, an analysis to that extent would be unwanted and unwarranted. It would be unnecessary to analyse further, and hence, we may stop. Now, it should be the degree of acquaintance with the criterion of analysis at each stage, that should decide the furtherance or adequacy of analysis. The criterion of analysis at each stage is latent. When we said that there is a sense in which people are poets, we had in mind for our criterion some of the literary qualities that qualify a person as a poet. Now, the efficiency and authenticity of this criterion is not our topic. We accept it, as it is given to us, in the sense that there are some qualities which qualify a person as a poet. Hence, we accept that some people who possess these qualities, may be called poets.
Similarly, it can be elaborated that on the basis of some criterion, some living beings may be called 'people'.

Thus, we have an adequate meaning of the word poet. We can have an adequate meaning of the word 'prosaic' too.

'Prosaic' would literally mean unimaginative or practical and not sophisticated, etc. Yet, we can give it a meaning which may be understood as 'the' meaning of the word. Of course, it goes without saying that we are already acquainted with these meanings of the word. Going back to our analysis we may say that being prosaic is a particular mode of behaving, or a particular mode of having an approach to the things. It is obvious that the word can be used only in the human context; if it is used in non-human contexts, then it will have to be a metaphoric use. Often, the metaphoric uses have been so subtle or so commonplace, that the original context of the word is overlooked. This may be a literary or an aesthetic quality. But, where clarity is at stake, it is only expected that the other functions and metaphors of the word should be properly distinguished from the original context. Once the meaning of any word in its original context is known, any amount of jugglery with it may be carried on without confusions. However, our interest is more at home than abroad. We shall be interested in the word only as it is used in its original context. Thus, we agree that human beings may be prosaic.
Now, it remains to be understood in the context, which we have chosen by introducing the 'form' or the 'structure'.

3. The Nature of Form

The concept of 'form' in any discipline is related to the concept 'constant' of that discipline. (Originally, these are mathematical words).

Each discipline has some fundamental, non-changeable concepts, which may be called 'constants'; it may even be held that they are indispensable to that theory. These 'constants' then, in interrelation, form the 'framework' or 'form' or 'structure' of that theory. Take any theory; we will come across some fundamentals. Their interrelation will give us the form, for instance, the 'logical form'. In case of logical form, we accept the fundamentals of logic, that it should be having some rules. These rules then, we accept without challenging their inception. The interrelation of these rules will give us a definite 'form'. We are reminded of the basic forms of syllogistic reasoning. More recently, we talk in terms of 'formulae, e.g. the rule of modus ponendo ponens. We have the form

\[ p \supset q \]

\[ \vdash p \]

\[ \therefore q \]
Of course, there may be, heirarchy of rules. Some may be axiomatic in character, others may be derived. But, the fact that they contribute to the construction of 'form' is not affected by their primary or secondary character. Those that are axiomatic, may have the added characteristics of range and applicability and constancy as compared to those that are derived, which may have these characteristics in lesser degrees.

We have aptly said that 'form' is logical in the sense that the constants which constitute it, belong to their home-discipline; that is, they are not used metaphorically. The constants, (in this case, the rules of logic), are peculiar to logic. The advantage of choosing an example from this discipline is this, that logic is fundamental to any discipline and it follows that the rules too are. Obviously it is frivolous to say that the rules of logic are peculiar to logic alone, and hence, the logician's form is peculiar to logic alone. On the contrary, it is the right of any discipline that has a systematic development. Indeed, it is this characteristic of logic which leads us on to look for the unanimity of logical structure.

Hence, 'Poets are not prosaic' will have to have a definite 'form'; we are not interested in the other forms of lesser generality and applicability. They may be grammatical, linguistic, etc. We are interested in the logical form. It has been said that 'poets' and 'prosaic' may have definite meanings. We have accepted them as the result of employing -
what we have chosen to call, total analysis.

But, it is interesting to note that at this juncture, we may take a detour and talk of 'logical form' or we talk of 'contextual analysis' depending on the interpretation of the constants 'are not'. In other words it depends on how we choose to understand the 'constituents' of the 'framework' or 'structure'. Logically? Contextually?

It is worth noting that logical form, and structure carry the shades of differences that exist in formalism and structuration in general. In case of the former, the two domains of form and content are kept absolutely separate, because form alone is intelligible, and content is non-significant, the content does not follow the set pattern of regulations that 'form' does. As a matter of fact, form cannot be distinguished from these, or even understood as a distinct entity in itself.

But in structuration, this opposition is not present. There is no 'abstract' on one side and 'concrete' on the other. Form and content belong to the same category and submit to the same type of analysis.

3 In 'Foundations of Mathematics', P. Ramsey argues that formalists neglected the content and logicians neglected the form. An adequate theory should take an account of both, so that both, mathematics and logic are not rendered meaningless. P.5.
Hence, it may be possible to talk about concrete universals and abstract universals at structural level, applying surface level analysis. Deep level analysis may give just the formal pattern of the units, and hence, the structure of this pattern does not differ fundamentally from the structure of any other pattern in any discipline.\textsuperscript{4}

But the point to be born in mind is this: we may talk of the unanimity of 'logical structure' only. That too, because we have accepted the authority of but one principle, that of consistency, which may be variously called as the principle of non-contradiction, or also as the law of logic, etc.

But these terminologies are the monopolies of those philosophers who introduce themselves through logical channels, and hence, it is their responsibility to decide their use. For example, the rule (or law) or the principle of non-contradiction has many interpretations.

\textbf{4. Logical structure - Is it Unanimous?}

i. The only example of logical structure according to Wittgenstein is the relation not between facts and propositions, but among various objects. He gives an example of gramophone record ("Tractatus", 4.014) and says that there is a rule by which one logical structure may be converted to the other.

For Russell, identity of structure implies a causal relation.

\textsuperscript{4} Eva Cassirer in her article 'Logical Structure' has enumerated some characteristics of which the logical structure consists. However, they do not concern my approach.
between similar elements. He takes the word 'produce' at its literal meaning, and hence the view ('Human knowledge', part IV Ch. 3 ff).

But Wittgenstein has no rule which he may give, for projecting the world into language. We have to understand it by analogy. The basic flaw in his picture theory lies here. It may be applicable to strictly logical examples (and it is possible to select examples ranging from strictly logical ones or purely analytic ones to extremely empirical ones). However, it varies in application towards the empirical examples.

A certain special structure however may be involved with every particular (discipline or system or unit). Elements or units of a structural relation need be units which are particulars - as every unit necessarily is by its mere nature of being distinctly introduced either logically or physically. But they may also be universal, depending on the nature of the structure (and context at large).

It is quite obvious that units in a system or structure are ordered ones. We understand the meaning of system thus. Wittgenstein believes in ordered series, ('Tractatus' 5.5.03) but Russell allowed even, unordered elements as 'structures'. Such instances of unordered elements shall not be considered, since the question whether they can be examined and compared with other structures for discovering any similarity, simply
But Karl Popper, (in his book 'Logic of Scientific discovery, Chap. III) complains that the difficulty with structural explanation is that even though it may try to establish 'the universality of the law from repeated instances', it is not certain that the theory holds for one single instance. But his question is related to a specific aspect of the structure, the empirical aspect. He does not mean the 'logical structure'.

ii. We have now to investigate whether there could be anything like 'unanimity' of logical structure.

For the sake of clarity, it could be said that the subject may be approached logically, linguistically or what I have called - totally. These contexts could be examined for their structures, especially, logical structure. There could be other more scientific approaches, and they could also be accommodated under any of these approaches.

In considering the structure from the point of view of total context, we had analyzed the consequences with the help of an example. Therein, it was said that there are some factors which may be called the 'constants' of the structure, and others which depend on the context, and hence, may change. Total approach, therefore, takes note of both, changeable factors and

and unchangeable factors. Hence, total approach may be called structural approach as opposed to functional approach. Still strictly, it may be called formal approach, provided it is understood that every system has a form (of structure) and hence, every system may be approached formally, if required. The structure that we come across as a result of total analysis is more dependent on the context than on other structures. In fact, we call it structure only on account of the constant form which it presents, because of some changeless factors in its system. Other factors may be present or may not be present. They are accidental.

When we consider linguistic approach, then too, the structure is so called because of some non-changeable, conventional use. There are some factors which change; language evolves, and is always flexible. This is of course an observed phenomenon. In fact, some problems in philosophy arise due to the flexible nature of language.

However, Louis Kattsoff observes (in 'Logic and the Nature of Reality') that the controversy over which language best describes reality, is not the controversy over language as such. It is that over the 'descriptive power' of language, not the 'structure' or 'rule' of language. He has an interesting remark to make when he says, "If every statement in a given language can be shown to be true and, if every true \( \text{proposition can be} \)
expressed in a statement in a given language, then the metaphysical problem is solved". He criticises Carnap's conclusion which gives prominence only to language, as the reminiscent of the ostrich, who not only buries its head in the sand, but is surprised because it can see nothing but sand when it opens its eyes.

However, stability in language is more pronounced than change. Linguistic approaches at times have been unduly criticised, due to a lack of proper recognition of this aspect of language. But more recently, the protests are rather mild; they may be a sign of growing indifference to the capacity of language in solving some fundamental problems. For example, in "A Critique of Linguistic Philosophy", C.W.K. Hundle seems to have a very innocent complaint against linguistic philosophy - that all problems cannot be solved by an appeal to it. But only some dogmatic linguistic philosophers need this reminder. The rest of the conscious population is not affected by such an attack, though quite harmless. It is accepted these days without much resistance that all problems need not be solved linguistically; and that there is a field of philosophy which is non-verbal. Nor have linguistic philosophers raised serious objections to their endeavour being called a 'mere tool', which may be successfully used to 'cleanse' the linguistic jargon.

So, that was about language and its nature.
When we consider the logical structure, we have a different case. 'Logical structure' has a pure form; it means that the structure is constituted of constants only. There is nothing that changes. The constants have been selected to constitute the frame, once and for all. We have the instances of logical form on the basis of which any arguments may be carried on, systematically. Needless to elaborate that the constancy of form is due to the nature of rules of logic.

It is important to observe that the more flexible the structure, wider is the range of its application. That is to say, it has a wider context. Hence, it may be considered 'more universal', (it has been discussed earlier, that the range of applicability is related to the 'universal').

On the other hand, more rigorous the structure, as in the case of logic, the less universal it is. It applies to a narrower context.

To put it briefly, total approach gives a total context which is universal. Linguistic approach gives a narrower context, which is less universal. Logical approach gives the narrowest context which is the least universal.

Thus, it may be agreed that there can be a sense in which we can talk of 'more or less' sense of universality. But herein, we have a single principle of classification which is 'applicability'. We do not shift grounds, and hence, it may
quite properly be said that the degrees of universality are justified, corresponding to the degrees of the range of applicability.

Unanimity of logical structure can be expected only when the other non-logical factors are not recognised. Then of course, the rigour and elegance of 'oneness' of structure for all arguments whatsoever can be claimed. Of course, the arguments will have to follow the pattern of their respective systems; but that does not upset the logical form.

The different structures may be compared for their logical forms. It will be seen that there is a justification when we say that the logical structure (or logical form) is universal, but the interpretation of the 'content' may be particular. As long as the grounds for holding the principle of classification are well-formed, such an explanation of universals and particulars may be admitted. And we have logically sound reasons to believe that the principle of classification - which in this case is the structure in general, is firm.

Chomsky, instead of boldly saying that language depicts reality sufficiently enough for us to comprehend it, he talks in an oblique manner. He concludes, from the mere fact of languages presenting structural similarities, that the structure of language resembles reality. The similar structures must refer to same reality.
Even if this is an over-estimation of similarities in language structure, there is a point in it. I choose to argue out as follows.

Had there been no similarity (or one sees - to take the extreme position, of logical structure) how can the 'experts in Intelligence Department' succeed in deciphering a secret code, written or otherwise? It may be peculiar to a definite gang alone; moreover, there is no end to the variety in which a message may be conveyed. Inspite of all such barriers, the 'experts' are more successful than not in deciphering them. This is because they have a fundamental structural similarity. The 'experts', when acquainted and well-versed in some techniques, are automatically acquainted even with the fundamentals. There is no other method of learning or knowing them, except studying and following the procedure in which they are involved. There is no separate set of rules which may be mastered, as there are some sets of rules which may be mastered in order to solve a typical mathematical problem. (Wittgenstein's attempt especially in 'Philosophical Investigations' is to express this point in a variety of expressions).

Similarly, logical structure will have to be admitted on the former ground - that of the 'experts in Intelligence Department', rather than the latter of the mathematicians.