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A . J . A Y E R ' S
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Truth and Beauty: Two concepts necessary and essential to life. The age of Truth is the age of science and Professors. The age of Beauty is the age of art and adventurers. At the back of each, there should be metaphysical flashes enlightening the unknown.

CHAPTER I

EXPOSITION AND ANALYSIS

This chapter consists of two parts: I. In the first part, Ayer's theory of meaning is expounded. II. In the second, the theory is dissected into its basic elements. The motive behind this dissection is to find out whether the argument is consistent or self-contradictory; for when dissected, the argument is analysed into its simplest form, and this simplifies the method of its analysis. For example, simplicity in solving a mathematical problem requires that the problem be reduced to its basic constituents; and what is applicable to mathematics in this sense seems applicable to the argument under discussion.

I

In his first Meditation, Descartes looked for certainty. His question was: How is it that knowledge is possible? Or how is certainty attainable? Hume asked a similar question: What objects are knowable? Or to what realm of knowledge can the human understanding extend its function? Since then, the epistemological question has been discussed by many schools of philosophy such as empiricism, pragmatism, and at present, by logical positivism. The logical positivists, among whom A.J. Ayer stands as an outstanding popularizer, hold that there is

no possible way to answer this question correctly unless a more basic question is correctly answered. The more basic question is:

'What is the criterion for meaningfulness?'

The question of meaning, they believe, is logically prior to, and is presupposed by the question:

'How is knowledge possible?'

for unless one can determine what is meaningful, he can never determine what is knowable. In other words, to avoid any idle dispute, one should be able to know what he is talking about.

In framing a reply to the question about meaning, Ayer divides propositions in general into three divisions: a) The Cognitive, b) The a priori, c) The Meaningless.

a) The Cognitive type includes all synthetic propositions. A synthetic proposition is one whose predicate is external to its subject; in other words, the predicate in a synthetic proposition transcends the definition of the subject, i.e. the proposition 'The sun will rise tomorrow' is synthetic; for the rising of the sun is not logically necessitated by the definition of the word 'sun'. The act of 'rising', though connected with the 'sun', yet stands outside it. This definition of a synthetic proposition does not disagree with that of Kant. For Kant, the predicate of a synthetic proposition stands outside its subject, though it is connected with it.¹

¹ Immanuel Kant, Critique of Pure Reason, tr., Norman Kemp Smith (London: Macmillan, 1933), p. 48.

b) The meaning of the term a priori does not seem as clear as that of the term 'synthetic'; for the former has been used into various different ways. Kant, who is supposed to be the originator of this term, ascribed to it more than one meaning. In one place, it meant what is presupposed in one's experience, that is, the a priori concepts of time and space. In another place, it signified a logical necessity; for example, the argument, if $A \rightarrow B$, $B \rightarrow C$, implies the a priori conclusion: $A \rightarrow C$. In a third connection, it signified a meaning not derivable from particular sensations. In a fourth place, it indicated what is conditioned by ourselves. But its usage in any sense of these four meanings, required two characteristics: necessity and universality.¹

Mr. Ayer borrowed this term from Kant, and adopted the second meaning. This means that he took the a priori type to include all propositions that are universally and necessarily certain; for all propositions included under this type are tautologies, and thus independent of experience.² In such propositions, the predicate adds nothing to the definition of the subject, i.e. the proposition 'The sum of the three angles of any triangle is equal to one hundred and eighty degrees' is a priori, for the predicate 'one hundred and eighty degrees' is logically implied by the definition of

1 Ibid., p. 43.

2 A. J. Ayer, Language, Truth and Logic, 2nd Ed., p. 16.

the term 'triangle'.

c) The meaningless type of propositions belongs to the assertions of the metaphysicians, i.e. the assertion 'Being is the absolute reality', or 'Not-being is a sort of being' or 'The Good is the ultimate end of man'. In other words, all metaphysical assertions are meaningless, for they pretend to describe a reality transcending all possible experience. (Here, the term 'metaphysical' is taken into its traditional meaning). In this chapter, Ayer's view on a) and b) shall be expounded, while c) will be postponed till a later chapter.

The question: 'What is the criterion for meaningfulness?' requires that a criterion of meaning should be suggested. This criterion serves as a selective measure as to what propositions are meaningful, and what propositions are meaningless. If this can be done, then the confusion that has infected the history of philosophy will be eliminated.¹ The problems that caused confusion are primarily metaphysical such as the problem of Being, or the Good, or Substance, and other concepts. The sense in which they led to confusion will be discussed in the third chapter.

A meaningful proposition, Mr. Ayer thinks, must satisfy two conditions: a) It must obey the meaning-rules of language; that is, it should be consistent with the syntax of language concerned, i.e. the proposition 'The moon are circular' is meaningless, for it is not in conformity with the grammatical

1 A.J. Ayer, Language, Truth and Logic, 1st Ed., p. 15.

structure of English. b) It must be verifiable.¹ A verifiable proposition implies consequences publically observable. The proposition 'Reality is an Absolute Idea' is formally correct; but it is meaningless, for it is not verifiable in any sense.

Ayer's criterion of verification, then, might be called the experimental theory of verification. He rejects the formal criterion on the ground that it is too broad; for the formal criterion holds that any proposition that is logically possible is meaningful, and this would include metaphysical propositions, i.e. the proposition 'The soul of man survives the disintegration of the body' would be meaningful; for it is possible for someone to imagine his soul living after the disintegration of his body. But this proposition, according to Mr. Ayer, is meaningless, because it presupposes a metaphysical reality for the self, a reality that transcends all possible experience, and consequently, it is meaningless.²

In the second place, the formal criterion of meaning dispenses with verification, and consequently with ostensive definition; but without ostensive definition, no one can start to grasp the meaning of basic words; the child learns the meaning of words by coming to associate each word with some object or type of objects. A foreigner relies on ostensive definition, when learning a language other than his own, if his tutor is acquainted merely with the language

1 Feigl and Herbert, Readings in Philosophical Analysis, p. 171.

2 Ibid., p. 172.

to be taught. On the basis of the formal criterion, the meaning of a definite word is apprehended in terms of another definition, and so the regress is infinite.

In the third place, a proposition that is consistent with a certain linguistic system may be inconsistent with another system. Thus the same proposition may be meaningful and meaningless, depending in what connection it is used; or in case of two consistent systems, there is no reason to choose the one rather than the other, since consistency is the sole criterion.

Propositions verifiable in the experimental sense are verifiable either in practice or in principle.¹ All propositions verifiable in practice imply consequences observable at some time, for the means and the requirements of verification are already at hand. Propositions such as 'The sea water is mixed with salt' or 'The height of that hill is one hundred meters' are verifiable in practice, simply because we can check them by experience at any time we like. Propositions verifiable in principle lack the means for their practical verification. But such propositions are meaningful, because it is possible to conceive of a certain practical way for their verification, i.e. 'On the other side of the moon there is a mountain' is a proposition that requires already made techniques to be meaningful in practice. It is a techni-

1 A.J. Ayer, Language, Truth and Logic, 1st Ed., p. 20.

cal problem rather than a logical one.

Thus verification in principle is conditioned by the scientific progress of man, in the sense that the proposition that seems verifiable only in principle might be verifiable in practice a few years from now; it is only a problem of time, presupposing new scientific discoveries.

Verification has been considered in a strong sense and in a weak sense. A proposition verifiable in the strong sense is held certain. The strong criterion of verification is applicable to all basic propositions. In other words, basic propositions such as 'I perceive a red patch', 'I feel pain', are verifiable conclusively. Certainty, then pertains to all basic propositions.¹

The weak criterion of verification is applicable to 'molecular' propositions, to use Wittgenstein's terminology. Propositions such as 'The sun is rising', 'The mountain is high', 'This book consists of two hundred pages' are molecular. This type of propositions is merely probable; for it is not conclusively verifiable. No matter how frequently one looks upward and perceives that 'the sun is rising' there is still a possibility that a further experience confirms or disconfirms it.

But there are those who argue that, since all ostensive propositions are absolutely certain, and since all mediate propositions are derivative from, and are equivalent

1 Ibid., 2nd Ed., p. 10.

to a finite number of ostensive propositions, then it follows that all derivative propositions are certain, or at least, some derivative propositions are absolutely certain.

Mr. Ayer rejects this argument for the following reasons:

a) No derivative proposition is equivalent to a finite number of basic propositions.¹ Each derivative proposition consists of an infinite number of if --- then propositions. The proposition 'The sun is rising' means that if any one, standing in a certain region of the earth's surface, looked forward the eastern horizon, he would see the sun; and it means an infinite number of conditional propositions.

b) In the second place, no particular basic proposition is entailed by a derivative one, i.e. the proposition 'My table is made out of wood' does not entail the proposition 'My table, if put in water, shall sink down'. If 'sinking' is entailed by the definition of the word 'table', then it is no more a synthetic concept, but an a priori one. But the definition of 'table' does not necessitate the property of 'sinking'.

Furthermore, conclusive verification eliminates all meaning to propositions concerning the past and the future. 'Napoleon was an emperor' and 'The sun will rise tomorrow'

1 Ibid., 1st Ed., p. 127.

are two propositions that can never be conclusive, simply because the former is a historical statement, and historians might ~~lie~~ or might be deceived; the latter is a statement that cannot be verified unless the sun does in fact rise, and when that occurs, it no longer belongs to the future. But no one should deny the reality of the past as well as that of the future:

*If one knows what it is for one event to precede another, then one may conceive of the past as consisting of all and only those events that immediately or remotely precede some present event, and of the future as consisting of all and only those events that are immediately or remotely preceded by some present event."¹

Moreover, if conclusive verification renders propositions about the future meaningless, then no scientific law is significant, for science deals primarily with our expectations. Science is not merely descriptive.

Meeting these problems that the conclusive argument yields, Mr. Ayer accepts the criterion of weak verification. All propositions verifiable in the weak sense are merely probable, though there is a gradation of probability. The probability of derivative propositions is directly proportional to the direct evidence that confirms or disconfirms them. From each 'molecular' proposition, there should follow, at least, a basic proposition directly verifiable.

Now, if the application of weak verification is limited to the 'molecular' type of propositions, then all propositions

¹ A.J. Ayer, Philosophical Essays, p. 178.

of this type are either probable or improbable. If this is the case, then scientific propositions and propositions about the past and the future are rendered meaningful. Probability is a rational concept that conduces to a rational look at nature.¹ To look for certainty is to be irrational. Indeed, the root of scepticism is grounded in the quest for certainty.

But if all factual propositions are probable or improbable, the rationalist argues, how is it possible that propositions a priori are certain and factual at the same time?

"Accordingly, the empiricist must deal with the truths of logic and mathematics in one of the two following ways: he must say either that they are not necessary truths, in which case he must account for the universal conviction that they are; or he must say that they have no factual content, and then he must explain how a proposition which is empty of all factual content can be true and useful and surprising."²

Now, propositions a priori, according to Mr. Ayer, are either certain and not factual, or factual and not certain. Either view destroys the rationalistic position, for the rationalist argues that such propositions are certain and factual.³

All propositions a priori belong to the order of tautological propositions. A tautological proposition is

1 A. J. Ayer, Language, Truth and Logic, 1st Ed., p. 145.

2 Ibid., pp. 91-92.

3 A.J. Ayer, Language, Truth and Logic, 2nd Ed., p. 73.

analytic; if analytic, then its predicate does not extend the meaning of its subject. The predicate is the very definition of the subject. If this is the case, then in an analytic proposition, the novelty is psychological. All propositions of this type are reducible to A is A . Logical validity is the sole criterion of their truth. Propositions a priori, then, are neither confutable nor confirmable by experience, for once they are apprehended, certainty is discovered to belong to them. Of course, one may make a mistake when adding $5 + 5$; but this mistake is methodological, and it has not the least to do with the certainty of propositions a priori.

Kant's mistake, Mr. Ayer suggests, is grounded in positing a psychological criterion in terms of which synthetic propositions a priori are measured.¹ His assertion that no matter how much we examine the expression ' $5+7$ ' we cannot deduce ' 12 ', does not lead necessarily to the conclusion that ' $5+7$ equals 12 ' can be denied without self-contradiction. Again, Kant's assertion that geometry consists of synthetic propositions a priori because geometrical expressions must be drawn either in imagination or actually, in solving a geometrical problem, does not prove that geometry describes physical space.

"A geometry is not in itself about physical space; in itself it cannot be said to be 'about' anything. But we can use a geometry to reason about physical space".²

1 Ibid., p. 78.

2 Ibid., p. 82.

The conclusion, according to Mr. Ayer, is that propositions a priori are not factual, but in one sense, propositions of this type convey knowledge, and in another sense, they do not. They convey knowledge in so far as it is possible to deduce their logical implications. The surprise which one experiences in dealing with such propositions is due to one's finite mind. At the same time, propositions a priori do not convey knowledge, for they are tautologies or analytic. Though they do not convey a factual knowledge, their practical function is undeniable. Their function is to teach man how to use propositions consistently, and how to find out their implications. Logic shows that the expression 'triangular circle' is contradictory by definition. Propositions a priori are as genuine as synthetic propositions, with the mere difference that the former type is not factual, and so irrefutable by experience. The first type of propositions is certain, and the statement 'All propositions a priori are certain' is equivalent to the statement 'All propositions a priori are propositions a priori', or to the statement 'All certain propositions are certain'. No synthetic proposition can reach logical certainty, for it is always conceivable that happenings should be otherwise. Now, if all synthetic propositions are probable, and if all a priori propositions are absolutely certain, then it follows, according to Mr. Ayer, that synthetic propositions a priori are impossible. Genuine propositions are either

synthetic or a priori. Whether this assertion is true or false shall be decided in chapter two.

II

In the previous section, Ayer's theory of meaning has been expounded, whereby propositions that he assumes genuine and significant were considered. In what follows, an attempt shall be made to analyse the argument. Primarily, this analysis is concerned with the elements and the implications of the verification argument; for once the argument is reduced to its basic elements, and once the implications are suggested, then criticism is facilitated.

The verification argument is expounded by many modern thinkers such as Ayer, Carnap, Lewis, and Reichenbach. To the best of my knowledge, Lewis expresses these points with greatest clarity and simplicity; for this reason, it is more convenient that I appeal to his Argument concerning the topic. Lewis' Argument is as follows:

'Obviously in the statement "This penny is round" I assert implicitly every thing the failure of which would falsify the statement. The implicit prediction of all experience which is essential to its truth must be contained in the original judgment. Otherwise, such experience would be irrelevant. All that further the failure of which would lead to the repudiation of the apprehension as illusory or mistaken is predicted in the judgment made. Now suppose we ask: How long will it be possible

to verify in some manner the fact that this penny is round? What totality of experience would verify it completely beyond the possibility of necessary reconsideration? ... it seems to be the fact that no verification would be absolutely complete; that all verification is partial and a matter of degree... Is it not the case that the simplest statement of objective particular fact implicitly asserts something about possible experience throughout all future time; that theoretically every objective fact is capable of some verification at any later date, and that no totality of such experience is absolutely and completely sufficient to put our knowledge of such particulars beyond all possibility of turning out to be in error? Lewis goes on to consider the supposition that at a certain time, say, T_1 the verification of the statement "This penny is round" is complete. 'Now suppose further that at some date, T_2 , we put ourselves in position to meet the consequences of this fact, which was accepted as completely established at T_1 . And suppose that these consequences fail to appear, or are not what the nature of the accepted fact requires? In that case, will there still be no doubt about the accepted fact? Or will what was supposedly established at T_1 be subject to doubt at T_2 ? And in the latter case, can we suppose it was absolutely verified at time T_1 ? Since no single experience can be absolutely guaranteed to be veridical, no limited collection or succession of experiences can absolutely guarantee

an empirical fact as certain beyond the possibility of reconsideration.¹

In the first place, this argument is concerned only with empirical statements. The class of empirical statements is broad. Statements such as 'The Table is circular' 'The bird is flying' 'The sun is rising' are empirical.

In the second place, this argument suggests that no empirical proposition is absolutely certain or can ever be absolutely certain. Propositions involving phrases such as 'I am absolutely certain' or 'It has been made conclusive' or 'It is indubitable' are unjustified. Propositions including phrases such as 'It seems to be the case' or 'Most probably, it is the case' or 'It is possible it is the case' - statements thus qualified are justified.

In the third place, propositions such as 'There is a cat inside' partly means the proposition 'If Mr. X seems to go inside, he should seem to see what seems to be a cat.' This way of expression might be attacked in two points:

a) The proposition 'If Mr. X seems to go inside, he should seem to see what seems to be a cat' does not entail that there exists a cat inside. In this connection, Norman Malcolm, discussing the same topic, may be quoted: "But if now it were to seem to me that I was looking at page 224 of Jame's book and if it were to seem to me that I was seeing there the phrase 'the stream of thought', that would not

1 Max Black, Philosophical Analysis, pp. 245-246.

entail that page 224 of Jame's book exists or that the phrase is on any page of any book".¹

b) This way of expression, i.e. 'If Mr. X seems to go inside, he should seem to see what seems to be a cat' might seem awkward to common sense, though sometimes common-sense is neglected in a philosophical discussion.

In the fourth place, the Argument is analysable into four points:

a) Each empirical proposition implies an infinite number of consequences. This assertion is analysable into two minor points:

1) Each empirical proposition implies consequences. By "consequences" is meant predictions, e.g. the statement 'There is a cat inside' indicates the possibility that if X goes inside, then he might see a cat, if the required conditions are fulfilled; i.e. granted the cat be inside, granted X's vision is good, and granted the existence of sufficient light, etc.

2) The consequences are infinite. The proposition 'There is a cat inside' indicates an infinite number of if ... then propositions; it means that if X goes inside, he should see a cat, and if Y goes inside, he should see a cat, and if both X and Y go inside one moment from now, two moments from now, and so on infinitely, they should see a cat, provided

¹ Ibid., p. 252.

that the cat is inside, and provided X's and Y's vision is good, and provided there exists enough light to satisfy the purpose of seeing.

So far, the Argument is on a solid ground, and consequently, I accept the first step with a partial modification. The proposition 'The consequences are infinite' should be modified this way: 'The consequences are indefinite'. For the empirical meaning of the expression 'infinite consequences' indicates an infinite process of enumeration. But being infinite, this process is endless; for once it ends, it is no longer infinite. In other words, the infinite process of enumeration does not come to an end, for its ending means the end of an infinity of time, and this is impossible; for, by definition, infinity is "boundless". This seems to be in agreement with Kant's position. While discussing the first antinomy of Pure Reason, Kant says:

"... that is, an infinite time must be viewed as having elapsed in the enumeration of all coexisting things. This, however, is impossible."¹

The axiom of infinity, then, is not empirically verifiable, not even in principle; for no matter what instruments are devised for the purpose of perceiving the most infinitesimal object, this purpose can never be fulfilled; because it is still possible, at least conceptually if not practically, to have that infinitesimal object divisible. If this is the

¹ Kant, Critique of Pure Reason, p. 398.

case, then the term "infinity" is meaningful only conceptually; it is a mere idea, 'The objective reality of which can never be shown in any possible experience ...'¹

Now, if the expression "infinite consequences" means an infinite process of enumeration, and this is probably what it means, and if such a process is empirically endless, and if it is a mere idea the objective reality of which cannot be established in experience, then it follows that one cannot know whether the principle of empirical infinity is possible in our world. For this reason, it is more logical to substitute the statement: 'The consequences are indefinite' for the statement: 'The consequences are infinite'.

b) The second step is: 'Some of the consequences may fail to occur.' This suggests that if 'P' is a proposition, and if 'X' exemplifies all the consequences of 'P', then some of 'X' may not occur, i.e. if 'P' is: 'There is a cat inside' then it is possible that X goes inside, and does not see a cat, and it is possible that Y goes inside, and does not see a cat, this might be due to defects in X's or Y's vision, or to the fact that the cat might be in a dark corner. In other words, there is no logical contradiction if X goes inside and does not see a cat; or it is logically possible that X, going inside, sees a cat, but at a later time, he does the same and does not see a cat, or sees another cat. If this is the case,

¹ Ibid., p. 403.

then no synthetic proposition is absolutely certain, if the word 'certain' is taken to mean theoretical certainty. The concept of certainty should be redefined in such a way that synthetic propositions can be considered conclusive; and this would be in conformity with common sense.

"... suppose what fallibilists mean to assert is that no empirical proposition can be completely verified, or that we never have absolutely conclusive evidence for any empirical proposition. Such an assertion will rightly shock common sense; for the phrase 'we have conclusive evidence for "p" or "p" is completely verified' has a use, indeed a perfectly good usage."¹

So far, the conclusion of the analysis concerned with the second step is: No synthetic proposition is certain in the sense that it is indubitable, or conclusively verified; in other words, no empirical proposition is conclusive in the logical sense. On the other hand, it is possible that practical certainty should exist to justify common sense.

In the second place, the proposition 'Some consequences may fail to occur' is equivalent to the proposition 'Perhaps the consequences will not occur' or 'It might be that the consequences fail to occur' and so on. Now, the words 'perhaps' 'might be' have the same meaning that the word 'possible' has. But since the meaning of the word 'possible' is vague, an attempt should be made for its clarification.

¹ Pap, Elements of Analytic Philosophy, p. 161.

The term 'possible' may mean a logical possibility. 'One week from now, no stars will exist any more' is logically possible, simply because it is thinkable, in the sense that there exists nothing in it that renders it self-contradictory.

The word "possible" may mean, too, contingency. The proposition 'It is possible that the stars disappear next week' may suggest a rational ground for the occurrence of the event indicated by the proposition. But the ground is not strong enough to necessitate the occurrence.

The third meaning of 'possible' is that one accepted by common sense. The sentence 'Mr. James will visit us' may be accompanied by another sentence stating the reason for believing that the event may occur. The reason might be that yesterday Mr. James informed me that he will visit me, if he has an opportunity; or it might be that Mr. James sent a letter telling me about his expected visit.

Moreover, the word 'possible' may have a 'negative' meaning. Granted Mr. James belongs to a certain society, and granted a meeting was held by that same society, at a time where Mr. James was absent, then some one may think that it is possible that Mr. James knew nothing about the meeting to be held.

The word 'possible' capable of having all these interpretations, may be misleading. For example, 'possible' in the logical sense does not include any sort of degree; that is, the proposition is either self-contradictory or

is not; no proposition is more self-contradictory than any other one. Some other interpretations of the word 'possible' admit of degree. The proposition 'Mr. James will visit us' suggests evidence for the assertion. The evidence may be 'weak', 'normal', 'strong', 'very strong' and so on. But though ambiguous, the meaning of 'possible' is not a serious problem, in so far as it is used with clarity. But in case it is used with ambiguity, then the whole point is vitiated, i.e. the proposition, 'The existence of God is possible' might be understood both in the logical and in the empirical sense. The former leads to a metaphysical position, for the existence of God is thinkable; while if 'possible' is understood in the empirical sense, then the proposition 'The existence of God is possible' is meaningless, for it is not empirically verifiable, not even in principle.

c) The third step in the Argument is: If some of the consequences fail to take place, then there is a rational ground for doubting the truth of the proposition.

Now, if some of the consequences fail to occur, then there exists not only a good ground for doubting the truth of the proposition, but there is also a rational ground for asserting its falsity with certainty, in the practical sense of certainty. For example, in a chemical laboratory, if a certain experiment does not yield the expected result, then the proposition expressing the chemical experiment can be said to be absolutely false, in the practical sense. Of

course, it should be granted that the experiment is set up correctly. If the setting up of the experiment is correct, and if the experiment does not yield what is expected, then it would be a waste of time to continue the experiment indefinitely. No matter how many times one does the same experiment, he will never reach a logical conclusiveness. Indeed, a finite number of experiments testing the same proposition are enough to establish practical certainty.

Let us analyse the proposition 'I perceive a paper on my desk'. To see whether this proposition is factually true, I start verifying it. May be the first thing I do is to look at it more closely, to touch it, to hold it. But let it be supposed that the proposition 'I perceive a paper on my desk' is falsified, in the sense that if I touch it, it breaks, if I hold it, it melts, if I look at it, it reflects an intense light; and since these properties do not pertain to what is called 'paper' in the ordinary sense, I conclude that the proposition 'I perceive a paper on my desk' is false absolutely. This is, at least, a matter of common sense. But let it be granted, for the sake of argument, that there is still a reason for me to doubt the falsity of the proposition 'I perceive a paper on my desk'. May be the next thing I do is to call Mr. X who lives in the room next to mine, and ask him whether the object on my desk is a paper or something else. Let it be supposed that Mr. X tests the proposition 'I perceive a paper on my desk' and finds out that it is false, for he

passes through experiences similar to those which I had. Meeting this situation, is there still any reason for doubting the falsity of the proposition 'I perceive a paper on my desk'? 'How improper it would be, what a misuse of English, to say that it was not certain that I had a sheet of paper in front of me, but only highly probable'?¹

In the second place, the proposition 'If some of the consequences fail to take place, then there is a rational ground for doubting the truth of the proposition' seems to be the result of the assumption that since a good ground for doubting some empirical propositions has been discovered, after they were assumed to be certain, then there exists a rational ground for doubting the truth of all empirical propositions. What seems ambiguous in this assumption is the meaning of the expression "rational ground". The expression "rational ground" means "good evidence". Now the question is: To what extent is any evidence good? Very good? Weak? Very weak? Is there a sharp line between 'good' and 'very good' evidence? Or between 'good' and 'weak' evidence? For example, is the appearance of clouds good evidence that it will rain? Or is the appearance of clouds accompanied with a strong wind 'good' evidence? or 'very good' evidence? that it will rain. Is the fact that since I have perceived ten crows to be black 'good' evidence that the next ten crows will seem to me to be black? Or that the next five will appear black? I feel more

¹ A.J. Ayer, Philosophical Essays, p. 108.

inclined to suggest that the determination of 'good evidence' or of 'rational ground' is primarily psychological. If this is the case, then the meaning of the expression 'rational ground' is relative.

But let it be granted, for the sake of argument, that the meaning of the expression 'rational ground' is clear. Now the question is: Should the assumption that since some empirical propositions have been discovered to be doubtful, after they were assumed as certain, then there exists a rational ground for doubting all empirical propositions - should this assumption be applicable in all cases? Most probably not. For example, if Mr. X asserts the proposition 'The door of my room is locked', then this proposition might be dubious, because it occurs that sometimes Mr. X goes out of his room without locking the door, or simply because it might be the case that Mr. X is joking or is lying. But suppose someone verifies the proposition 'The door of my room is locked' and finds out that it is true, i.e. he might try to open the door without using the key, and find that the door does not open. In this case, is there any 'rational ground' for doubting the proposition 'The door of my room is locked'? Thus, there are circumstances where the assumption holds as true, but not in all circumstances. It is applicable only in cases where one has not verified the asserted proposition.

The third step should be formulated this way: If some predictions fail to occur, then not only is there a

rational ground for doubting the truth of the proposition, but there is a good reason to hold that the proposition is absolutely false, in the practical sense of certainty.

d) The fourth step is: If at any time in the future there exists a rational ground supporting the falsity of a certain proposition, then at no previous time was that proposition known with certainty as true. This amounts to saying that if there is a good ground that the proposition 'Socrates was a philosopher' is false, then at no previous time was the proposition 'Socrates was a philosopher' known with certainty as true.

It seems that the conclusion is not logically entailed by the premise. The premise is: There exists a rational ground that 'Socrates was a philosopher' is false. The conclusion is: At no previous time was the proposition 'Socrates was a philosopher' known with certainty as true. The conclusion does not follow logically from the premise, for the proposition 'There exists a rational ground that "Socrates was a philosopher" is false' does not contradict the proposition 'Socrates was a philosopher'. For example, it is conceivable that someone says: 'Socrates was a philosopher, but there is a good ground to doubt whether he was a philosopher or not', or 'The sun is rising, but there is still a doubt whether the sun is rising'. Of course, this way of expression seems to be somewhat awkward or absurd, but is not self-contradictory. In order that the conclusion follows from the premise, one should say: If at

any time it is discovered that a certain proposition is absolutely false, then at no previous time was that proposition made absolutely certain.

Now, the dissection of the Argument has come to an end. The dissection reduced the Argument to its basic elements, and exposed its implications as simply as possible. The basic elements of the Argument were four.

a) Each empirical proposition implies an infinite number of consequences.

b) Some of the consequences may fail to occur.

c) If some of the consequences fail to take place, then there is a rational ground for doubting the truth of the proposition.

d) If at any time in the future there exists a rational ground supporting the falsity of a certain proposition, then at no previous time was that proposition known with certainty as true.

Each one of these basic elements was examined, whereby its implications were pointed out. Some of the implications were supported, while some others were questioned. But through them all, it has been suggested the rationality of the principle of practical certainty, a thesis accepted by Mr. Ayer. There is still another significant point that is questionable. The point is that one discussed by Kant in his Critique of Pure Reason. It is as follows: Are synthetic propositions a priori possible? In chapter two, this question is investigated.

CHAPTER II

ANALYSIS

In chapter one, the Verification Argument was dissected into its basic elements. This chapter starts with the discussion of the proposition: 'All meaningful propositions are either true by definition or subject to empirical verification, at least in principle'. Let this proposition be called 'P'. 'P' is analysable into two points:

- a) The meaning indicated by 'meaningful'.
- b) The meaning indicated by 'verifiable'.

Now, the analysis starts with the word 'meaningful' and consequently, the question is: 'What is the significance of 'meaningful'? According to Mr. Ayer, a meaningful proposition implies consequences scientifically observable. By 'scientific observation' is meant that the consequences that follow from a meaningful proposition are publically verifiable, i.e. if X utters the proposition 'A new star has been discovered' then the assertion is significant only if it is possible for Y, setting up the same procedure as that of X, to see whether the proposition 'A new star has been discovered' is true or false, and it should be possible that Z can do the same thing, and so on; and if the required instruments for the verification of the proposition 'A new star has been dis-

covered' are lacking, then it should be in the power of Y and Z to think of a way to determine whether the proposition concerned is true or false. Moreover, it should be in their power to describe the whole situation through words indicating empirical facts. Thus, the expression 'scientific observation' means: Any proposition must describe occurrences observable through the senses. Again, any scientific occurrence must be describable through words empirically understood. In case the occurrence exemplifies a novelty that cannot be described by ready-made words, new terminology must be formed to describe the situation.

Having roughly stated the meaning of 'meaningful', the analysis of the word 'verifiable' follows. 'Verifiable' means the possibility of being verified; i.e. 'A is verifiable' is a proposition that indicates a possibility of deciding whether it is true or false. 'Verifiable' does not mean 'being verified immediately' or 'immediate verification'. This misconception seems to appear in Russell's statement: 'Empirical knowledge is confined to what we actually observe'.¹ Whether Russell takes this statement to mean that knowledge is confined to what is immediately experienced, is a question of which I am not certain. But C.I. Lewis' comment on the statement is:

"Suppose it maintained that no issue is meaningful unless it can be put to the test of decisive

¹ Feigl and Sellars, Readings in Philosophical Analysis, p. 132.

verification. And no verification can take place except in the immediately present experience of the subject. Then nothing can be meant except what is actually present in the experience in which that meaning is entertained. Whatever runs beyond this is unverifiable, and hence meaningless. The result of any such train of thought is obvious; knowledge would collapse into the useless echo of data directly given to the mind at the moment, and meaning would terminate in the immediate envisagement of what is meant. This is reduction to absurdity of both knowledge and meaning."¹

To avoid all sort of misinterpretation, by 'verifiable' Ayer means 'possibility of verification'.

There are two sorts of possibility: a) Logical, b) Empirical.

A proposition is logically possible if it does not violate rules of procedure of logic. Mr. Ayer rejects logical possibility, primarily because it leads to a metaphysical position. For example, this sort of possibility renders meaningful Schlick's proposition on the problem of immortality.² But Mr. Ayer denies it all meaning, and consequently he says:

"It is self-contradictory to speak of a man as surviving the annihilation of his body. For that which is supposed to survive... is not the empirical self... but a metaphysical entity - the soul."³

Discarding logical possibility as a criterion of verifiability, Mr. Ayer accepts empirical possibility. Any proposition is empirically possible, if it describes experienceable facts; in other words, if it describes observable events.

1 Ibid., p. 133.

2 Ibid., p. 172.

3. Ibid., p. 172.

For example, the proposition 'On the top of that mountain there is a tree' is empirically possible, for it is concerned with matters of fact.

Mr. Schlick rejects the criterion of empirical possibility, for according to him, there exists a gradational transition in the meaning of the expression 'empirical possibility'. This transition proceeds from the least possible to the most possible; but since no man pretends to apprehend all the laws of nature, he cannot be certain of the empirical possibility of any fact. Consequently, he is permitted to speak of degrees of possibility. If this is true, then there exists no sharp distinction between what is possible, and what is impossible. Mr. Schlick is quoted:

"Now since we cannot boast of a complete and sure knowledge of nature's laws, it is evident that we can never assert with certainty the empirical possibility of any fact, and here we may be permitted to speak of degrees of possibility. Is it possible for me to lift this book? Surely! This table? I think so! This billiard table? Certainly not! It is clear in these cases that the answer is given by experience, as the result of experiments performed in the past. Any judgment about empirical possibility is based on experience and will often rather be uncertain; there will be no sharp boundary between possibility and impossibility."¹

It seems that Mr. Ayer can evade Schlick's criticism. According to Schlick, the meaning of 'empirical possibility' appears to be decided by experience. In other words, the

¹ Ibid., p. 153.

possibility that a certain event expressed by a certain proposition, occurs is determined by the fact whether the event is experiencable in practice or not. Consequently, since no one pretends to have experienced every thing in life, it follows, Mr. Schlick thinks, that the event whose occurrence seems to be impossible at some time, might be possible at some other time; and this is conditioned by the progress of scientific knowledge. Again, it is possible that sometimes one cannot decide whether the event expressed by a certain proposition is possible or impossible.

For Mr. Ayer the meaning of 'empirical possibility' is not determined merely by actual experience. If a proposition is concerned with matters of fact, then the event it expresses is possible, in practice or in principle, disregarding one's experience and knowledge. Thus, the event expressed by a certain proposition is either possible or impossible; and consequently, there exists no transition in 'empirical possibility'.

What appears to be a serious difficulty resulting from the empirical meaning of possibility is the identification of the meaning of a certain proposition with the method of its verification. For if an empirically possible proposition is stated, there should be a method for deciding whether it is true or false, at least in principle. If this is true, then the meaning of a proposition depends upon whether there

exists a method for its verification or not. The meaning of a certain proposition, then, is the method of its verification.

In the first place, Carnap thinks that the proposition 'The meaning of a proposition is the method of its verification' identifies 'meaning' with 'verification'. But for him, the terms 'meaning' and 'verification' are not identical. If someone inquiring whether a certain proposition is meaningful or not, then he has to determine under what conditions the proposition is meaningful or not; while if he were inquiring whether a certain proposition is verifiable or not, he has to determine under what conditions the proposition is true or false; Thus there exists a difference between 'meaning' and 'verification'. In our inquiry about meaning we ask: 'Under what conditions is a proposition meaningful?' while inquiring about verification, we ask: 'Under what conditions is a proposition true or false?'¹

In the second place, does common experience confirm the truth of the proposition 'The meaning of a proposition is the method of its verification'? It seems that the answer is negative; for let it be supposed that Mr. James utters the proposition 'Socrates was a philosopher'; and let it be supposed, too, that Mr. John hears Mr. James uttering the proposition 'Socrates was a philosopher'. Now if Mr. John

¹ Rudolph Carnap, Testability and Meaning, p. 420.

understands English, then he grasps the meaning of the proposition 'Socrates was a philosopher' without thinking of a way for its verification. It is enough that Mr. John understands the meaning of the words 'Socrates' 'was' and 'a philosopher'. It is possible that someone understands the meaning of a certain sentence, if he understands the meaning of its words only. Discussing the same point, Bertrand Russell says:

"But it is of the essence of language that we can understand a sentence correctly compounded of words that we understand, even if we have never had any experience corresponding to the sentence as a whole."¹

Having the words 'meaningful' and 'verifiable' in 'P' analysed, the question now is: What type of a proposition is 'P'? 'P' might be included under one of the three following types:

- a) 'P' might be synthetic a priori.
- b) 'P' might be synthetic.
- c) 'P' might be analytic a priori.

According to Mr. Ayer the first possibility is excluded; for him, the statement 'There are synthetic propositions a priori' is impossible by definition, simply because all propositions a priori are certain absolutely, while all synthetic propositions are probable. A meaningful proposition, he thinks, is either a priori or synthetic. Whether this assertion is true or false, shall be decided in the course of this chapter.

¹ Bertrand Russell, An Inquiry into Meaning and Truth, p. 307.

The second alternative is: P is synthetic. '... and synthetic when its validity is determined by the facts of experience'.¹ Now if P is synthetic, then it is either 'protocol' or 'physical' - to use Carnap's terminology - for all synthetic propositions are either protocol or physical. 'There is the "protocol language", which consists of "statements belonging to the basic protocol or direct record" of individual experience.'² Statements such as 'I perceive a red patch', 'I feel pain' are protocol.

Now, is P a basic proposition? Is it verifiable as the proposition 'I perceive a red patch'? It seems that the proposition 'I perceive a red patch' and P are not of the same type; for the truth or the falsehood of the proposition 'I perceive a red patch' can be settled ostensively, while P does not seem to follow the same pattern. If this is the case, P is not protocol; it might be physical. 'There is... the "physical language" which is said to be characterized by the fact that statements of the simplest form attach to a specific set of coordinates a definite value or range of values of a coefficient of physical state,' or in other words 'express a quantitatively determined property of a definite position at a definite time'.³

Propositions such as 'The temperature is thirty

1 A. J. Ayer, Language, Truth and Logic, 1st Ed., p. 103.

2 A. J. Ayer, The Foundations of Empirical Knowledge, p. 146.

3 Ibid., p. 146.

degrees' 'There exist ten books on my desk' are physical, because they 'express a quantitatively determined property of a definite position at a definite time.' Now is P a proposition comparable in type to, say, P_1 : 'The temperature is thirty degrees?' Most probably, P and P_1 are not of the same type, for P_1 can be settled by looking at a thermometer fixed on the wall, while P cannot be verified in any comparable way. P is not physical as the proposition 'The earth is smaller than the sun', for any dispute over the latter can be settled by observation and calculation.

Moreover, P is not synthetic, for its truth is taken to be certain. The truth of P is applicable to all propositions of the past, of the future, and of the present, without the least degree of probability. If P were synthetic, and if all synthetic propositions are probable, then P should have been expressed this way: 'Most probably, it is the case that P' or 'Perhaps, it is the case that P' and so on.

The conclusion, so far, seems to be: P is not synthetic a priori, for this possibility is excluded by Mr. Ayer. Again, P is not synthetic, for if all synthetic propositions are either protocol or physical, and if P is neither, then P is not synthetic. Moreover, P is certain, and since no synthetic proposition is certain, P, then, is not synthetic.

If P is neither synthetic a priori, nor synthetic, then the third alternative is: P is a priori. '... we say

that a proposition is analytic when its validity depends solely on the definitions of the symbols it contains'.¹ This means that once the words of an analytic proposition are apprehended, then that proposition is discovered either true or false with certainty, i.e. once the meaning of the word 'triangle' is grasped, then the statement 'All triangles are figures bounded by three sides' is absolutely true. If analytic propositions are certain, then they do not describe matters of fact.

If certainty belongs to analytic propositions, then P is not analytic; for it seems that P is not universally accepted. Unlike propositions such as 'P is P' or 'The whole is greater than any of its parts' or ' $3+3 = 6$ ', P is debatable, and consequently, doubtful. If someone grasps the meaning of each word in the proposition 'The whole is greater than any of its parts' he is supposed to be certain about its truth; while, on the other hand, understanding the meaning of P, does not amount to the same thing. Thus P is not analytic, if the word analytic is taken to mean 'general agreement' simply because not every one agrees to this definition. As an illustration, Mr. Ayer, in his discussion of the ethical principles of utilitarianism and subjectivism, asserts that these ethical principles are not true definitions of ethical concepts, for the fact is that one can deny these definitions

¹ A.J. Ayer, Language, Truth and Logic, 1st Ed., p. 103.

without self-contradiction. Mr. Ayer is quoted:

"We reject the subjectivist view that to call an action right, or a thing good, is to say that it is generally approved of, because it is not self-contradictory to assert that some actions which are generally approved of are not right, or that some things which are generally approved of are not good.... And a similar argument is fatal to utilitarianism. We cannot agree that to call an action right is to say that of all the actions possible in the circumstances it would cause, the greatest happiness, or the greatest balance of satisfied over unsatisfied desire, because we find that it is not self-contradictory to say that it is sometimes wrong to perform the action which would actually or probably cause the greatest happiness, or the greatest balance of pleasure over pain, or of satisfied over unsatisfied desire."¹

Now if the ethical doctrine of utilitarianism is not true, for its denial does not conduce to self-contradiction, then P is not true; for the truth of P is deniable without self-contradiction. P, then, is not analytic.

If P is neither synthetic a priori, nor synthetic, nor analytic, what is it, then? In the first edition of Language, Truth and Logic, Mr. Ayer disregards this difficulty; but in the second edition of the same book, he is aware of the question as to what type of propositions P belongs. So he suggests that it is a mere proposal. It is one definition of meaning selected from among many other definitions. Mr. Ayer is quoted:

"In putting forward the principle of verification as a criterion of meaning, I do not over-

¹ Ibid., pp. 153-154.

look the fact that the word "meaning" is commonly used in a variety of senses, and I do not wish to deny that in some of these senses a statement may properly be said to be meaningful, even though it is neither analytic nor empirically verifiable. I should, however, claim that there was at least one proper use of the word "meaning", in which it would be incorrect to say that a statement was meaningful unless it satisfied the principle of verification. Thus, while I wish the principle itself to be regarded not as an empirical hypothesis, but as a definition, it is not supposed to be entirely arbitrary. It is indeed open to any one to adopt a different criterion of meaning and so to produce an alternative definition which may very well correspond to one of the ways in which the word "meaning" is commonly used." Nevertheless, I think that, unless it satisfied the principle of verification, it would not be capable of being understood in the sense in which either scientific hypothesis or common sense statements are habitually understood."1

Now if P is a mere proposal, then either it is accepted or not. If the former, then it is possible that one defend it against other attacks. On the other hand, if someone refuses to accept it, then nothing can be done about it. If this is the case, then P cannot decide questions of fact, nor can it reject metaphysical questions as meaningless a priori.

"... but the only difficulty here is that a proposal provides no basis for deciding questions of fact. Whether discourse is or is not legitimate cannot be settled by any conventions."2

L.J. Russell, commenting on Mr. Ayer's modification of his position in his second edition of Language, Truth and

1 Ibid., 2nd Ed., pp. 15-16.

2 Bernard Philipp, Philosophy, Vol. XXIII, 1948, p. 354.

Logic, says:

"But he now makes it clear that he does not expect it to be accepted as a self-evident proposition about the only possible conditions under which any statement could be said to have meaning. He now describes it as a definition of one proper use of the word 'meaning'. I should prefer to express what Mr. Ayer is now saying by describing the principle of verifiability not as a proposition, but as a proposal; as an attempt to persuade investigators who wish their work to be fruitful, to consider only certain types of statement and not waste time on other types. Proposals can be argued for or against, though they cannot be shown to be true or false. Proposals do not invalidate propositions, though if you can get people to accept certain proposals you can get them to reject certain arguments. And this it seems to me is all that can be hoped for from the principle of verifiability."¹

II

In this section, the problem of a priori synthetic propositions is discussed. Mr. Ayer, as it has been mentioned, denies the possibility of such type of propositions. In support of his view, he seems to be dogmatic; for instead of refuting the possibility of the proposition 'A priori synthetic propositions are possible' on logical grounds, he appeals to empirical examples. For example, he suggests that the expression ' $2 + 2 = 4$ ' is absolutely certain, because it is inconceivable to be otherwise. Of course, according to him, one might add ' $2 + 2$ ' and get ' 5 ' instead of ' 4 '. If this is the case, then either

¹ L.J. Russell, Ibid., p. 174.

the result of the addition is absolutely false, or the figure '5' has the exact meaning as that of '4', and then the product of the addition is absolutely true. Any mathematical mistake, under all situations, is the result of the empirical method used, and has nothing to do with mathematics as such. All mathematical principles are independent of experience.

Now, the result of the argument seems to be indubitable; why it is indubitable is explained in the course of this discussion. But the method used in its support is untenable; for Mr. Ayer assumes the very thing that requires evidence. For example, he asserts that ' $2 + 2 = 5$ ' is absolutely false, without suggesting why this is the case. If it is absolutely false because it is a priori, then he is in a vicious circle; for it is up to him to show that the expression ' $2 + 2 = 4$ ' is void of any empirical element; and this is the very thing that he could not do.

In what follows, the discussion is primarily concerned with the analysis of the proposition 'A priori synthetic propositions are possible' rather than with the proposition 'A priori synthetic propositions are impossible' for once the former assertion is questioned, the latter is on a solid ground.

The history of mathematics suggests that mathematics has been considered either formalistic or a prioristic. The former view indicates that the whole body of mathematics

basically consists of axioms that are, as such, neither true nor false. These axioms are a set of proposals, independent of all experience. The mathematical axioms are analysable into implications, and these implications are absolutely true in so far as they are consistent in the same mathematical system. Thus each mathematical system, according to this view, is a closed one and is true in its own way. This means that if a mathematical proposition is true in one system, it might be false in some other one. Mathematical truth, then, is a matter of consistency. Propositions of mathematics are concerned with symbols, not with the objects of language. Thus whether there is an external reality or not, whether there exists a universe or not, propositions of mathematics are possible; for they are not concerned with existence. Of course, there must be an empirical world to render possible the books on mathematics; but existence is not a mathematical premise. All propositions of mathematics, according to this view, are tautologies. The adherents of this view are the Nominalists of the Middle Ages, the Humeans, and in general, the Empiricists.

The a prioristic view holds that mathematics is of the very nature of reality. Whether the laws of mathematics are founded in the a priori nature of the mind, or whether they are grasped by intellectual intuition, mathematics is a science that imposes itself on the process of thinking. Its main concern is with the objects of language rather than with mere symbols. Some of the adherents of this view are

Pythagoras, Plato, Euclid, Kant, etc. All of them agreed that the propositions of mathematics are concerned with the external reality; for some of them such as Plato, this reality is metaphysical, while for Euclid and Kant, it was empirical. In other words, Plato held that mathematical propositions describe the metaphysical reality, while Kant thought them to be concerned with the phenomenal world, and that was the reason for calling them a priori synthetic propositions. They are a priori in so far as their truth is necessary and universal, and synthetic, in so far as they describe the empirical world. Indeed, it was Kant who gave the problem of synthetic propositions a priori its importance.

Kant inherited this problem from two clashing schools of thought; The eighteenth century rationalism and the British empiricism. The former found it possible to attain reality through concepts, independent of experience. The analysis of these concepts conduced to the nature of reality. Thus reality, for the eighteenth century rationalism, was deductive. Its dictum was: To be knowable is to be knowable through analytic concepts a priori.

On the other hand, British empiricism started with a tabula rasa, or with the proposition 'To be is to be perceived'. The implication of this proposition is the identification of existence and perception. The knowable, then, is the perceivable through the senses. Consequently, knowledge is attainable through synthetic concepts a posteriori. The

ultimate result of this view was Hume's skepticism, and his assertion that a priori synthetic propositions are impossible; how this result was obtained is another question, and it has nothing to do with the present discussion.

The sceptic results of the Humean philosophy awakened Kant from his dogmatic slumber, or it might be better to say, from his Wolfian slumber. Kant never questioned the causal necessity, before acquainting himself with Hume's philosophy. On the one hand, he held that the principles of physics, i.e. causality, are certain and necessary; on the other hand, Hume's thesis that knowledge is limited to the senses appeared to him as true. His problem, then, was to suggest a solution synthesizing both views; The rationalistic view that knowledge is realized through analytic concepts a priori, and the Humean conclusion that knowledge is attainable through concepts a posteriori. In other words, he thought that both views were true, and his problem was to show how the truth of both views is possible. The result was his question: 'How a priori synthetic propositions are possible?' The purpose of his Critique, then, was not to prove the possibility of such type of propositions, but to suggest how it is possible. For example, he took it for granted that all mathematical propositions were synthetic a priori.

Kant was aware that the possibility of such type of propositions requires that man prescribe the laws of nature

rather than nature impose its laws on man; and this led him to postulate the pure a priori forms of sensibility, space and time. The pure forms of sensibility condition all possible experience. If the pure forms of intuition condition all possible experience, then synthetic propositions a priori are possible; for in so far as a proposition describes the factual world, it is synthetic, and in so far as the event described by the synthetic proposition is experienced through the pure forms of intuition, the proposition is necessary and universal. A priori synthetic propositions, then, are possible through the subjective pure forms of sensibility. For example, Kant asserts that '12' is not implied in the expression '7 + 5'; for no matter how long one examines '7' and the sign '+' and '5', '12' cannot be deduced. In addition to '7' one should count, for example, his five fingers to get '12'. But in counting, the pure form of time is presupposed. Thus, '7 + 5' equals '12' is synthetic a priori. In case of geometry, it is almost the same. For example, the Euclidean axiom that 'the shortest distance between two points is a straight line' is synthetic; for the word 'straight' suggests quality and not quantity. But a straight line must be drawn whether actually or in imagination to discover whether the axiom is self-evident or not. In other words, the solution of any geometrical problem, according to Kant, requires that the figure expressed must be

drawn imaginatively or actually, and this is the very thing that renders propositions of geometry synthetic.

This is roughly the interpretation of Kant on the problem of a priori synthetic propositions. His position concerning this view is questionable on more than one point:

In the first place, Kant distinguished between logic and mathematics. Propositions of logic, he thought, were analytic a priori, or what might be called now tautologies. This meant that no set of logical postulates referred to existence, and consequently, the sole criterion of its truth was consistency. On the other hand, he thought of mathematics as consisting of synthetic a priori propositions. But this distinction between logic and mathematics does not hold any more, for all mathematical propositions are reducible to the primitive assumptions of formal logic. 'All mathematics... is deducible from the primitive propositions of formal logic: These being admitted, no further assumptions are required.'¹ Shaw seems to agree with Russell on this point; He says: 'Symbolic logic is Mathematics, and Mathematics is Symbolic Logic, the Twain are One'.² Now if the primitive propositions of logic are analytic a priori, and if mathematics is ultimately deducible from such propositions, then all mathematical propositions are analytic a priori.

In the second place, Kant was primarily a physicist.

¹ Russell, Mathematics, p. 458.

² Shaw, The Philosophy of Mathematics, p. 61.

The physics of his day was deterministic, for it was very much influenced by the rationalistic philosophies that preceded. The rationalistic conception of nature, the conception that the universe was like a machine, rendered physics deterministic, in the sense that there existed a necessary connection between events. At the same time, there was the philosophy of Hume that questioned the principle of necessity, and ended with skepticism. Meeting these two alternatives: the principle of necessity, and the Humean skepticism, Kant reacted against the latter, presupposing the truth of the former; that is, he presupposed the truth of the proposition 'A priori synthetic propositions are possible', before suggesting evidence for such possibility. For example, he never doubted that propositions of mathematics were synthetic a priori. Thus Kant assumed the very thing that he was required to prove, a procedure similar to that of Ayer when refuting such a possibility. Consequently, Kant was awakened from his dogmatic slumber, to fall again into a slumber more dogmatic.

In the third place, the mathematics that existed in the days of Kant was inferior, compared with its present status. Euclid's geometry was accepted as the only valid geometry, whose propositions described physical space; and it was perfectly true, as it is up till now, that the solution of any problem based on a Euclidean system need be drawn in imagination or actually. But the Euclidean geometry is not the only type that exists at present. In 1792 Gauss suggested

a non-Euclidean geometry, but he refrained from publishing it; maybe, because he was afraid to meet the opinions of his day. But in 1840 the Russian mathematician Lobachevski published a non-Euclidean geometry.¹ Lobachevski questioned Euclid's parallel axiom and substituted for it another one, while retaining all the others; and the result was a valid system of geometry that does not contain in itself any contradictions, though it contradicts certain theorems of Euclid's geometry. The discovery of a non-Euclidean geometry gave rise to many attempts for the postulation of some other possible systems, and to the conception that geometry is pure mathematics and that each system is true in its own way.² Thus if it is impossible to solve any problem in a Euclidean system without drawing the figure it expresses, whether in imagination or on an external object, this is not applicable to other types of geometry. If this is the case, then Kant's ground is undermined. Geometry is purely formal.

In the fourth place, Kant's criterion that no matter how long one examines '7 + 5' he cannot discover '12' is psychological; for it is easier for someone to discover '12' in the expression '1 + 1' than to discover '230' in the expres-

1 Richard Von Mises, Positivism, p. 108.

2 Ibid., p. 373.

sion '165 + 65'. In other words, the greater the numbers added are, the more difficult it is to discover the product. The criterion, then, is psychological rather than logical.¹

By now, a Kantian might raise two protests:

a) The Euclidean definition of space as three-dimensional, is applicable to existents.

In reply to the first protest, this assertion is irrelevant to the philosophy of mathematics, for mathematics is not concerned with existing entities; this is of the concern of applied and not of pure mathematics. 'What pure mathematics asserts is merely that the Euclidean propositions follow from the Euclidean axioms - i.e. it asserts an implication: any space which has such and such properties has also such and such other properties. Thus, as dealt with in pure mathematics, the Euclidean and the non-Euclidean Geometries are equally true: in each nothing is affirmed except implications.'² Von Mises does not disagree with Russell. He says: 'Mathematics has the completely false reputation of yielding infallible conclusions. Its infallibility is nothing but identity. Two times two is not four, but it is just two times two, and that is what we call four for short.'³

b) The second Kantian suggestion goes like this; 'One cannot experience a perceptual object which is all green and all

1 A.J. Ayer, Language, Truth and Logic, 2nd Ed., p. 78.

2 Russell, Mathematics, p. 5.

3 Richard Von Mises, Positivism, p. 135.

red at the same time.' Let this proposition be called P. P is suggested to be synthetic a priori proposition. It is synthetic, for it describes a matter of fact; and a priori, for its truth is necessary and universal.

P means that it is impossible that someone can ever experience a perceptual object which is all green and all red at the same time; or it means that the proposition 'Someone had the experience of a perceptual object which is all green and all red at the same time' is false. Now, if it is possible to think of a way whereby P is verifiable, then P is not a priori synthetic, for it is of the definition of a synthetic a priori proposition that its truth can never be settled through mere observation.

If synthetic, P is, at least, one of these alternatives:

- a) A report about sense experience.
- b) A prediction of sense experience.
- c) Verifiable in practice.
- d) Verifiable in principle.

In the first place, P is not a report about sense experience; a proposition is a report about sense experience, if it indicates an event of possible experience, that occurred only in the past, for example, 'Napoleon was an emperor' is a report about a possible sense experience that happened in the past, and is existing no more. But P is not taken to indicate an event limited to the past; it means that there never existed and shall never exist a case where an object is all green and

all red at the same time. The case expressed by P is applied both to the past and to the future. If this is true, then P is predictive. The question now is whether this prediction is verifiable.

Verification is either in practice or in principle; if verifiable, then P is verifiable either in practice or in principle; if in practice, P is a member of a class of propositions of the type 'There exists a tree on the top of that hill' or 'The door is closed' and so on. But this does not seem to be the case; for the dispute over the proposition 'The door is closed' can be settled by having X, Y, Z, etc. look at the door, granted all of them agree to the meaning of each term in the proposition. But P does not appear to be settled by a similar way. P, then, is verifiable in principle. A proposition is verifiable in principle, if it is possible to think of a way where it can be decided as true or false. The question is: Is it possible to think of a way to determine the truth or the falsehood of P? Most probably, in so far as the world is as it is, in so far as man is equipped with five senses only, it is inconceivable that a method be devised to determine whether P is true or false. On the other hand, it is possible to postulate an empirical world, dissimilar to ours, in which P is verifiable. In other words, the equipments of man, including his senses, the physical world and the tools at hand, render P unverifiable, even in principle. But it is

possible that man conceives of a quite different universe, whereby propositions of the type P are verifiable. If this is the case, P, then, is synthetic, for it can be verified through a postulated world.

The previous discussion classified the history of mathematics under two headings: The a prioristic and the formalistic. The former claims that mathematical propositions describe the nature of reality. The description might be physical or metaphysical. Kant thought that propositions of mathematics are concerned with existents, and consequently, he asserted that 'A priori synthetic propositions are possible'. This possibility is grounded on the pure a priori forms of sensibility, space and time. The suggested difficulties against this view are four:

a) All propositions of mathematics are deducible from the primitive propositions of logic; if logic is analytic a priori, so is mathematics.

b) Kant presupposed what required an evidence for its truth.

c) Non-Euclidean geometry confirmed the assertion that mathematics is purely formal, independent of experience.

d) Kant's criterion of synthetic propositions a priori, i.e. ' $7 + 5 = 12$ ' is psychological.

Then the two Kantian suggestions that 'Euclid's geometry describes physical space' and 'One cannot experience an object which is all green and all red at the same time'

were discussed.

The alternative view of mathematics is the formalistic. This view claims that the sole criterion of truth in a mathematical system is its consistency. Mathematics deals with symbols and not with the objects of language, or with existents. Propositions of mathematics might be true, even if there exists no world.

CHAPTER III

THE LOGICAL IMPLICATIONS OF THE ARGUMENT

This chapter consists of two major parts:

In the first part, the discussion is concerned with the bearing of the Argument on metaphysics and ethics. The second part consists of a criticism of the criterion in the light of its consequences.

I

Metaphysics

Mr. Ayer defines metaphysics as the study of a reality transcending the empirical world. By definition, a metaphysical object is not an object of perception. The metaphysician, then, claims to know trans-empirical reality¹. How he attains such a knowledge is not clear; for, from the perception of the empirical world, no trans-empirical reality is obtained. Consequently, the metaphysician is not justified in constructing his system on an empirical basis. Nor is he justified in founding it on propositions a priori, for such propositions are analytic, and from a system of analytic sentences, nothing except tautologies can be deduced².

1 A.J. Ayer, Language, Truth and Logic, first ed., p. 16

2 Ibid., p. 42

Meeting these objections, the metaphysician, Mr. Ayer thinks, might assert that he apprehends the trans-empirical reality by apprehending 'intuitively' 'basic principles' in terms of which the natural laws are explained.

Two points require analysis in this connection:

- a) The expression 'basic principles'.
- b) The doctrine of intuition.

These 'basic principles' are according to Mr. Ayer, not observable, for they are not revealed by the laws of nature. If this is the case, then they are not verifiable, and consequently, insignificant.¹ But the metaphysician claims to know these 'basic principles' by the method of intuition, a faculty unattainable by everyone. (In the course of this discussion, the word 'intuition' is taken into a Bergsonian meaning.) Indeed, only men of deep philosophical sense, the intuitionist argues, are endowed with this faculty of knowledge, and so any refutation on the part of those who are not endowed with it is not justified. Intuition is a way of knowledge whereby reality flashes into one's mind and is directly apprehended. In intuition, the publicity of knowledge is destroyed.

The question that has to be met by the intuitionist, according to Mr. Ayer, is not whether all men are endowed with the faculty of intuition or not; in denying that intuition pertains to all men, the intuitionist might be right. But the real difficulty is whether the intuitive notions are explicable; in other words, whether intuitive knowledge is communicable.

1 Ibid., p. 40

For example, a Bergsonian replies that knowledge intuitively apprehended is incommunicable. We use concepts, he goes on, not to represent reality, but for practical purposes.

The assertion that knowledge is incommunicable, Mr. Ayer suggests, is contradictory; for its very definition lies in its publicity, in that all men can understand it in principle. Moreover, if knowledge is private and inexplicable, how is it possible to determine which of two intuitionists disputing over the problem of reality is right? Even any dispute of this sort is meaningless, for to argue about a problem implies that one understands what the problem is. But the intuitionist denies the possibility of such an understanding.¹

Now if genuine propositions are either synthetic or analytic, and if metaphysics is neither, then metaphysical propositions are not genuine. Again, if the basic metaphysical principles are apprehended intuitively, and if all intuitive knowledge, in the Bergsonian sense, is incommunicable, and if the definition of knowledge includes communicability, it follows that intuition leads nowhere, and consequently, intuitive metaphysics is futile. Again it is Mr. Ayer's opinion that metaphysical propositions are not only factually meaningless, but linguistically, too; the rules of our present language render it impossible that non-empirical propositions are significant.²

1 Ibid., p. 156

2 Ibid., p. 19

The proposition 'The Absolute is revealing itself through history' or 'God consists of an infinite number of attributes' is meaningless, not merely because there exists no possible way to verify it empirically, but, in addition to its unverifiability, the syntactical rules of our language render it so. The rejection of metaphysics on a linguistic basis is a radical change from that of Kant. Kant rejected metaphysics on the ground that metaphysical objects are not possible objects of experience. They are beyond perception; they are unknown things-¹ in-themselves.

The elimination of metaphysics, according to Mr. Ayer, leads to the question: 'How is it that people have been disposed to metaphysical speculation'? The answer to this question is twofold:

a) Metaphysics is the result of a linguistic misconception. Propositions such as 'The appearance of the object changes' are considered by some philosophers metaphysical; for they think of a 'real' object existing beyond perception, manifesting itself in its 'appearance'. The proposition 'The appearance of the object changes' is reducible to the argument: Every event has a cause; the appearance is an event; thus the appearance has a cause. This cause might be a God, or an atom, or an Absolute of one sort or another. The analysis of the proposition 'The

1 Ibid., p. 17-18

appearance of the object changes' into an appearance and a mysterious entity, is a linguistic error. One thinks, according to Mr. Ayer, that for every linguistic term there should exist an entity, and as the empirical world is not wide enough to house them all, a non-empirical world is required to hold them.¹

b) The second reason for having metaphysics is psychological. This psychological reason is man's fear and his feeling of insecurity. If man feels incapable of living without metaphysical security, he is justified in sticking to a metaphysical belief; but he should not pretend that his belief corresponds to an objective reality.

Value Judgements

Speculative philosophy, it is argued, is concerned with two subjects:

- a) matters of fact
- b) values.

In so far as it is concerned with matters of fact, its function is to formulate hypotheses for the anticipation of experience. But in dealing with judgments of value, philosophy does not afford hypotheses for the anticipation of sensations. Consequently, propositions of ethics are fatalistic to our radical empiricism.²

1 Ibid., pp. 32-33

2 Ibid., p. 149

The basic problem, Mr. Ayer thinks, is to find out whether statements of value are reducible to scientific statements, i.e. whether ethical concepts are reducible to non-ethical concepts. If value judgments are significant, they must be scientific; if they are not scientific, then they are pseudo-judgments¹.

Mr. Ayer divides ethical values into: a) naturalistic, and b) normative. Under the naturalistic type of ethics, subjectivism and utilitarianism are included.

a) The utilitarian and the subjectivist, Mr. Ayer thinks, claim a positive answer to the question, whether ethical judgments are reducible to scientific propositions. Utilitarianism is a doctrine that identifies the good with happiness, self-satisfaction, utility. Between two alternatives, A and B, A should be chosen, if it conduces to a greater self-satisfaction than B. This satisfaction might be individualistic or for 'the greatest possible number'. In both cases, the consequences determine the good of man. If this is true, then it is possible, according to the utilitarian, to construct a scientific system of ethics; for this doctrine, like the scientific hypothesis, helps us to anticipate the course of one's action in the presence of two alternative cases².

Mr. Ayer rejects the assertion that utilitarianism is

1 Ibid., p. 150

2 Ibid., p. 152

founded on a scientific basis for two reasons:

- a) 'It is impossible for any one to estimate all the consequences of any given action'¹.
- b) 'The principle of utility is not a true, or even a false proposition,² it is a recommendation'.

The doctrine of subjective ethics has the same fate; it defines the right action as that which is approved of, and the evil, as that which is disapproved of. But this definition of the good is persuasive. How Mr. Ayer achieved this conclusion is irrelevant to the discussion.

Normative Ethics

Basically, normative ethics is metaphysical. It is expressed through expressions such as 'The ultimate Good' 'The final end'; expressions as such are grasped intuitively, as those who advocate their reality argue. Being metaphysical, propositions of normative ethics are meaningless; for no metaphysical proposition is significant. No 'Ultimate Good' or 'Final end'³ propositions add any meaning to a factual situation, i.e. 'stealing is a wrong doing' does not add any factual meaning to the proposition 'Mr. Y stole a book'. Consequently, any argument on normative values is futile, unless the disputers agree to a definite system. Under this condition, the more consistently one argues, the more 'right' he is. The truth of the

1 A.J. Ayer, Philosophical Essays, p. 267

2 Ibid., p. 263

3 A.J. Ayer, Language, Truth and Logic, first ed., p. 158

argument is a matter of a logical consistency¹.

The conclusion is that ethical concepts are irreducible to scientific concepts, and so unanalysable. Moral propositions are expressions of feelings. If this is the case, they assert nothing, and this makes us (Ayer) differ from the subjectivist, for the subjectivist expresses his feelings of approval and disapproval and asserts them.

The elimination of metaphysics and value propositions, according to Mr. Ayer, may suggest to one's mind the question: 'After all, what is the function of philosophy'²?

The function of philosophy is not speculative, for speculative philosophy is concerned with metaphysics, and since metaphysical propositions do not fit in our language, it follows that the object of speculation transcends the boundary of our language. Thus speculation is futile. The proper function² of philosophy is analytic. The analysis is concerned with our concepts, whether scientific or common sense. Science attains knowledge of reality, and its achievements are never destroyed or altered by philosophy, whose function is to describe the scientific achievements and to expound their deepest meaning. In this sense, philosophy is a pursuit of meaning. Science and philosophy are inseparable, but distinguishable.

1 Ibid., p. 165

2 Ibid., p. 50

The first is concerned with testing the truth of the hypotheses, and the other with the understanding of their meaning. Science is a pursuit of truth, while philosophy is a pursuit of meaning.

II

Mr. Ayer denies to intuitive propositions all meaning, in so far as such propositions are metaphysical and subjective; by definition, Ayer thinks no metaphysical proposition is meaningful, for it pretends to describe a trans-empirical reality. Again, propositions of intuition are subjective, and consequently, there exists no scientific criterion to determine whether such propositions are true or false. For the sake of more clarification, Mr. Ayer is quoted:

"- - - - What seems intuitively certain to one person may seem doubtful, or even false, to another. So that unless it is possible to provide some criterion by which one may decide between conflicting intuitions, a mere appeal to intuition is worthless as a test of a propositions validity 1. "

No doubt, an intuitionist, i.e. a Bergsonian, might say, that propositions of intuition are subjective, and consequently there exists no possible way to decide on 'contradictory' intuitive issues; even it is impossible to dispute over the nature of reality, simply because reality is inexplicable through words. Concepts never represent reality as it is ; they are practical tools of communication. Reality,

1 A.J. Ayer, Language, Truth and Logic, p. 156

the intuitionist (in the Bergsonian sense) might continue, is like a dynamic ocean, and concepts are like islands in that ocean, that render it possible for human beings to survive. If this is the case, the intuitionist argues, then two points follow:

a) If intuitionism is not tenable because of its subjective attitude towards knowledge, then the same thing can be raised against Mr. Ayer's discussion of sense-data.

According to Mr. Ayer, the intuitionist goes on to say, basic events represented by basic words such as 'red' 'pain' are private to the self perceiving them; that is, if X is a perceiving self, and if P is the proposition 'This is red', then in so far as the event expressed by P is experienced by X, P belongs only to X. It is logically impossible that 'redness' perceived by X should belong to Y which is another self. For more clarification, the intuitionist quotes Mr. Ayer:

" - - - - - where as we do not attach any meaning to the statement that different people are characterized by numerically the same mental states. And if - - - - we include sentences referring to sense-data in the protocol language, this implies that we have resolved not to attach any meaning to the statement that different observers sense the same sense datum 1. "

This quotation, according to a Bergsonian, suggests that the 'basic' events represented by basic words are private to the self perceiving them. If this is true, then the meaning of basic words is subjective and incommunicable. Thus, if the subjectivity

1 A.J. Ayer, The Foundations of Empirical Knowledge, p. 153

of knowledge renders propositions of intuition meaningless, the ~~something~~ holds true of the meaning of the basic words as suggested by Mr. Ayer. If the meaning of basic words is inexplicable as it is the case with intuitive knowledge, and if no intuitive proposition is meaningful on the ground that its meaning is inexplicable, then no basic word is meaningful, for such word is inexplicable. In this case, the intuitionist suggests, it is up to Mr. Ayer to account for the common sense convention that words such as 'red' are meaningful.

b) The second point that might be raised by the intuitionist against Mr. Ayer is: knowledge is a sacred word that should not be attached to the public. It is of the duty of a seeker of knowledge to transcend the level of common sense and that of science; and this can be done only by men endowed with a faculty of deep insight. Thus the publicity of knowledge renders it superficial; consequently, subjectivity of knowledge is a merit rather than a defect.

It is possible that Mr. Ayer evades the difficulty of the first point raised by the intuitionist. It is true that the events expressed by basic words are private to the self perceiving them. For example, the 'redness' perceived by A's self is not identical with that perceived by B's. At least, there exists a numerical distinction between the two perceptions. The 'redness' experienced by A belongs to the life history of A, and the 'redness' experienced by B belongs to the life history of B. And in so far as the 'redness' perceived by A belongs to A,

and the 'redness' of B belongs to B, the life history of A does not intersect with that of B. But this does not culminate in solipsism, for the privacy of sense data is due to the construction of language, and is not something unavoidable. The syntactical rules of language render the privacy of sense data possible. Now if the privacy of sense data is due to the syntactical rules of one's language, and if the syntactical rules of any language are conventional, then the privacy of sense data is conventional. It is quite possible that someone constructs a language whereby statements such as 'A feels the pain of B' are meaningful. 'We may therefore accept it as a convention that the sense data that are sensed by any individual observer are numerically distinct from those that can be sensed by anybody else¹'. Consequently, it is possible to avoid the privacy of sense-data terminology, in principle.

In the second place, the privacy of sense-data terminology does not imply that the meaning of words such as 'hot', 'red' is not communicable. The meaning of the word 'red' in the proposition 'There is a red patch' seems to be understandable for two reasons:

a) The term 'red' is used properly in relation to other words in the same sentence; that is, there exists no logical contradiction in the proposition. 'There is a red patch'. Thus 'red', in so far as its use is concerned, is used properly; for if it is supposed that instead of 'There is a red patch' another

1 A.J. Ayer, The Foundations of Empirical Knowledge, p. 155

sentence is stated such as 'There is a smell of a red patch', then in this case, either the sentence 'There is a smell of a red patch' is meaningless, or the word 'smell' has a meaning other than its ordinary one, i.e. it may have the meaning of a 'perception' and then the sentence 'There is a smell of a red patch' is rendered meaningful. But if 'smell' bears its common sense meaning, then one wonders whether the sentence 'There is a smell of a red patch' has any meaning.

b) The sentence 'There is a red patch' is communicable, because it elicits the required response, i.e. if X is supposed to utter the sentence 'There is a red patch' and if it is supposed, too, that Y, being near X, comments 'but I do not seem to see a red patch' or 'Where is it'? then it can be rightly said that Y understands what X means by the sentence 'There is a red patch'. But if it is supposed that Y responds in an unexpected way, that is, instead of commenting 'but I do not seem to see a red patch' he says 'I seem to hold it in my hand' then it can be rightly stated that Y could not apprehend that X really means by his statement 'There is a red patch'. Of course, it is possible that Y grasped the real meaning of the sentence 'There is a red patch' but for a malicious purpose in his mind, he responds in a way that deviates from what seems to be ordinary.

The conclusion seems to suggest that if X knows under what circumstances basic words such as 'red' are to be used, and if y responds ordinarily to the word 'red' uttered by X,

then the meaning of 'red' is understood by both X and Y. In other words, if X utters the sentence 'There is a red patch', and if Y reacts properly, then Y and X seem to apprehend what 'red' means.

In the third place, basic words such as 'red', 'pain' are indicative; they stand for empirical facts, and consequently, there exists a criterion to determine whether propositions such as 'There is a red patch' are true or false. If A utters the sentence 'There is a red patch' it is possible to determine its truth or falsity, if B takes the position of A and does the same thing, if C, too, takes the position of A and does the same thing, and if D follows the same pattern, and so on. But in case of 'intuitive words' there seems to exist no way to determine their meaning, for being metaphysical, they do not describe the world of empirical facts. Thus, though both types of words, the basic and the intuitive, are private and subjective, the former type is meaningful, while the latter is not.

The conclusion seems to be that the difficulty raised by the intuitionist against Mr. Ayer is merely a seeming difficulty; for the privacy of sense-data terminology is conventional, and so avoidable in principle; moreover, the meaning of basic words is communicable, for such words are used properly, and elicit the required response. Finally, there exists a criterion to determine whether propositions containing basic words are true or false, while in the case of intuitive propositions there seems to exist no such a criterion. The basic type of

No doubt, too, that the body of common-sense knowledge is public, in the sense that almost every one agrees to the truth or falsity of common-sense propositions. For example, propositions such as 'A knows that he is holding a book', 'B knows that he has a hand', 'D knows that he exists' are common-sensical; and hardly they are challenged on common-sense level. Thus if knowledge is limited to the realm of common-sense and that of science, then there would be no question about its publicity. But the problem seems to be somewhat more complicated.

The complexity of the problem appears to be the result of the assertion that knowledge transcends the scientific field to the metaphysical. Whether this assertion is true or false, is a question that shall be postponed to the fourth chapter. But at present I sympathize with intuitionism, for I tend to believe that it is possible that some men entertain profound insights transcending common-sense and science. Moreover, I have the feeling that the publicity of knowledge suggests that truth is determined by the number of votes on its side, and that the primary concern of philosophy is to please common-sense; the belief that I hold is that the object of philosophy is to 'shock' the security of common-sense and science rather than to support it. Copernicus made a 'revolution' because his assertion that the sun was the centre of the universe shocked common-sense and the 'scientific' belief entertained at that time. In other words, it is the duty of a seeker of knowledge to 'delve' below the common-sense level. This point shall be

discussed more fully in chapter four. Now the discussion shall concentrate on a point that follows from the assertion that knowledge must be public, or else it is not knowledge at all.

The point is: The publicity of knowledge requires that language be adequate to express it. The discussion is concerned with the adequacy of language.

Language is a social instrument of communication by means of which one expresses his hope and his despair, his pain and his pleasure, his love and his hatred, his like and his aversion, his fear and his courage, and in general, all his practical needs. Thus, primarily the purpose of language is pragmatic, and in so far as it is the purpose of man merely to survive, it seems that language is adequate to fulfil its purpose. It satisfies the purposes of business men in their transcriptions and calculations, of factory workers, and of aroutine life in general. All that a man needs to know of a language in a routine life is to memorize the meaning of few words the use of which keeps the continuation of life. But not every one feels satisfied with the practical side of life. Someone might entertain profound insights not entertained by everyone; in this case, it is necessary that new words be coined. This seems to be the characteristic of great works of literature, of philosophy, and of science. Once effective novelties are discovered in any of these fields language falls short from expressing the meaning of such novelties, and so, the construction of new terms is essential. Kant, Hegel, Plato might be good examples

for the break-down of language; and probably, this is the reason why they seem incomprehensible on many points.

In principle, it is possible that new words be coined to stand for novelties discovered through flashing insight ; but the problem with some of these novelties is that no word can define them as exactly as they are. For example, the word 'being' is not definable as clearly as the word 'paper'. In words such as 'being', 'Good', 'Eros', there exists of meaning more than what is explained about them through words. Thus in each metaphysical system there exists more than what is explained in that system.

Moreover, the inadequacy of language seems to be the result of the precedence of meaning to language. Man discovers novelties, and these novelties mean something to him, otherwise, he would not bother about them. The communication of these novelties necessitates the use of words. At this level the coined words standing for the novelties do not entertain fixed meanings. These meanings are still in the adolescent stage, waiting for maturity. Before reaching stability and routine, the meaning of words suffers from vagueness and obscurity. But once some coined words such as atom, energy, attain fixity in use and in language, their meaning is clear.

At this level, words having clear meaning serve as the foundation for newly coined words in the process of more clarifications and exemplifications. If this is the case, then meaning keeps ahead of language; and if this is true, then almost each one entertains meanings vaguely expressible through

words. In this connection, C.I. Lewis is quoted:

"Presumably the meanings to be expressed must come before the linguistic expression of them, however much the development of language may operate retractively to modify the meanings entertained.

But however fundamental this need to communicate, the need to entertain fixed meanings goes deeper still and must characterize the mentality of any creature capable of consciously affecting its own relation to environment, even if that creature should live without fellows and find no use for language 1. "

So far, the conclusion of the discussion seems to be that language is a social instrument of communication. Its purpose is pragmatic. It breaks down whenever profound insights are entertained. It is vague, too, because it cannot catch up with meaning. In support of this view, Whitehead is quoted:

"Philosophy is a difficult subject, from the days of Plato to the present time haunted by subtle perplexities. The existence of such perplexities arising from the common obviousness of speech is the reason why the topic exists. Thus the very purpose of philosophy is to delve below the apparent clarity of common speech. In this connection, it is only necessary to refer to Socrates. Another illustration is to be found in the Sophist, where Plato states that 'not-being' is a sort of 'being'. This statement is at once an extreme instance of the breakdown of language, and the enunciation of a profound metaphysical truth which lies at the foundation of this discussion. "

In the same chapter, prof. Whitehead describes language

1 C.I. Lewis, An Analysis of Knowledge and Valuation, p. 72

as 'incomplete and fragmentary, and merely registers a stage in the average advance beyond ape-mentality. But all men enjoy flashes of insight beyond meanings already stabilized in etymology and grammar. Hence the role of literature, the role of the special sciences, and the role of philosophy-in their various ways engaged in finding linguistic expressions for meanings as yet unexpressed¹'.

The last question to be raised in this analysis is: Is it possible that Mr. Ayer uses ethical terms such as 'good', 'approval', 'right', and yet be consistent? If, according to Mr. Ayer all ethical terms are meaningless, and if he uses in his writings such terms, then someone might say, Mr. Ayer is inconsistent. He uses the very terms that he thinks meaningless. In support of this assertion, that someone quotes Mr. Ayer:

"We reject the subjectivist view that to call an action right, or a thing good, is to say that it is generally approved of, because it is not self-contradictory to assert that some actions which are generally approved of are not right, or that some things which are generally approved of are not good. And we reject the alternative subjectivist view that a man who asserts that a certain action is right, or that a certain thing is good, is saying that he himself approves of it, on the ground that a man who confessed that he sometimes approved of what was bad or wrong would not be contradicting himself. And a similar argument is total to utilitarianism. We cannot agree that to call an action right is to say that of all the actions possible in the circumstances it would cause, the greatest happiness, or the greatest balance of pleasure over pain, or the greatest balance of satisfied over unsatisfied

1 A.N. Whitehead, Adventures of Ideas, pp. 257, 263.

desire, because we find that it is not self-contradictory to say that it is sometimes wrong to perform the action which would actually or probably cause the greatest happiness, or the greatest balance of pleasure over pain, or of satisfied over unsatisfied desire¹.

From this paragraph, that someone might abstract two fragmentary propositions:

'It is not self-contradictory to assert that some actions which are generally approved of are not right...' and 'it is not self-contradictory to say that it is sometimes wrong to perform the action which would actually or probably cause the greatest happiness...'

Let the former be called P, and the latter P₁. In the first place, that someone goes on, both P and P₁ consist of ethical terms, e.g. 'right' and 'wrong'. But since 'right' and 'wrong' are ethical concepts, and since no ethical concept is significant, then 'right' and 'wrong' are insignificant. Thus P is equivalent in meaning to 'it is not self-contradictory to assert that some actions which are generally approved of are not...' and P₁ is equivalent in meaning to 'it is not self-contradictory to say that it is sometimes..... to perform the action which would actually or probably cause the greatest happiness.'

Now, it is possible that Mr. Ayer evades this apparent difficulty; for, in the first place, he uses words such as

1 A.J. Ayer, Language, Truth and Logic, first ed., pp. 153-154.

'wrong' and 'right' descriptively and not normatively. In other words, he denies all meaning to normative ethical terms and not to the descriptive type. If this is the case, then he is not inconsistent; in the second place, it seems impossible that words such as 'good' and 'approval' are 'proved' as meaningless without being mentioned, or else how is it possible to suggest their insignificance? In this sense, propositions containing ethical terms are not ethical, but about ethics, and there is a difference between an ethical proposition and a proposition about ethics. The former suggests a meaning to ethical concepts, while it is not necessary that the latter do the same thing. Thus the point raised in this connection against Mr. Ayer seems to breakdown. But this does not mean that he can avoid these two critical difficulties.

a) According to him, all meaningful propositions are either synthetic or priori. Yet he constructs propositions about synthetic and a priori propositions. Now either such constructed propositions are meaningful or not. If the former, then there is here a contradiction, for he asserts that only synthetic and a priori propositions are meaningful. If the latter, then he is not justified in using them.

b) Mr. Ayer rejects the doctrine of utilitarianism on the ground that it is a mere 'recommendation' or a proposal; for him, 'the principle of utility is not a true, or even a false proposition; it is a recommendation'. Now if this is true, then the same thing is applicable to his criterion of meaning, since it is a mere proposal.

CHAPTER IV

METAPHYSICS AND METHOD

This chapter discusses four points:

- I. The relation of science to metaphysics
- II. The relation of man's nature to metaphysics
- III. The relation of philosophical progress to metaphysics
- IV. The relation of method to : 1) Science, 2) Theory.

I

Science & Metaphysics

A central thesis of positivism is exemplified by the assertion that no metaphysical proposition is meaningful. This seems to follow from the experimental theory of meaning which indicates that a meaningful proposition consists of sensory terms, in the sense that no proposition is meaningful unless its terms have empirical meaning, directly or indirectly. If this is true, and if, by definition, no metaphysical proposition is sensory, it follows that propositions of this type are meaningless.

The elimination of metaphysics seems to be a dominant tendency in modern physics and philosophy. This tendency appears to be supported by Einstein's theory of relativity.

According to this theory, truth is not something independent of man, waiting for someone to grasp its reality; but it depends upon the subject, position, time, and other external factors. For example, the length of a rod of iron depends on the subject measuring, his place, from what angle the length is taken, and so on. Thus there exists no 'real' length in the sense that it is permanent and unchangable; consequently, Einstein's theory of relativity is interpreted as a revolt against metaphysics; for if the metaphysician conceives of an objective truth waiting to be discovered by someone, and if the theory of relativity denies the objective existence of truth, then this theory is a point against the metaphysical assertions.

In the light of this theory, Einstein asserts: 'In order that thinking might not degenerate into "metaphysics" or into empty talk, it is only necessary that enough propositions of the conceptual system be firmly enough connected with sensory experiences¹'.

This quotation identifies "metaphysics" with "empty talk", and this is exactly what the positivist thinks. The quotation, too, agrees with the positivist that only propositions 'connected with sensory experiences' are meaningful; if this is true, then only propositions of science are meaningful, for only this type of propositions is 'connected with sensory experiences'.

1 Philipp Frank, Modern Science and its Philosophy, p. 294

In what follows the central thesis of positivism, which is the elimination of metaphysics is challenged. This challenge is necessary for every metaphysician; for unless it is suggested that positivism on this point is untenable, the metaphysician is constantly threatened by the ghost of the positivist.

The question under discussion is: Does science dispense with metaphysics? A central proposition of positivism is: 'All propositions that pretend to describe the ultimate nature of reality are meaningless'. Let P represent this central proposition. Now the analysis of P suggests that it is metaphysical in this way: It consists of terms that have indefinite meaning. The terms are 'ultimate' 'nature' 'reality'. Indefiniteness in meaning belongs to propositions of metaphysics. Thus if metaphysical propositions are considered meaningless on the ground that their meaning is indefinite, then the same thing is applied to P. Discussing the same topic, Burt says:

"Suppose we take the central position of positivism itself as an example. This can perhaps be fairly stated in some such form as the following: It is possible to acquire truths about things without presupposing any theory of their ultimate nature; or more simply, it is possible to have a correct knowledge of the part without knowing the nature of the whole; the question is not about its truth or falsity, but whether there is metaphysics in it. Well, subject it to a searching analysis, and does it not swarm with metaphysical assumptions? In the first place it bristles with phrases which lack precise definition such as "ultimate nature", "Correct knowledge", "nature of the whole";.... in the second place, defining these phrases as you will, does not the statement reveal.... important implications about the

universe?.... does it not imply, for example, that **the** universe is essentially pluralistic?... scientific positivists testify in various ways to this pluralistic metaphysics, as when they insist that there are isolable systems in nature...¹ "

The problem with the positivist is that he denies metaphysical propositions all meaning; but when he sets himself to write, or when he proceeds to work out an experiment in the laboratory, he forgets all about his denial all meaning to metaphysics, and acts like any other metaphysician, or like any other scientist presupposing metaphysical truths. These presuppositions are understood by the positivist as propositions empirically verifiable; what is a metaphysical presupposition is interpreted by the positivist as a general proposition about matters of fact.

In this connection, Collingwood is quoted:

"Mr. Ayer, true to the positivistic tradition, does not possess the idea of supposing, and a fortiori not of the idea of an absolute presupposition. Any statement of an absolute presupposition which the encounters in the course of his reading, therefore, he regards as a statement of a proposition. 'To call something a pseudo - X implies that it is not an X, but that somebody has mistaken it for one'. If these 'metaphysical propositions' are, as Mr. Ayer says they are r.... pseudo - propositions, it follows that they are not propositions. Then what are they? What is it that in these cases somebody has mistaken for propositions? Mr. Ayer gives no answer 2. "

1 Burt, The Metaphysical Foundations of Modern Science , pp. 224 - 225.

2 Collingwood, Metaphysics, pp. 163, 165

In the second place, there exists in scientific laws a sort of gradational transition from the most narrow to the broadest; that is, the propositions of science include and presuppose each other, e.g. law X is included in law Y, and law Y is included in law Z, and so the process goes on indefinitely. If the principle of broader inclusion pertains to propositions of science, it is conceivable that an-all-inclusive law exists in terms of which the phenomenal world is interpreted. This all-inclusive law is the metaphysical nature of reality. Of course, this does not imply that such an all-inclusive law shall be ever discovered; but there exists good evidence that suggests the possibility of its existence, for at the top of each branch of science, it is hoped that a universal law exists, including the minor laws belonging to that same branch; even there exist universal laws broad enough to wake the unity of various sciences possible. However, it is not the function of science to discover the nature of the supposed to-be all inclusive law, and that is why science is not philosophy. The scientist, for his immediate purpose, can be satisfied with speciality belonging to broader metaphysical generalities. Whenever science attempts to adventure into the realm of these generalities, it undermines its own purpose. The laws of science stand somewhere between common sense and metaphysics. In this connection prof. Whitehead is quoted:

"Each such science in tracing its ideas backward to their basic notions stops at a half-way house. It finds a resting place amid notions which for its immediate purposes and for its immediate methods it need not analyse any further. These basic notions are a specialization from the philosophic intuitions which form the background of the civilized thought of the epoch in question..... For example, the words 'tables', 'chairs', 'rocks' presuppose the scientific notion' of material bodies 1. "

Knowledge then passes through three stages: common-sense, science, and metaphysics. Science is the link between common-sense and metaphysics, and is not the end of the chain of knowledge. In other words, science does not realize the unity of knowledge, and does not close its cycle. Science is a prolongation of common-sense, and metaphysics is a prolongation of science.

In the third place, the destruction of metaphysics follows from the doctrine that the sense form the sole avenue to knowledge. No doubt, a sound philosophy should take into consideration the significance of the senses in attaining truth. If it is possible that there exists a man void of the five senses, that man should not even be able to think. The thesis of those who deny the senses any significance in attaining truth is that the senses are deceptive; the wax of Descartes expressed this assumption explicitly; through one's senses, a round object might seem triangular, or a straight stick appears bent, if immersed in water. No doubt, the senses

1 Alfred North Whitehead, Adventures of Ideas, pp. 170-171

are sometimes deceptive; but from this it does not follow that they always deceive; even the deception of the senses is discovered through the senses themselves; i.e. X realizes through his senses that the 'bent' stick is in fact straight, and that the 'triangular' object is actually circular. But this does not mean that the senses, though important in attaining knowledge, are the sole avenue to knowledge. This doctrine is over-simplified; for the process of knowing involves the whole activity of the organism. The external senses are connected with the brain, and the brain is connected with the whole body; the whole body participates in the process of perception; moreover, between the perceiving self and the perceived object, external factors such as light, position, affect the whole situation. Thus the process of perception involves ~~not~~ only the senses, but the whole organism and its physical surroundings. Furthermore, the doctrine of sensational perception implies selectivity, and here is grounded its defect; for in perception one attends only to objects with which he is concerned, and consequently, subjectivity inserts itself in the apprehended givenness of data. Thus in perception facts are twisted. The avoidance of such a twist caused by the subjectivity of perception is possible only if a metaphysical hypothesis is suggested. A metaphysical conception of nature explains why the same event is observed or observable by the same subject at various times under similar conditions, or why the same event is observable by many subjects at the same time,

or at different times. In other words, the explanation of the events of nature is simplified in the light of a metaphysical hypothesis. This view is in agreement with Max Planck's, as quoted by Phillip Frank.

"- - - - the metaphysical assumption of a real world is the simplest hypothesis that can be advanced to explain how it is that all men under the same circumstances make the same observations, and that a man, having once examined an object, upon leaving it and returning to it again makes the same observation as the first time. Without this hypothesis of the existence of a real world the physicist would be dealing only with accidental, subjective observations of individual experimenters, while in the edifice of physics there belong only laws that are valid for all observers 1."

The conclusion tends to suggest the necessity of metaphysics to science. Science is concerned with given experience, and metaphysics elucidates this experience. In the absence of such a metaphysical elucidation, one's observations are disconnected and insignificant. The result is a world of Humean impressions. Science is concerned with the physical aspect of reality. It is concerned with the formulation of closed systems and recurrences, and metaphysics suggests possibilities for the interpretation of the scientific recurrences. No metaphysical interpretation is one for all, and consequently, no scientific system is final. Metaphysics is interested in providing interpretation for each actuality, and science provides these actualities.

1 Phillip Frank, Between Physics and Philosophy, pp. 129-130.

II

Metaphysics and Man's Nature

It is of the nature of man to ask questions concerned with the multiplicity of the aspects of life, i.e. 'How is it possible that one increases his wealth'? 'What is beauty'? 'What is the real'?... etc. In so far as man's purpose is just to survive, questions such as 'What is the real'? or 'What is beauty'? mean nothing to him. What seems to be important on this level is the technical aspect of life, i.e. how to run a machine, or how to hunt for an animal in the jungle. But man seems to be dissatisfied with bare survival; he is curious, and his questions are deep in proportion to his curiosity. The result of this curiosity is the appearance of questions such as 'what is the nature of reality'? or 'Does God exist'? .. etc. and the consequence of such metaphysical questions is human civilization. It is even suggested by Max Planck that metaphysical investigation is the incentive to scientific discoveries. In itself, no scientific discovery fills the investigator with vitality and energy to discover another novelty. This can be done only through a search for the nature of reality¹.

Positivism, then, in destroying metaphysics, destroys curiosity which is the impetus behind greater historical achievements. Bradley, discussing the same point, says:

1 Ibid., p. 135

"And the claim for metaphysics is surely not unreasonable. Metaphysics takes its stands in this side of human nature, this desire to think about and comprehend reality. And it merely asserts that, if the attempt is to be made, it should be done as thoroughly as our nature permits. To know what one wants, and to scruple at no means that will get it, may be a harder self-surrender. And this appears to be another reason for some persons pursuing the study of ultimate truth ¹."

According to Whitehead, 'There is a motive of unrest which urges scientists beyond mere satisfaction with the simple description, beyond even the general description. It is the desire to obtain the explanatory description which may justify the speculative extension of laws, beyond actual, particular instances of observation. This urge towards explanatory description provides the interplay between science and metaphysics ².'

III

Metaphysics and the progress of Philosophy

One reason raised by positivism against the validity of metaphysical propositions is that such propositions are 'idle disputes' about the nature of reality. Metaphysical discussion has been concerned with the same problems ever since the question 'what is the nature of reality?' was suggested by Tales, and no final result has been attained.

1 Bradley, Appearance and Reality, pp. 3,5

2 Alfred North Whitehead, Adventures of Ideas, p. 153

Metaphysicians have been dealing with the same questions, i.e. God, Substance, Absolute, though these questions assume different forms under different situations; but yet, nothing practical has been realized. Philosophy, in so far as it is concerned with metaphysical problems, the positivist asserts, cannot progress; simply because such problems are insignificant.

In the first place, if the word 'progress', in its application to metaphysical problems, is taken to mean the same as the word 'progress', in its application to scientific matters, then the positivistic assertion might be true. No doubt, science has made a lot of progress throughout history; The point is not to mention all the scientific discoveries, for this requires a survey of the history of science. But it seems clear that what might have been a scientific problem to Thales might be considered a superstition to modern scientists; while Thale's metaphysical question about the nature of reality has been persisting through history up till our contemporary time. But does this mean that the disputes of metaphysics are fruitless?

In the first place, it is of the nature of metaphysical problems that they are not settled with clarity as those of science, and that is why metaphysics is not science. Only an all omniscient being can be a perfect metaphysician; but in this case, he is not a philosopher anymore; for to be a philosopher is to philosophize about something. Indeed, metaphysics is interesting just because its questions are not

answerable to the same extent as the questions of science. Furthermore, assuming that metaphysicians have made no progress yet, this does not mean that the future will repeat the past. The period intervening between Thales and the modern age seems to be insignificant in comparison with the indefinite future. In this sense, the past does not determine the future.

In the second place, it is not true that metaphysicians have not made any progress. Metaphysics have progressed in two ways: a) It has been mentioned that science has advanced throughout history; for some of the 'scientific' problems of the past might be considered by contemporary scientists as superstitions; but, originally, science belonged to philosophy. For example, Galileo thought of physics as natural philosophy, it was Newton who claimed, for the first time in history, the emancipation of science from metaphysics. The point is that philosophy raised up the special sciences and offered them nutrition and all that was required for their progress. Metaphysics has progressed through the progress of its scientific branches.

"In some respects, indeed, 'science' has made less progress than 'philosophy' its most general conceptions would astonish neither Aristotle nor Descartes, could they revisit our earth. The composition of things from elements, their evaluation, the conservation of energy, the idea of a universal determinism, would seem to them common-place enough - the little things, the microscopes, electric lights, telephones and details of the sciences would be to them the awe inspiring things. But if they opened our books on metaphysics or visited a philosophic lecture room, every thing would

sound strange. The whole idealistic or 'critical' attitude of our time would be novel, and it would be long before they took it in 1. "

b) Metaphysical progress has been manifested through its attempt to reconcile all the philosophical incompatibilities existing in various systems of philosophy. Each metaphysics, is supposed to consist of a partial truth, and is supposed, too, to be connected with its past and its contemporary systems, thus reconciling their contradictions.

IV

The Relation of Method

1. Science

In the rest of this discussion one more assumption is challenged; the assumption indicates the priority of method to science, and to theory. Mr. Ayer implies this indication in these two sentences: 'The traditional disputes of philosophers are unfruitful. The surest way to end them is to establish beyond question what should be the purpose and method of a philosophical inquiry,'² Of course, this assumption is not peculiar to Mr. Ayer, for it belongs to all the 'critical' thinkers such as Hume, Locke, Berkeley, Kant... etc... in opposition to the 'dogmatists' and system builders. The priority of method to science and theory has its root in the Humean question 'what can we know?' in substitution to the traditional

1 Daniel J. Brønstein, Basic Problems of Philosophy, p. 697

2 J.A. Ayer, Language, Truth and Logic, p. 15

question 'What do we know?' The question 'What can we know' is a reaction against the 'uncritical' attitude of the 'dogmatists'. Now, the sentence 'Method is prior to science' is analysed.

Let 'P' represent the sentence 'Method is prior to science'. 'P' might be interpreted in two ways: 1) Method is logically prior to science'. If B is a necessary conclusion of A, then A is logically prior to B. If B is false, then A is false; but if B is true, it does not follow that A is true, for the occurrence of A is a sufficient condition for the occurrence of B, and not a necessary one. Most probably, this is not what 'P' is taken to mean in this connection; for science is not a necessary conclusion of epistemology. When Hume suggested the question 'What can we know?' science had attained its adolescent stage. In other words, it is an empirical fact that science could progress without being determined by epistemology; it is not self-contradictory to assert that science might progress in the absence of a theory of knowledge.

The second meaning of 'P' is: It is possible to posit a theory of knowledge without an appeal to empirical science such as chemistry, biology, physics...etc., epistemology determines the truth or falsity of the scientific propositions. This means that if the propositions of physics contradict one's epistemology, then such propositions are false, i.e. if chemistry pretends to belong to a realm considered by epistemology outside the chemical field, then this pretension is false. Not only is epistemology a field of study limited to itself, but it determines the validity of the scientific propositions. Now,

granted this is the right interpretation of 'P', the question is to determine whether 'P', in so far as it is interpreted this way, is true.

In the first place, the 'critical' thinker, while working out a theory of knowledge, should be acquainted with biology and psychology. Acquaintance with biology is necessary just to see how the organs function in the process of knowing; how much is due to the senses, to the brain, and to the body as a whole. Orientation on psychology is necessary, too, simply because in the perceptual process, the self is involved. Psychology casts a light on the nature of the self: whether the self is a simple substance, or a stream of consciousness, whether thinking is a mere brain activity, or it belongs to a metaphysical entity. Epistemology depends, too, on the information of physics: whether what are called 'secondary qualities' belong to the object, or to the subject, and how does the perceived interact with the perceiver. Indeed, the epistemologist finds himself surrounded by propositions belonging to various sciences, and then starts hypothesizing a theory. No theory of knowledge is formulated in vacuum.

Now it is quite possible that someone suggests the question 'How is it possible that sciences such as physics, biology, psychology could have started in the absence of a theory of knowledge?' It has been pointed out that 'P' does not mean, in this connection, a logical priority in the sense that science is logically implied in epistemology; for it is an empirical

fact that science could dispense, in the past, with the question 'What can we know?' In other words, the emancipation of science from epistemology is thinkable. Secondly if it is the role of epistemology to determine the limitation of science, and the truth and the falsity of its propositions, then whose role is it to determine the limitation of a certain theory of knowledge, and the validity of its propositions? Thus no theory of knowledge seems capable of avoiding the question: Whose role is it to determine the limitation of epistemology? If the answer is: another epistemology, then the result is an infinite regress. Again, is it possible to posit a limit for the knowable without transcending it? Is it possible, for example, to assert that the universe is finite without transcending this finitude?

In the third place, the epistemologist pretends to occupy an objective position that commits him to judge between conflicting theories and propositions of science. Now, is it true that the epistemologist is impartial? The epistemologist, like any ordinary man, expresses his concepts through language, in expressing his concepts, he should obey the rules of his language, if he is to convey any meaning, i.e. if X asserts that not every book is a book, then one wonders whether this assertion is meaningful to English - speaking people. In this case, either X ascribes to 'every' and 'book' and 'is' a meaning deviating from the ordinary one, or the assertion is meaningless. Now, in every language, there seems to exist more than one type of meaning. For example, there are logical and empirical meaning

rules. The criterion of truth in the latter differs from that in the former, i.e. in a logical system, it is enough that a proposition is consistent with the same system to be true, while in the empirical meaning rules, consistency is not sufficient; in addition to consistency, observation is necessary. Again, the word 'certain' in logical meaning rules means 'conclusiveness' or 'beyond any doubt'. Its meaning is theoretical, while the meaning of 'certain' in the empirical meaning rules is 'high probability' or 'practically beyond any doubt.' Not only in one's language there exists more than one type of meaning rules, but in the same type, sub-types are included; for example, the meaning rules that determine the meaning of propositions of biology are not the same as those determining the meaning of propositions of physics, or that of propositions of chemistry, though there exist common grounds supporting them all. The rules determining the meaning of the propositions of each branch of science might be called the 'conceptual apparatus' of that science. Now if each science has a 'conceptual apparatus' peculiar to it, and if epistemology is considered a science, then epistemology uses a special 'conceptual apparatus'. This means that the same proposition might be both true and false, depending under what 'apparatus' it is used. If this is the case, then each 'apparatus' perceives the world from its own perspective. In this sense, the world consists of an indefinite number of empirical facts, and each science, whether it be physics, chemistry, or epistemology, is concerned with the facts relevant to its field, and discards other factualities as irrelevant.

Thus the epistemologist cannot be impartial. 'Now the epistemologist takes upon himself the role of impartial umpire;.... Is the epistemologist truly an impartial umpire? Is he not also imprisoned in a conceptual apparatus which dictates to him his world-perspective? Even the epistemologist cannot speak without a language, cannot think without a conceptual apparatus. He will thus **make** his decision as to truth in a way which corresponds to his world-perspective. The epistemologist therefore is not suited for the role of an impartial umpire in the struggle between two world perspectives for the title of truth ⁽¹⁾ . '

The second point that requires discussion is whether it is true that method is prior to theory. A method is a process whose purpose is to seek an evidence against or in support of a certain general proposition; in the absence of a general propositions, this purpose cannot be fulfilled, because the word 'evidence' is insignificant if it is not used to evidence for the truth or falsity of a certain assertion, i.e. if there exists no law of gravitation determining my perception of falling bodies, then a body, in so far as it falls, is an evidence for nothing; in other words, in a world devoid of hypotheses, there is nothing to look for, except the Humean impressions. The whole world, then, is reduced to disconnected observations. If this is the case, then the existence of method is conditioned by the existence of theory; for if the definition of method is to

1 Feigl and Sellars, Readings in Philosophy, p. 188

to seek an evidence, and if seeking an evidence is possible only in the light of theory, then method is possible only if theory is possible. If this is true, then opposite theories determine opposite methods, and correlative theories dictate correlative methods. Thus there exists a close relation between method and theory; for, as it has been mentioned, an evidence presupposes a theory. Now if epistemology is a method, and if method presupposes an hypothesis, then epistemology does not start in vacuum. It presupposes a theory to be confirmed or disconfirmed. The purpose of a theory is to interpret one's experience. In this connection, the word 'interpret' means to give meaning. Thus the function of an hypothesis is to give meaning to one's experience; and this function is fulfilled only when one's experiences are systematized and correlated; in this sense, the purpose of a theory is pragmatic. Its work ability is directly proportional to the broadness of the field of our experience, to which it is applied. In this connection Prof. Whitehead is quoted:

"So far as concerned methodology, the general issue for discussion will be that theory dictates method and that any particular method is only applicable to theories of one correlative species; this close relation of theory to method partly arises from the fact that the relevance of evidence depends on the theory which is dominating this discussion. This fact is the reason why dominant theories are also termed 'working hypotheses'."

1 A.N. Whitehead, Adventures of Ideas, p. 255

CONCLUSION

Descartes's dualism of extension and thought, indirectly gave rise to two schools of philosophy: Existentialism and positivism. The existentialist emphasizes the subject, while the positivist stresses the object. Basically, reality for the former is as it is 'felt', while for the latter, reality is as it is observed. The positivist tends to 'objectify' the real. To be real is to be perceivable through the senses,

The result of this assertion is the experimental criterion of meaning. This criterion indicates that a meaningful proposition implies consequences observable by all 'subjects' under similar conditions. Again, this criterion is suggested to be fruitful to science and common sense. This suggestion seems to be accepted by modern scientists, for modern scientists limit their theories to what is perceivable and describable. Consequently, the field of metaphysics is eliminated from the body of knowledge; for if to be meaningful is to be observable, and if to be knowable is to be meaningful, and if no metaphysical proposition implies observable consequences, then no metaphysical proposition is meaningful, and so, knowable. The field of knowledge is limited to the field of science.

The attempt of the positivist to suggest a scientific criterion of meaning has two major merits:

a) Positivism is a revolt against dogmatism. Dogmatism belongs to system-builders and metaphysicians. This revolt

ended, to a certain extent, the sweeping propositions of the dogmatist. Critical analysis has become a dominant element in thinking. In other words, the dogmatist feels more responsible for his propositions.

b) Positivism seems to be an essential element to science. The positivist emphasizes observation, and no scientific theory, to the best of my knowledge, dispenses with observation and description. It is necessary that every scientist start with observation, description, and classification. Whether science ends at the level of classification is another question.

The merits of positivism do not exclude the possibility of having defects. In the first place, the criterion of meaning is a mere proposal, and a mere proposal cannot decide on metaphysical matters, and matters of fact. A proposal is either accepted or rejected. Again, this proposal does not explain the experience of man from all its phases. For example, it does not tell why is man adventurous by nature, in the sense that he 'feels' the mystery of life, and is curious to touch its depth. Instead of explaining this adventurous curiosity positivism undermines it.

In the second place, positivism ends where philosophy is supposed to start. The positivist analyses the real, and ceases to ask questions when the realm of the unknown, the metaphysical realm, is required to explain the events occurring in nature. For example, the positivist disregards the possibility

that the concepts of science should be explained in terms of metaphysical generalities. Thus the scientific concepts are left groundless, alone, void of vividity and liveliness. In this sense, positivism is an introduction to philosophy.

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