The famous distinction between analytic and synthetic plays a central role in Kant's own system of philosophy and in much of the subsequent philosophy in European tradition. The concept of analyticity and syntheticity are by no means original with Kant. Closely related concepts have played an important role in the thoughts of other modern philosophers: Locke, Leibnitz and Hume. The problem that confronts philosophers today is that of giving a precise definition of the concepts, a definition which facilitates answers to the fundamental epistemological questions that troubled Kant originally. The Quinean position is that the problem has no solution, "... But for all its apriori reasonableness, a boundary between analytic and synthetic statements simply has not been drawn. That there is such a distinction to be drawn at all is an unempirical dogma of empiricists, a metaphysical article of faith." But since the time of Kant philosophers have engaged themselves to find a solution of the problem. It is in this sense Kant is responsible for opening a new cleavage in the line and thus the question of their distinction is an important issue in the philosophy of logic.

1. W.V.O. Quine, From A Logical Point of View, p. 37
We find that Leibnitz distinguishes two kinds of truths - 'truth of reason' and the 'truth of fact'. True in all possible worlds the 'truths of reason' are logically necessary and they are guaranteed by the law of contradiction. The guarantee of the 'truths of fact' is supplied by the principle of sufficient reason. 'Truths of reason' can be reduced to identical propositions through the definitions of their terms. Again 'truths of reason' are those the denial of which involves a contradiction. Akin to this distinction we find a distinction between 'relations of ideas' and 'matters of fact' in Hume. Hume divides all the objects of human reason into two kinds - 'relations of ideas' and 'matters of fact'. According to Hume propositions concerning relations of ideas are discoverable by mere operation of thought, because they are not dependent on whatever 'existent' in the universe. 'Three times five is equal to the half of thirty' is a proposition of this kind. But to every 'matter of fact' a contrary is possible and in that case it does not imply a contradiction. So according to Hume while the 'relations of ideas' are necessary 'matters of fact' are merely contingent.

It may be said that Kant takes up the conceptions involved in them and handed down to his successors. Kant thinks that judgements as to their content are distinguishable from each other. The questions as to their origin or logical form does not matter. As to their content judgements are
either explicative or ampliative. The explicative adds nothing to the content and the ampliative adds something to the given knowledge. The former is analytic and the latter is synthetic. "In all judgements" says Kant in his Critique of Pure Reason "wherein the relation of a subject to the predicate is cogitated, this relation is possible in two different ways. Either the predicate B belongs to the subject A, as somewhat which is contained (though covertly) in the conception A; or the predicate B lies completely out of the conception A, although it stands in connexion with it. In the first instance, I term the judgement analytical, in the second synthetical. Analytical judgements (affirmative) are therefore those in which the connexion of the predicate with the subject is cogitated through identity,¹ those in which this connexion is cogitated without identity are called synthetical judgements. The former may be called explicative, the latter augmentative or ampliative judgements, because the former add in the predicate nothing to the conception of the subject, but only analyse it into its constituent conceptions, which were thought already in the subject, although in a confused manner; the latter add to our conception of the subject a predicate which was not contained in it and which

¹ In speaking of the connexion between predicate and subject as cogitated through identity Kant means that the predicate concept is identical with some part of the subject concept; where it is cogitated without identity the two concepts are quite different.
no analysis could ever have discovered therein."1 Kant's example of an analytic judgement is 'all bodies are extended'.

In order to make this judgement we are required only to analyse the conception and our conception of body is extended substance. "All bodies are heavy" is a synthetic judgement. Because it is not contained in the conception of bodies that they gravitate towards one another.

Thus analytic judgements say nothing in the predicate that was not already really thought in the concept of the subject. The synthetic judgement contains something in the predicate that is not really thought in the universal concept of body. It thus enlarges our knowledge in that it adds something to our concept.

The common principle of all analytic judgements is the principle of contradiction. All analytic judgements rest wholly on this principle. It is in their nature to be knowledge a priori, whether the concepts that serve as matter for them are empirical or not. The predicate cannot be denied of the subject without contradiction because the predicate of an affirmative analytic judgement has already been thought in the concept of the subject. Similarly its contrary is denied of the subject in a negative analytic

1. N.K. Smith, CPR, p. 48, A7 and Meiklejohn, p. 7
judgement also in consequence of the principle of contradiction. This is the case with the propositions: everybody is extended and nobody is unextended (simple). For the same reason all analytic propositions are judgements apriori, even though their concepts are empirical. For example, Gold is a yellow metal. To know this we need no further experience outside the concept of gold, which contained that this body is yellow and metal. Because this is what constituted our concept and we need to do nothing except analyse it, without looking round elsewhere outside it.

Synthetic judgements need a different principle from the principle of contradiction. There are synthetic judgements which have an empirical origin and therefore aposteriori. And there are also synthetic judgements which have apriori certainty and have their origin in pure understanding and reason. Both agree in that they never originate according to the principle of analysis alone, namely, the principle of contradiction. They require another principle. Although whatever principle they are deduced from, they must always be deduced in conformity with the principle of contradiction. For nothing may be contrary to this principle, even though not everything can be deduced from it.

According to Kant judgements of experience1 are always synthetic. It is absurd to ground an analytic judgement on

1. CPR, N.K. Smith (tr.) Int. Sec. IV, B11-12
experience. Because we do not have to go outside our concept in order to make the judgement and so we have no need of the testimony of experience. That a body is extended is a proposition which holds apriori and not a judgement of experience. For before we proceed to experience we already have in the concept of body all the conditions for the judgement. We have only to extract the predicate from it according to the principle of contradiction. When we do so we become conscious of the necessity of the judgement - and that is what experience would never teach us. Mathematical judgments\(^1\) are also synthetic, according to Kant. It may be noted here that mathematical propositions are always judgments apriori and not empirical. Because they carry with them necessity which cannot be taken from experience. One may think at first, that the proposition '\(7+5 = 12\)' is an analytic proposition, which follows according to the principle of contradiction from the concept of a sum of seven and five. But if we look more closely we find that the concept of the sum of 7 and 5 contains nothing further than the unification of the two numbers into a single number. In this we do not think, in the least, what this single may be which combines the two. The concept of twelve is in no way already thought by merely thinking this unification of seven and five. Though

\(^1\) CPR, N.K. Smith (tr.) Sec. V.1 Int. B14-17
we go on analysing as we please we shall never find the
twelve in it. We have to go outside these concepts and with
the help of the intuition add to the concept of seven, unit
by unit, the five given in intuition. Thus we really amplify
our concept by this proposition - $7+5 = 12$ and add to the
first concept a new one which was not thought in it. Thus
arithmetical propositions are always synthetic. Again Kant
shows that any principle of pure geometry is also not analytic.
That 'the straight line between two points is the shortest' is
a synthetic proposition. Because the concept of 'straight'
contains nothing of quantity but only a quality. The concept
of 'shortest' is, therefore, wholly an addition, and cannot
be drawn by an analysis from the concept of the straight line.
Intuition by means of which alone the synthesis is possible,
must therefore be called in here to help. "The essential
difference of pure mathematical knowledge from all other
knowledge apriori that it must never proceed from concepts
but always only by construction of concepts." "In its
propositions pure mathematics must therefore go beyond the
concept to what the corresponding intuition contains; hence
its propositions can and never originate from analysis of
concepts, i.e., analytically and are therefore without

1. Ibid., B15-16
2. CPR, A713-B741
exception synthetic."¹ According to Kant natural science also contains synthetic judgements. In the concept of matter we do not think its permanence but only its presence in space by occupying it. Thus we really go beyond the concept of matter in order to add to it something which we did not think in it.

However, Kant himself attached great importance to his statement of the distinction between analytic and synthetic judgements. He thought that under the guarantee of the law of contradiction analytic judgments could be enunciated universally in advance of experience. Because the predicate was contained in the subject concept it could not be denied of the subject without self-contradiction. Since we mean by calling anybody a 'body' that it is an extended substance we can say that all bodies are extended without waiting to examine everything that falls under that denomination. With synthetic judgments it is otherwise. It is no part of what we mean by calling anybody a body that is heavy; and we need experience to assure us that whatever falls under the denomination body has weight. But there are some synthetic judgements which we know to be true universally without appeal to experience; and how that is possible Kant conceived to be the fundamental question of metaphysics.

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¹ Prolegomena 2
According to Kant in analytic judgements the predicate concept is 'covertly contained' in the subject concept. The phrase 'covertly contained' means that the predicate at first appears to be a different concept. But after analysing the subject concept it seems identical with one of the constituent concepts. Only by analysing the subject concept we will be able to see that the predicate concept is contained in the subject concept. Thus 'all bodies are extended' here the predicate concept is covertly or implicitly contained in the subject concept. Kant has drawn a distinction between two kinds of analytic judgements - (1) covertly analytic judgements, (2) overtly analytic judgements or 'Tautology'. This distinction has been drawn by Kant in his 'Logic' but actually has not been drawn in his 'Critique'. Kant has made the statement 'All analytic judgements are implicitly analytic'. This definition has merit as well as demerit also. The merit of the definition is that if the analytic judgement is defined thus then no analytic judgements can be tautological. Thus he can avoid the difficulty of tautological judgement. The demerit is this: If this definition is strictly applied then "All rational animals are rational" this cannot be called an analytic judgement.

Again it is evident that analytic judgements are uninformative and they merely elucidate the concepts that are

1. CPR, pp. 48, A7-811
involved in it. In this sense the relation between the subject and predicate is thought through identity. This contention appears to be inadequate. Because analytic judgements thus explained only are limited to judgements of subject-predicate form. But all judgements are not of this form alone. To avoid this difficulty Kant maintains that an analytic judgement is one which can be validated by the law of contradiction. In a synthetic judgement the relation of the subject and predicate is thought without identity. Synthetic judgements are informative. They tell us something about the subject by synthesising two different concepts under which the subject is subsumed. It is argued by Kant that the denial of synthetic judgement involves no contradiction.

Kant's distinction of analytic and synthetic judgements is applicable to non-predicative and negative judgements also. Because it is possible to reduce non-predicative to predicative and negative to affirmative. For example, 'If it is raining then it is raining' is a non-predicative judgement. We can reduce it to predicative form: "the proposition 'that is raining implies the proposition that it is raining". In this judgement the subject is 'the proposition that it is raining' while the predicate is 'implies the proposition that it is raining'. Thus the distinction can very well be applied to non-predicative judgements if they are reduced to predicative judgements. Similarly the distinction
is applicable to negative judgement. Kant argues that in an affirmative (analytic) judgement the predicate is contained within the subject by definition, while in a negative (analytic) judgement the predicate is excluded from the subject by definition. Hence affirmative judgments can be analytic if the predicate is by definition contained in the subject and negative judgment can be analytic if the predicate is by definition excluded from the subject.

But H.W.B. Joseph maintains that we do not make judgments analytic in Kant's sense, i.e., guaranteed by the mere identity of the predicate with an element in the subject concept. "To do so would be tautology; and to utter a tautology is not to judge, for in all judgment we advance to the apprehension of a new element in the being of a subject already partially apprehended." He argues: the constituent elements of the concept A may be supposed to be BCD, as those of body are solidity and extension. Yet the judgement 'A is B' (all bodies are extended) is not the equivalent of 'BCD is B' (all extended solid substances are extended). This proposition merely repeats in the predicate something contained in the subject-concept. In as much as the subject is already conceived as uniting in its being elements whereof the predicate is one, the proposition only goes over old ground.

But that judgment picks out in the unity of body an element which it recognises as combined with others to constitute a body. And the difference is fundamental. 'A is B' means 'to the constitution of A, B must go with CD'; 'all bodies are extended' means 'to the constitution of body extension must go with solidity'. Kant himself tells us that until the judgement is made, the predicate B is only 'covertly' contained in the subject-concept A, so that it is really the work of the judgement to recognise B in the nature of A. "And it is this recognition of the necessary implication of different elements in one nature, not the law of contradiction, which allows us to enunciate the judgement universally. Suppose that we did not see that a substance could not be solid without being extended: then (1) if we meant by body merely a solid substance, we should see no self-contradiction in the statement that a body need not be extended; while (2) if we meant by the word a solid extended substance, the statement would indeed be self-contradictory, as is the statement 'a body need not be a body'; but the so-called analytic judgement 'all bodies are extended' would be as uninstructive as the tautology 'bodies are bodies.'

Thus according to Joseph in all judgements - even in those which Kant calls analytic - we assert a relation of

1. Ibid.
distinguishable elements. That 'cats purr' is a statement not made on the strength of seeing that 'to purr' is necessarily connected with other elements in the 'being of a cat'. We may think of a cat without including in its nature 'purring'. Kant calls this a synthetic judgement. But he calls synthetic judgements as '7+5 = 12' or 'Two straight lines cannot enclose a space' because in them the subject can be thought of without the predicate. It means not that we can conceive the subject to lack the predicate, but without thinking of the predicate at all, we can still in a measure conceive the subject. Hence the predicate concept is not a part of the subject-concept and not being included in it could be denied of it without self-contradiction. Thus since we know the judgements to be universally true without examining every instance, we have knowledge of things not guaranteed by the law of contradiction before experience of them. To Kant's mind this is the great problem which he expresses by asking how synthetic judgements a priori possible.

Joseph maintains that the difference between two classes of judgements is misrepresented. Because it is said that in the analytic the predicate is merely a part of the subject-concept and the necessary truth of the judgement is obvious. And in the synthetic the predicate is no part of the subject concept and the necessary truth of a synthetic judgement is therefore a problem. No judgement is analytic in the sense of asserting of anything in the predicate what in
the subject-concept we have already realised. What Kant has really done is to distinguish those judgements in which the predicate is a part of the definition of the subject from those in which it is not.

Joseph suggests that the distinction may be marked by the antithesis — essential and accidental. Here 'accident' is to be taken to include attributes belonging to any subject of a certain nature in virtue of that nature as well as those coincident in it. Thus accidental judgement would be Kant's synthetic either apriori or aposteriori. This judgement as ampliative is opposed to essential judgement as explicative. Because a subject and a property or accident of it are not one, as the subject and the definition of it are. But even then the opposition of analytic and synthetic is misleading, according to Joseph. Because the insight into the nature of a subject which definition expresses is also an apprehension of the connexion of elements in an unity and the necessity of this connexion cannot be derived from the law of contradiction. "That law is that contradictory propositions cannot both be true; but to know this is not to know which of the two giver contradictories is true."¹

It is true that without contradiction a man cannot deny of a subject anything which by the subject-term he means

¹ Ibid., p. 211
that it is. But the question is: how has the subject term come to have its meaning? If it is through insight into a necessary connection of elements in the subject, then the analytic judgement expresses this insight. The truth of Kant's analytic judgement would rest on the law of contradiction only when definitions are mere statements of meaning of a name. If we choose to mean by body a solid extended substance it is self-contradictory to say that a body is not extended. But if we choose to mean by body a solid extended and heavy substance is it self-contradictory to say that a body is not heavy. So Joseph says that Kant has forgotten to ask why we regard extension as belonging to the definition of body rather than weight. "Kant's account of analytic judgement implies that all definition is arbitrary and that judgements whose predicate is part of the definition of the subject are necessarily true, only because what we mean by a name we mean by it."¹

There are indeed some propositions which are universally true by mere convention as to the meaning of names, because they give us information about convention. These are verbal propositions. Opposed to these there are real propositions which intend to give informations about the nature of things. A proposition about the meaning of a name

¹. Ibid., p. 212
is clearly instructive and ampliative. It is only inadvertently that we make statements about things whose truth rests on the meaning of words. When we discover that we have done so we acknowledge that we have really said nothing.

Again in speaking of analytic judgements Kant had in his mind only universal judgements in which we analyse a concept. But Joseph claims that there are judgements in which we may analyse the sensible object before us, e.g., 'the sky is starlit'. The judgements of this type have been called 'analytic judgements of sense'. They distinguish in a subject an element which is combined with others in the unity of that subject and so far equally analytic with Kant's own idea of it. But yet they differ. Because they are singular, not universal; they rest on perception, not conception. And by no possibility could their truth be made dependent barely on the meaning of names.

Thus according to Joseph analytic judgements may be analytic either of a sensible individual or of a concept. In neither case their truth is guaranteed by the law of contradiction. Their truths rest on our apprehension of the connection of elements in the unity of one subject. So far they do not differ from judgements called by Kant synthetic.

1. F.H. Bradley, Principles of Logic, p. 48
But those analytic of a concept are essential whereof the predicate could be regarded a further attribute. Judgements called by Kant synthetic may be called 'accidental' (though not in the sense of the word in the doctrine of Predicables) or ampliative of their subject. They include both 'analytic judgements of sense' and all judgements about the meaning of names. Verbal propositions are not analytic and real propositions may be either analytic or synthetic. But as a matter of fact "the antithesis of analytic and synthetic, verbal and real, essential and accidental are by no means equivalent; they are neither made on the same fundamentum divisionis nor do they respectively bring together and keep apart the same individual judgements."1

We have referred to the views of Joseph at some length, not because what he says is a final say on the distinction, but his enquiries have cleared many obscure points that may arise in understanding the problem in right direction. In course of our discussion it will be seen that Kant's criteria of contradiction is sometimes misrepresented.

Quine raises a serious objection against Kantian distinction of analytic and synthetic. Quine raises a serious objection against Kant. The distinction according to Quine is a 'dogma of empiricism' and

the criterion by which Kant has drawn the distinction is not tenable. The criterion can be shown to turn on the notion of 'meaning' and Quine's objections are directed against this very notion.

Quine holds that to introduce the concept of meaning as a separate entity is unnecessary. We can replace it by the concept of synonymy. The meaning of a sentence is what the sentence has in common with all other sentences synonymous with it. When two sentences are said to be synonymous they are alike in meaning. So according to him the whole context 'alike in meaning' may be resolved in the spirit of a single word 'synonymous' and hence it is not necessary to consider 'meaning' as something intermediary.

Quine shows that the concept of meaning has been introduced to distinguish between analytic and synthetic. Analytic statements may be of two types. There are analytic statements which are logically true. For example, "no unmarried man is married". It remains true under any interpretation of 'man' and 'married'. Again there are analytic statements that can be turned into logical truth by using synonyms. For example, "no bachelor is married". It can be turned into the statement 'no unmarried man is married" by putting 'unmarried man' for its synonym 'bachelor' a term

1. W.V.O. Quine, From a Logical Point of View, chap. III
which has the same meaning. Quine is of the opinion that all definitions of analyticity given by other philosophers rest on this notion of synonymy.

But a difficulty is involved in the definition of synonymy. Analyticity involves synonymy. But synonymy cannot be explained in terms of definition. Because definitions themselves presuppose synonymy. However, it becomes clear from Quine that all logical truths are analytic. But the problem that besets analyticity concern those purported analytic truths which are not logical truths. The statement "no bachelor is married" is no doubt an analytic statement but is not a logical truth. Because it does not remain true under every reinterpretation of its non-logical components, "bachelor" and "married". It can be turned into "no unmarried man is married" (a logical truth) by replacing synonyms with synonyms. Thus it may be concluded that a statement is analytic if it either (1) is a logical truth or (2) is transferable into logical truth by the substitution of synonyms for synonyms. But Quine himself reject this conclusion because synonymy is no clearer a notion than analyticity. Quine says "We still lack a proper characterisation of this second class of analytic statements and therewith of analyticity generally, in as much as we have had in the above description to lean on a notion of 'synonymy' which is no less in need of clarification than analyticity.
An acceptable account of synonymy may be given in terms of interchangeability. Interchangeability may be taken as the logical criterion of synonymy. The criterion suggests that the synonymy of two linguistic forms consists simply in their interchangeability in all contexts without change of truth-value. Now the question is whether or not such an interchangeability is a sufficient condition for cognitive synonymy. But Quine argues that synonymy can be defined in terms of interchangeability, but interchangeability presupposes analyticity. So cognitive synonymy cannot be defined apart from analyticity. Two terms will be cognitively synonymous only when two statements are analytic. Thus Quine maintains that cognitive synonymy may be explained in terms of analyticity. But to try to explain analyticity in terms of cognitive synonymy would involve something like circle. He says "so we must recognise that interchangeability ... is not a sufficient condition of cognitive synonymy in the sense needed for deriving analyticity."  

Quine links the problem of analyticity to a problem in the theory of empirical knowledge. Because he embraces the logical positivist conception of analyticity. This conception is distinctive in two ways: (1) it treats

1. W.V.O. Quine, From a Logical Point of View, p. 23
2. Ibid., p. 31
interpreted sentences as the primary bearer of analyticity, and (2) it treats an interpreted sentence as analytic if and only if a sentence is alike in meaning to a valid sentence. But there are reasons not to embrace the logical positivist conception. Because propositions not sentences are the primary bearers of truth. Sentences are true only secondarily through their meanings. /

Again Grice and Strawson¹ have tried to meet the objections raised by Quine. According to them Quine's criticism does not justify his rejection of the distinction. Quine's argument cannot invalidate the distinction. Because the distinction may be criticised on grounds of confusion and ambiguity or otherwise. But such criticisms only can clarify the distinction but cannot reject it. Quine has not made the sort of criticism which can reject the distinction. They argue that a distinction may be criticised for not being useful and may be rejected on that ground. But to reject it in this way one has to acknowledge the existence of the distinction. The way in which Quine has tried to reject the distinction is more radical than this. Quine intends to reject the distinction without acknowledging its existence. He says "that there is such a distinction to be drawn at all, is an unempirical dogma of empiricists, a metaphysical

article of faith."\(^1\) Here Quine has called the existence of the distinction in question. So his rejection of it amounts to a denial of its existence. Grice and Strawson have pointed out that Quine is not consistent with what he said. The denial that the distinction really exists is extremely paradoxical. As a matter of fact Quine's objection is not simply confined to the words 'analytic' and 'synthetic'. His objection is directed towards those philosophers who have expressed the distinction by means of the words as 'necessary' and 'contingent', 'apriori' and 'empirical' and 'truths of reason' and 'truths of fact'. So his objection is not against Kant only. He is at odds with a philosophical tradition. But mere appeal to tradition is not necessary. Because there is also present practice which is considered to be necessary. Those who use the terms 'analytic' and 'synthetic' agree in their application of the terms. They apply the term 'analytic' to more or less the same cases, withhold it from more or less the same cases and hesitate over more or less the same cases. In other words, 'analytic' and 'synthetic' have a more or less established philosophical use. So it would be absurd to say that there is no such distinction.

But here is a point to be noted that question may arise whether Quine really holds such extreme thesis or not.

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1. Quine, From a Logical Point of View, p. 37
An alternative interpretation may be possible. When we say that something is true analytically and some other thing is true synthetically then it is not the case that we mark a distinction thereby. A reconciliation between this view and the fact of an established philosophical usage is really difficult. Therefore Grice and Strawson have intended to say that it is better to represent Quine's view as that the nature of the difference has been misunderstood by those who use the expressions.

It is not Quine alone to react sharply against the distinction, there are other philosophers also.

According to him there are some statements which admit of no clear classification. For example, 'I see with my eyes'. Now whatever 'I see with' may be called 'eyes' and in this sense the statement may be analytic. But it may also be said that 'it is a matter of fact that it is with my eyes that I see. Waismann maintains therefore that such statements are neither analytic nor synthetic. But here Walsh argues against Waismann. Walsh says that Waismann has failed to consider the contexts in which such statements are made. The sentence 'I see with my


eyes' may be used to express an analytic statement in one context. Again in another context the same sentence may be used to express a synthetic one. Thus the same sentence may be used in different contexts. Analyticity or syntheticity of a statement is just a function of those uses. Thus the analytic-synthetic distinction cannot be abandoned.

Again White is also critical about this distinction. According to White there are two kinds of analytic statements - formal logical statements and those statements that we get by substituting the constants for variables. In a formal logical statement logical constant and variable occur. For example:

\[(p \text{ or } q) \text{ if and only if } (q \text{ or } p)\]

\[\text{p or not-}p\]

\[\text{If } p \text{ then not-not-}p.\]

From the above it is possible to derive the other kind of analytic statements by substituting the constants for variables. For example, 'either it is raining or it is not raining' is a substitutional instance of 'p or no-\(p\>'. But White is not concerned with either of the statements. And the problem of defining analyticity of the second type reduces to the problem of synonymy, as stated earlier. White discusses the following two views and comes to the conclusion that if it is possible

to find out a criterion of distinction between analytic and synthetic, the criterion would make the distinction a matter of degree. First, "analytic statements are those whose denials are self-contradictory". If this criterion is applied to the contention 'that all men are rational animals' the denial of this statement is 'it is not the case that all men are rational animals'. The question is, is this a self-contradictory? When we look at it syntactically then we find that it shows nothing like \( \text{A and not-}\text{A} \). Thus it is not true that in syntactical form the denial of all analytic statements would be self-contradictory. But we may avoid this syntactical reference. We may invoke to a kind of order which people have been confronted with denials of analytic statements. But this way of distinguishing the analytic from the synthetic leads to a kind of gradualism. It means that the difference between analytic and synthetic is just a matter of degree. Secondly, if something is a man then we know that it must be a rational animal. When we withdraw the term 'rational animal' from something then we do not call it a 'man'. Here we not only abstain from calling a non-rational animal a man, we also abstain from calling a non-featherless biped also. We are more certain that something is not a man on the ground that it is non-rational than on the ground that it is non-featherless biped. This leads to gradualism, making the distinction a matter of degree. Not being a rational animal is a better sign of absence of manhood than is the property of not being a featherless biped. In agreement with White
Bird also contends that the distinction between analytic and synthetic is one of degree. This distinction can be explained in terms of that between what is and what is not independent of experience.

But this criterion is not workable. This will fail ultimately, because many firmly believed synthetic equivalences will be analytic on this criterion. Again this criterion will lead to the problem of counterfactual conditionals and this problem of counter-factual conditional will lead to a number of difficulties which cannot be solved easily.

A serious objection to this distinction has come from L. Couturat of the logistic School. According to Couturat Kant's definition of analytic judgement as one in which 'the predicate is contained in the subject' must be supplemented by the case where the predicate is partially included in the subject. Furthermore all judgements do not have subject-predicate form and all judgements cannot be reduced to relations of inclusion between two concepts. Again the hypothetical and disjunctive judgements which apply to many concepts do not fit the classification. Thus the distinction is incomplete. It could hold only for such judgements as can be regarded as asserting a relationship between concepts thought of as assemblages to partial concepts. According to


2. L. Couturat, "Philosophie des Mathematiques de Kant" Revue de Metaphysique et des Morales, XII (1904) - (G.D. Bowne, Philosophy of Logic).
Couturat Kant thinks of a concept as an 'assemblage' of partial concepts which are its 'essential characters'. But that view is false. (Couturat asserted this, but did not argue for this point). So the distinction which rests upon it is to be rejected. Couturat asserts that Kant's popular distinction as between explicative and ampliative judgments is a confusion of the issue. It leads to the view that logic is sterile and can produce only 'useless tautologies'. According to Couturat there is a logical and a psychological interpretation of Kant's distinction. It appears sometimes that Kant intends the distinction to be psychological, referring to what we actually think. But it cannot be interpreted psychologically because Kant has distinguished between a logical connection of concepts and their necessary connection in our thinking. Hence Couturat accepts Vaihinger's interpretation and concludes that Kant intends to contrast 'what we think more or less implicitly in a concept and the way we think of it' with that which 'is logically contained in it whether or not we actually think it'. According to Couturat this logical concept is definition. Thus it is the fact of being or not being contained in the definition of a concept which is the basis of Kant's distinction. Again so far the law of contradiction, Couturat maintains, Kant did not state the law, but actually used a much more complicated principle. Because to say that we must not deny a of ab does not require that we affirm a of ab. For that we require a second principle, that of identity. Kant, Couturat
argues, probably did not know the difference between the two laws. Because he did not distinguish between identical and analytical statements. Analytic statements according to him really rest on the law of simplification.¹Here Couturat makes a devastating remark on traditional logic when he says that the traditional formal logic resting only on identity is "a false conception of logic" and "is absolutely sterile, because it only permits passages from the same to same and justifies only idle tautologies."²

√Couturat argues that Kant believes the proposition of arithmetic to be synthetic because he takes an empiricist view of arithmetic. But all the propositions of arithmetic actually follow from the definitions and the laws of logic. Hence they are analytic. Again Kant thought each formula of arithmetic to be based on an immediate intuition. This committed him to the 'shocking consequence' that there are infinite number of self-evident truths. "This is hardly conformable with the idea of rational science."³ If these truths were really self-evident we should not have to do long calculation to find them out. But Couturat suggests that Kant's error was natural because it was based on his conception

2. Ibid., 330
3. Ibid., 334
of logic which according to him is faulty. Kant's argument is really an assertion that seven, plus, and five, are "partial concepts" which are united to compose a "whole concept". Kant confuses between addition and logical multiplication when he distinguishes between "addition" and "uniting" which can be done in intuition. Because if one thinks properly of the combining of the two classes into a third, this process of thought does not involve "going outside the concept" but "realising in mind" that combining of classes for 7+5 "contains by definition the concept 12, or better is identical with it."\(^1\)

According to Couturat, Kant has confused ideas appearing to Reason with images given to intuition. But Kant cannot place certainty of syllogistic reasoning on 'intuition' equating evidence and intuitive certainty. There must be purely logical and intellectual demonstrations.

Couturat maintains that Kant could not realise that mathematics is purely formal science. It is not the science of 'number and quantity' but a "hypothetico-deductive system". 'There is only one logic' according to Couturat, and that is "the logic of deduction"\(^2\) and inductive method is an application "to link truths together in a formal and necessary

\(^{1}\) Ibid., 357
\(^{2}\) Ibid., 379-382
From his own standpoint Couturat undoubtedly presents some of the very striking points as against Kant as others. But Kant has a standpoint of his own. It is also true that we cannot bring all judgments under subject-predicate form. But what is essential in Kant is not what he says about subject and predicate but what he says about the principle of contradiction. Moreover, it is also true that the subject cannot contain its predicate in the sense in which a material thing may contain another. The meaning of 'contained' in connection with analyticity is charged with vagueness. But what Kant intends to say is that the subject contains the predicate if and only if the negation of the judgement is a contradiction in terms.

When Kant had first drawn his distinction between analytic and synthetic judgments he made the following note:

"If one had the entire concept of which the notions of the subject and predicate are compared, synthetic judgments would change into analytic. It is a question of how much arbitrariness there is."

Since that time the question has been asked repeatedly. And the trend of answers has been that

1. Ibid.

the decision whether a specific judgment is analytic or synthetic is arbitrary or at least is dependent upon variable conditions of how much the judger knows about the subject of the judgment and on his arbitrary decision of the choice and formula of his definition.

In recent discussions of the distinction - analytic judgements are those that follow from explicit definition by the rules of logic. It is argued that all apriori judgements are analytic. But Kant seems to have decided that the line of demarcation between these two types of judgements was not variable or arbitrary. 'If the decision on analyticity of a specific judgment could be based on a definition of the subject, it would be easy enough to determine whether the judgement is analytic. But Kant rejects this procedure. Because he holds that "definability" is a stricter condition than "analysability". We can make analytic judgements with concepts we cannot define. It is through organising analytic judgements that we gradually approach to definition which is the end of knowledge, not its beginning.

Again 'contained in'¹ was a logical term used by Kant's contemporaries to describe predicates belonging to all individuals denoted by a concept. But Kant does not mean it

¹ 'Contained in' is contrasted with 'contained under' - Reflexion, 3043. The latter, used in describing synthetic judgements seem to mean for Kant what Vaihinger says was commonly meant by 'contained in'.
only in logical sense. Because then synthetic attributes
would be contained in the subject concept which he denies.
Beck observes that "contained in seems to have reference to
subjective intension and thus to have at least psychological
overtones."¹ But the words "actually thought in the concept
of the subject" are elsewhere given a strict logical meaning.
Because Kant says that what is really thought in a concept is
"nothing other than its definition."²

Beck further points out that Kant, it seems, has
failed to distinguish the logical from the phenomenological
aspects of thought. Where definitions are available, he
thinks of the distinction between analytic and synthetic
judgements as logical. Where they are not available he has
recourse to a phenomenological criterion by virtue of which
he seeks definitions through analysis. Analytic has both
logical and phenomenological dimensions and we can discern
two criteria for analytic judgement: (1) The logical
criterion is its conformity to the Law of Contradiction,
(2) the phenomenological criterion is the issue of an
inspection of what is introspectively to be really thought in
the concept of the subject. Kant, it appears, uses the first
one and then the other as it suits his purposes in the
conviction that their answers will be the same. Thus it seems

1. L. Beck, 'Can Kant's Synthetic Judgements Be Made Analytic?',
   'KANT' ed. R.P. Wolff.

2. Ibid.
that Kant was not free from an introspective tendency in his decisions on what is analytic and what is synthetic.

A.J. Ayer observes that for Kant the judgement $7 + 5 = 12$ is synthetic in the sense that here the subjective intention of '7+5' does not comprise the subjective intention of '12'. But the judgement "all bodies are extended" is analytic in the sense that it is validated by the law of contradiction alone. It follows, then, Kant has employed a psychological criterion in case of the judgement '7+5 = 12' and a logical criterion in the judgement 'all bodies are extended' and then has taken their equivalence for granted. So the logical positivists charge that Kant has not made the distinction clear. He is not giving us a straight forward criterion. But Ayer¹ thinks that the logical import of Kant's distinction may be preserved if an analytic proposition be defined as one whose validity depends solely on the definitions of the symbols contained in it and a synthetic proposition as one the validity of which is determined by the facts of experience.

Some of the Kant's idealist successors also have maintained that the distinction drawn by Kant is misconceived. They point out that every judgement is analytic and synthetic at once. According to these idealists judgement is analytic

because it is a process by which we break up an undifferentiated continuum of feeling and at the same time it is synthetic because we analyse only to relate the parts together and to reconstitute a more satisfactory whole. But as a matter of fact the sense in which the idealists have applied the terms 'analytic' and 'synthetic' to judgements has nothing to do with the sense in which Kant has done so. Hence the objection is based on a misunderstanding.

Thus Kant's distinction between analytic and synthetic judgements has been interpreted in many ways and the critics have tried to find out the intricacies involved in it. Some are aggressive and some are moderate in their views and some even go further to suggest an alternative to keep the spirit of the distinction. This shows that the distinction is of no little value in the field of logical enquiry.

In conclusion we may say that it is the 'contradiction criterion' that operates for the distinction between analytic and synthetic judgements. In an analytic judgement the predicate is not denied of the subject without contradiction. In a synthetic judgement the predicate concept can be denied of the subject concept without contradiction. But 'containment' and 'contradiction' are applicable to judgements of subject-predicate form. Modern critics say that all judgements are not of this form. So this distinction is not universally applicable. It has restricted application. But through a slight modification of Kant's contradiction criterion we can
answer this objection as well as preserve the spirit of Kant's thought and avoid controversies. To modify it we may say that a judgement is analytic when its contrary and contradictory is in self-contradiction and a judgement is synthetic when its contrary and contradictory is not in self-contradiction. Here there is no mention of subject-predicate form. Thus by amending the contradiction criterion we can save the Kantian distinction. Moreover what is essential in Kant's contention is not what he says about subject and predicate but what he says about the principle of contradiction. Again we may also express the distinction in the following manner: a judgement is analytic the truth-value of which is determined by logical rule, i.e., the law of contradiction and a judgement is synthetic, the truth-value of which is determined by some extra-logical grounds, i.e., experience. Taken in this sense Kantian distinction will, not be limited to a particular type of judgements. It can be applied to all judgements irrespective of the consideration of their forms. Thus it is possible to preserve the spirit of Kantian distinction either through modification of contradiction criterion or through a redefinition of the distinction as mentioned above.