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THE SYNTHETIC–APRIORI THESIS OF KANT

— Mrs. S. B. Oluwole

The tussle between the rationalists and the empiricists that eventually led to the Kantian Copernican Revolution is too well known in the history of philosophy to demand any detailed analysis in this type of essay. Put quite briefly therefore, the rationalists' thesis is that man has an intellectual intuition through which he can have knowledge of things not presented to him in experiences. The empiricists denied this and propounded the anti-thesis that there is nothing in human knowledge which is not derived from experience. It was the Human exposition of the empiricists' position Kant claimed awoke him from his dogmatic slumber.[1] Yet rather than agree with Hume, Kant tried to show that both parties were partly in the wrong but also partly in the right. Consequently, he propounded a synthesis of the two positions holding that both the human mind and experience make their own contributions to what we call knowledge. The part contributed by the mind he christened **a prior** and that by experience the **a posteriori.** Most important here is the claim that "necessity and strict universality are..... the criteria of a priori knowledge.[2]

More recently the logical positivists came and upheld these criteria of the a priori but vehemently disagreed with Kant as to the origin of the universality and necessity. For Kant, **a priori** propositions are so because they are PRESCRIBED by the mind and hence inescapable. For the logical positivists, the universality and necessity derive from the form and definitions of the concepts contained in **a priori propositions.** In other words they are necessary and universal because they are analytic. Yet Kant left no doubt in anyone's mind in denying the analytic origin of the **a priori.**

The aim of this paper is to clarify the position of each of these warring parties in the hope that such clarifications will help us determine which of the two is more logically justifiable and why.

Kant, as earlier on noted, claimed that the **a priori** is necessarily true because it is a condition prescribed by the mind. It is independent of all experience.[3] For him therefore, there are two kinds of knowledge namely the **a posteriori** and the **a priori.** The former has its origin in experience while the latter originates from the mind. And as Kant stressed, this is not to say that the **a priori** is independent of this or that particular experience but of ALL experience whatever. It is essential here to note that the problem the two parties are trying to solve is not an epistemological one. Kant is not disputing HOW we come to have **a prior** knowledge but the **nature** and **origin** of this knowledge which we somehow come to possess. But more explicitly perhaps, the problem is not that of determining how we know, for example, that:

(1) 5 + 7 is 12

but that of determining whether (1) designates:

(i) a situation that exists in the world,
(ii) a relation between concepts or ideas, or
(iii) a relation between the mind and the world.

Kant denied (i) and (ii) but upheld (iii). Maybe it is essential to warn that Kant does not hereby claim that the proposition is produced solely by the mind or by a mere operation of it. For as clearly stated in the first lines of the introduction to the **Critique:**

> There can be no doubt that all our knowledge begins with experience....But....it does not follow that it all arises out of experience.[4]

What Kant claimed is that in the process of having knowledge, the human faculties make their own contributions. He even says that it is not easy for us, except, with long practice, to separate what the faculties contribute from what we receive through impressions.[5] Kant's position is that just as it is impossible for the mind to produce any knowledge ON ITS OWN, so also is it impossible for our impression alone to give us knowledge. Knowledge, by Kant's definition, is a synthesis of materials from both.

We noted above Kant's denial that '5 + 7 is 12' designates a relation of ideas. This does not amount to his denying the existence of ALL analytic propositions as such. He agrees there are **truly** analytic propositions. He even identified its criterion as that of contradiction.[6] What Kant wants to maintain is that there are some statements which are not analytic yet are necessarily and universally true. This in fact is the main bone of contention between him and the logical positivists. The latter claim that experience is the only source of all knowledge, and that only (i) gives us Knowledge, (ii) does not. It only exhibits the relation of ideas which may bring to the fore a relation we were hitherto unaware of, providing us with what can be termed a psychologically new knowledge. But since such relation is already contained in the concept, (although we were unaware of it) it cannot be strictly speaking described as new knowledge. Any process of analysing such propositions can only be for the purpose of discovering which and which propositions are logical equivalents. We are, according to Hume, only making substitutions that never lead us into anything new.[7]

One of the foundations of modern philosophical discussions of the a priori as the analytic hang on this too-well-known phraseology of "true by definition". It is on this note that it seems quite appropriate to take up a detailed exposition of the position of the logical positivists. Let us take two paradigms of the analytic:

(2) A bachelor is an unmarried man.
(3) 5 + 7 is 12.

This, of course, is not the only possible grammatical form analytic propositions could take, nor does this form even vouchsafe the analyticity of all propositions of the same form. For instance, it is clear that:

(4) A pen is a writing material.

has the same grammatical form as (2) and (3) above, yet it is equally clear it is not analytic. The analyticity of (2) and (3) derives from both the logical form and DEFINITIONS of the subject and predicate terms of the propositions. The criterion of a denial of such propositions resulting in contraditions follows logically from this fact.

The most important point of the positivists' position that needs the most detailed clarification here is the claim that the necessity and universality of analytic propositions originate from the definition of their terms. The question to which we must address ourselves therefore is:

> What EXACTLY does it mean to say that analytic propositions are true by definition?

Let us illustrate by one of the examples already chosen. What the positivists are saying is that given the definition of 'bachelor' on the one hand, and of an 'unmarried man" on the other, the proposition 'A bachelor is an unmarried man' is necessarily true, i.e. it cannot be false. In other words, since the term 'bachelor' stands for the same concept as an 'unmarried man' (at least in this sense), the logical equivalence of the two terms cannot be debated. Symbolically put, the proposition becomes: "A is A" or 'A = A'.

The certainty of this exposition by the logical positivists is stressed by the claim that such propositions 'are necessarily true in ALL POSSIBLE WORLDS.' Hence in a world where there is no sex distinction, this proposition will still be necessarily true.[8] This is supposed to be the important difference between logical and theoretical identities. The former has no claim to truth except within a given theory, hence it does not lead to a logical contradition if denied.[9] One of the most important developments in this direction in modern times is the claim that logic and mathematics are both derivable from a few logical primitives or axioms. W.V. Quine claims we need only three of such primitives.[10] For a thorough understanding of the analytic, it seems essential that one should look **very closely** at the **nature and origin** of these primitives. For on them hangs all the laws and deductions of the claim that the analytic is true by definition.

First of all, by their very nature, the axioms are themselves undefinable, at least within the deductive system built on them. They form the starting point, the assumptions, the presuppositions on which all other propositions in the system are logically derived. This is so because if we are to avoid both circularity and an infinite regress, we have to stop somewhere. Such is the defence of the "philosophers of definition" — a group to which most, if not all modern logicians belong. A corollary to the first question we raised about what 'true by definition' signifies is what exactly the nature or rather the **origin** of these primitives or presuppositions are. For a more direct consideration, let us take an axiom relevant to the examples hitherto used, namely the notion of identity. For stress we might repeat that the question is not about how we know that A is identical with A, but the NATURE of the notion of identity.

David Hume apparently would agree with the positivists that **a priori** propositions are true by definition and also with Kant that they are demonstrable 'by mere operations of thought' without any dependence on what gives anywhere in the universe.[11] For him, **a priori** propositions express relations between ideas, Arithmetic, for instance, is concerned with relations between numbers.[12] He only disagrees with Kant for holding that the origin of the ideas of mathematics etc, are not from impressions and ALL impressions from experience, the only difference between propositions concerning 'matters of facts'

and 'relation of ideas' therefore lies in the fact that the mind **on its own** can operate and exhibit the logical relations existing amongst different ideas whereas this is impossible with propositions relating to matters of fact. This claim that the mind can, on its own, progress with the analysis of ideas and thereby arrive at equivalents or substitutes does not of course imply that it produces new knowledge on its own.

If the positivists would accept their godfathers' explanation of the origin of axioms or presuppositions of logic etc., then one could conclude that these also are derived from experiences as basic and distinct individual ideas that Hume called them. The relation amongst them is what is intuitively discoverable by the mind. Pushing these claims to their logical conclusions, it can be said that these relations have their origin is the ideas as well. The only property and function of the faculties then in the ability to discover and associate these hitherto imbedded relations. The difference between relations in 'matters of fact' and those of 'relation of ideas' then is that while the latter is discoverable by mere thinking, the former is discoverable only by further experience. In both cases, the basic ideas are got from experience.

There are apparently a lot that Kant would agree with here. Hume's analysis of the nature of these two objects of human reasoning seem acceptable to him. Even the fact that our ideas of Geometry and Arithmetic **are arrived at through experience,** he would not dispute. The only bone of contention is about the origin of such ideas. The problem is a metaphysical rather than an epistemological one. The question to which an answer is being sought is whether or not these objects themselves are products of man's faculties or of the external world.

Returning to our former illustration, what is at stake is whether the notion of identity is an inherent quality of numbers for example, or a logical notion supplied from the nature of the mind. Hume, we said, affirmed the former, while denying the later. So also apparently the logical positivists. Yet Kant would definitely maintain the opposite view. Hume and the positivists would maintain that once we can define the ideas in '5 + 7', for instance, the mind can on its own clearly and intuitively see that it is identical with the idea of 12; the mind, on its own, can make the substitution. Kant refuted all these by holding that no matter how much we examine the idea of '5 + 7', the mind can never on its own discover the concept 12 from the concepts of 5 and 7. For Kant, it is only experience that can show us this identity.

One must confess that it is very difficult, if not totally impossible to see how Kant could maintain that the concepts of '5 + 7' are not entailed by the concept of 12. The few basic logical axioms of Peano seems to have put a final stop to this debate. Yet it is this very controversy that interests us here. It seems to me too much to concede that Kant could hold so tenaciously to this seemingly simpleton's type of reasoning. Hence the curiosity to investigate into a probably more logical, more rational basis of Kant's position. Now taking Hume's position as the starting point, it is pretty apparent that '5 + 7' is not one concept but at least three ideas, namely those of 5, addition, and 7, even

though those of five and seven are derived from similar impressions. Furthermore, the number 12 is yet another logical notion or idea. Whatever definition of these concepts one may give, we are to ask ourselves what it is we are defining, that is, what is the object of definition. The Humean position is that the relations already exist among ideas, definitions only reveal and make them explicit. If all ideas originate from experience and ideas by nature already possess these logical relations, then logical relations, by implication, exist in external objects. They are only discovered and codified by the mind.

The conclusion then is not that these relations prescribe anything to experience, but that experience prescribes them. They are, in other words, the laws of nature. This is more so since the mind is regarded as passive, making no contributions whatsoever of its own other than discovering hitherto existing relations. I am not sure how many logicians will accept this view. But the logical validity of any other conclusion is greatly challenged given the empiricists' origin of ideas. The question cannot therefore be whether or not nature must conform to natural laws but that since they are products of nature, they must, of necessity conform to nature! Such laws will be empirical not in the sense that we manufacture them from one or more repeated experiences, but because they are inherent qualities of the objects of experience. Herein comes in the Copernican Revolution of Kant. For him, it is not these laws that must conform to nature, rather it is nature that must conform to them. According to Kant the mathematical propositions are **a priori** yet not analytic! By this he meant to deny empiricists' claim that **a priori** propositions are true by definition. He said:

> Hence the concept of 12 is by no means already thought in merely thinking of this union of 7 and 5 and I may analyse my concept of such a possible sum as long as I please, still I shall never find the 12 in it.

Kant went on from here to give details of HOW we come to possess the knowledge that 5 + 7 thus confusing the metaphysics of the proposition with its epistemological origin in us. Not many mathematicians will disagree with Kants epistemological analysis of this proposition, yet given Kant's own definition of the analytic, nothing seems much more apparent than that a denial of the proposition '5 + 7 is 12' will definitely lead to a contradiction. Kant does not deny this. What he denies is the analytic relationship between the two.

Kant in his earlier treatment of the metaphysics of the **a priori,** identified their origin in the nature of man. They are intuitive laws which the mind brings to bear on experience. They are **not** derived from experience as the empiricists claimed but latent, implicitly imbedded in the human mind. They are awakened and brought to the fore in the process of their application to experience. They are formal notations to be filled with empirical data. Hence they by themselves, produce no knowledge, even though no knowledge is without them. Referring these to the case of '5 + 7 is 12', the right question to ask is: 'if '5 + 7 is 12' is a synthetic – a priori proposition as Kant himself claims, 'what is the nature of the intuition that is brought to bear upon its empirical content?' One might identify at least one or two here, namely those of addition (+), and that of

identity (= or 'is'). If Kant's argument therefore is to proceed in the right direction, all he has to establish is either that one or both of these notions is not derived from experience even though the notions of 5, 7 and 12 are.

This is where I think a reconstruction and clarification of the confusions of Kant can throw some light on the nature of mathematical axioms as well as on the claim that their propositions are true by definition. The capula 'is' as used in '5 + 7 is 12' designates identity, a purely logical notion. If this notion leads to **a priori** propositions and yet originate from mere definition, it should be possible that given a different definition, the law of identity becomes something other than what it is now at least within such a system that follows from its new definition. Yet I do not know how many will concour to this, i.e. accepting that the logical notion of identity varies with definitions. If so, then definition, as here discussed, is not as arbitrary as one would have otherwise thought! It appears there are at least two venues open to us to get ourselves out of this web. Either we hold that mathematical propositions are based on arbitrary definitions and hence not necessarily true in all possible worlds, (except we mean by such worlds those that deductively evolve only from one particular definition) or that they are true in ALL POSSIBLE WORLDS irrespective of particular definitions in which case THEY WOULD NOT BE TRUE BY DEFINITION!

Many logicians are at present of the first opinion. Mathematical propositions are no more regarded as external truths, but as necessary truths within a particular logical system. Hence what is **a priori** in the **Principia Mathematica** of Whitehead and Russell for instance will not be so in a two-valued logic. It is the arbitrariness that logically results from this position that led Kant to deny the analyticity of '5 + 7 is 12' etc. Kant is not satisfied that the necessity of **a priori** propositions should be so free from the confines of logical systems. For him, they hold universally true OF ALL POSSIBLE SYSTEMS and consequently of all possible worlds. This position appears difficult to defend. It seems so logically untenable. And it is only on this note that Kant criterion of universality, as he wants it defined, can be validated.

Kant provides a defence in his metaphysics of the **a priori** by denying its analytic origin. Rather he identified them as rules inherent in the mind to which ALL experience must conform. An apparent interpretation of this is that the **a priori** propositions of mathematics and logic are psychological and hence adequately traditionally defined as the 'laws of thought'; or better still as the 'laws of correct thinking'. In short that they are the rules according to how men think and must think. There is little or no doubt that this interpretation, if correct, runs foul of human experience. As John Hospers noted, men do not **always** think logically. Many atimes we contradict ourselves. Furthermore, psychology is so far from logic that the laws of the former can hardly be claimed to be identical with those of the latter.

Despite the apparent consistency of these criticisms of the logical implications of the claims of Kant, there is an important point where Hospers misses the ideas that Kant is trying to stress. That they are psychological in nature

does not mean that they belong to the science of psychology except in the broad sense that psychology studies human nature. Biology, no doubt, also studies human nature. But the former bears a relation to these rules only in determining how far the physical constituents of the body can affect the workings of the mind. The rules of laws whereby the mind faces, sorts and organises the distinct items of experience go far beyond psychology. Secondly, the claim that men do not always think logically creates little or no threat to Kant's position. For to note that men at times do think illogically is to claim they can err or make mistakes in their thinking. And mistakes are possible by definition only on the assumption that there is a correct way of doing something. That an adding machine makes mistakes is no conclusive proof that it has no inbuilt laws according to which **it should normally operate.** In cases of error, the conditions that led to them can usually be identified. Hence the claim that **a priori** rules are laws according to which human beings should normally think holds no irrevocable compulsion on the human mind. It only implies that if its propositions are logically and consistently deduced from some basic assumption, their conclusions CANNOT **be false.**

What follows from these clarifications is that Kant could have maintained his claim of the synthetic **a priori** nature of mathematics safely without denying the analyticity of same. It has always been the common assumption of logicians, including Kant himself, that the analyticity of a proposition rules out the possibility of its being **a priori,** at least in the Kantian definition of the latter. This ought not to be so. All the analytic, in the sense of 'true by definition', can lay claims to is that given certain assumption or presuppositions, some conclusions logically i.e. necessarily follow. This is the only necessity the logical positivists can identify as the necessity of the **a priori.** But Kant's problem is much more involving than this. For Kant this necessity is not inherent in the ideas upon which the mind operates though it can only surface during such an operation, i.e. during a synthesis of them according to the inherent laws of the mind. The data 5, 7 and 12 are external to the mind, but the laws of their combination are supplied by the mind. Taken themselves, there is no suggestion whatsoever as to how they should or must be combined, hence we could add, subtract them etc., since they are distinct they are of no particular inherent necessary relationship to any other idea. This point is what Kant apparently wanted to stress when he, inadvertently, denied the analyticity of the proposition.

Applying these claims to the theory of 'true by definition' and the possibility of different systems of logic, a new light is shed on the apparent paradox hitherto noted. This possibility does not logically imply the arbitrariness of logic. Variety of logic depends on the nature of the data accepted as the 'bricks' out of which a system will be built. And although it has been held by most western scientist-philosophers that these data must be of a particular nature modern critics have strongly challenge this position. What is therefore important and hence relevant to all systems of logical systems, be it as bizzare as the African postulation of magic etc., or as clear as Aristotelian syllogism, is that the notions brought to bear on the data of experience must adhere to some logical criteria. The most important of such logical notions have been identified as the law of identity, hence Hospers proclaimed:

> They are the most general statements that can be made..... (and they) are involved every time we talk about anything at all, no matter what it is we are talking about ..... Not only can you not speak, YOU CANNOT EVEN THINK WITHOUT PRESU POSING at least the law of identity.

It is the inescapability of strict necessity and universality of **a priori** propositions which he claimed have their origin in the nature of the mind. The present claim that African Traditional Thought is not illogical, the development of the non-Eucleadean geometry etc. strengthen rather than threaten Kant's metaphysics. Non-eucleadean geometry is possible not because the laws of logic are arbitrary and hence not binding on the mind nor because they derive from the objects of experience, but because they can be applied consistently to data quite different in value from those assumed by Euclead. Our epistemological demand maybe that the data of experience, to be meaningful, must be in space and time but not that space must be the three-dimensional one of Euclead!

The conclusions to be drawn from here are multi-various. First the empiricists' claim of the empirical origin of all ideas (and consequently of their logical relations) leads to a less acceptable conclusion than that reached by Kant, even to the empiricists themselves. For not only will the necessity of **a priori** propositions derive from experience and hence destroy their claim that knowledge from experience cannot reach certainty, the arbitrariness that their thesis of 'true by definition' involves is much more disturbing. Secondly the freedom hitherto attached to the possibility of creating different logical systems is not as free as supposed. Thirdly the denial by Kant of the analytic nature of mathematical propositions is uncalled for since analyticity does not rule out the necessity of his **a priori**, but only designates a freedom in our choice of data with which to operate within a particular system. Fourthly Kant's designation of the PURE **a priori** as proposition seems to be so ambiquous as to lend strength to his critics claim that it runs counter to Kant's initial position. As the **forms of** experience which he called them, they can only be made meaningful after making them empirical in content, since the data with which its variables are replaced must come from experience. The forms remain **a priori** and hence necessary, yet the proposition as such IS NOT TOTALLY **A PRIORI.** This is the sense in which Kant's claim that 'thought without content are empty, intuitions without concepts are blind'[15] could be meaningful. If Kant remained faithful to this position he probably would have avoided the error of his denying the analyticity of mathematical propositions. The **notion of identity** in 'A bachelor is an unmarried man' gives us no knowledge. The claim that this proposition is necessarily true in a world with no gender distinction and consequently no marriage possibilities can easily lead us to wrong conclusion. It is the law of identity in the proposition that holds true in all possible worlds. 'A bachelor is an unmarried man' will not be false in such a world since this logically implies that its contradiction will be true. It will only be meaningless! The necessity of **a priori** propositions therefore only denotes our inescapability from the law of identity. The necessary truth of such laws in all possible words is valid only on the assumption that such worlds are inhabited by beings of identical cast of mind as ours.

The usual criticism that Kant meant meant by this that the 'laws of thought' prescribe what the objective world must be arises from a misunderstanding of Kant's position. As Kant rightly forsaw, there is no objective world parse, as far as human knowledge is concerned apart, of course, from the world as it appears to and can be understood by us, hence his distinction between the noumena and phenomena. Any metaphysical world is therefore strictly speaking an epistemological one.

Finally, one may take a last look at Kant's position through the eyes of some modern philosophers. There is the belief amongst many philosophers today that the human mind is a computerlike system that can be duplicated in a man-made machine. That this identification may be false in details raises no serious problem. What sounds much more difficult to uphold is that it is false in principle. From all intents and purposes the mind appears to be a logical system.[16] This means the working of the mind is lawful, a system of calculus. Whether or not its laws are physical and hence can be duplicated by man is an open question. What seems not open to question is whether or not it is lawful at all, whatever peculiarities the laws might have physical or even non-physical ones

That the human computer system became lawful only after experience is as ridiculous as the claim that the mind can, on its own, supply us with any meaningful output without having been fed with any external data. But most ridiculous perhaps is the notion that the data ALONE determine the laws according to which the mind as a computer must work. There is no doubt that both do influence each other, yet any meaningful output whatever must NECESSARILY BE A SYNTHESIS OF EXTERNAL DATA IN ACCORDANCE WITH SOME IMBEDDED PRINCIPLES.

Kant and his supporters might have misidentified these laws. They might have held a wrong notion about their true nature. But the claim that the mind associates the data of experience according to its own inbuilt laws provides a much more satisfactory solution to a problem Hume, and later the logical positivists, never adequately solved!

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SPINOZA ON IMMANENCE AND TRANSCENDENCE[1]

— REV. DR. B. ABANUKA

I

In the First Part of the **Ethics,** two characteristics are very remarkable on close attention. First, Spinoza holds that God is the unique substance.[2] Secondly, Spinoza says that whatever is, is in God, and that nothing can exist or be conceived without God.[3] In maintaining the first of the above two positions, Spinoza got rid of Descartes' three substances at a stroke by recognising only one substance, which is God, and putting in place of extended things and thinking things, the conception of these as modes of the two known infinite attributes of God[4]. In maintaining the second position, Spinoza assets the immanence of things in God. If Spinoza's views are granted a problem becomes clear: how does one account for the transcendence of God in view of Spinoza's stand that all modes can exist or be conceived only in God, and that without God nothing can be or be conceived? This is the problem of the transcendence of God vis a vis the effects God produces and which are immanent in God[5].

II

Before we go into a proper consideration of this problem, I would like to note that I accept Alan Donagan's approach in resolving the relation between God, the absolutely infinite substance, and the attributes[6]. According to this view, God is the unique substance whose essence is expressed by an infinity of attributes. God is not a simple being or substance. With regard to the attributes, they are not **subjective** ways in which man's finite mind conceives God's simple reality (i.e. as ens simplicissimum). God is the most perfect being (ens realissimum), and each of his infinite attributes expresses the same divine essence.[7]

Also, because God's essence is identified with his power[8], the attributes through which the divine essence is expressed are also ways through which the divine power is exercised[9]. God is necessarily cause of his existence in the sense that his essence involves his necessary existence[10]. As God is the cause of his existence by the necessity of his essence, so is he the cause of all things from the necessity of the same essence[11]. Hence it follows that God, conceived as the substance constituted by an infinity of attributes (Natura Naturans), produces an infinity of things in an infinity of ways; in other words, God produces an infinity of modes in each of the infinity of attributes (Natura Naturata)[12].

III

We shall approach our problem by first examining the concept of immanence.[13] Spinoza's theory of immanence has a double aspect. In the first place, it expresses the immanence of all things in God[14]. If God is the only substance, then all modes must exist or be conceived in God. Secondly, Spinoza calls God

immanent cause of his effects, i.e., modes[15]. The demonstration of this proposition is addressed to two points which form the contention of the proposition. The first is an affirmation of the immanence of all things in God. The second point denies any transitive causal action in God.

There is no doubt that immanence in this context refers to God producing everything **in** himself (God does not produce things **outside** himself as would be the case if God's causal action were transitive). However, it can also be said that the God of Spinoza is in a certain sense **in** his modes. If all modes are **in** God, then God is in a certain sense **in** the modes in so far as he is the efficient cause of the modes[16].

One can therefore view Spinoza's theory of immanence in two ways. Viewed as determinations or modes of God's attributes, all things depend on God for their essence and existence[17]. God is the basis of things being one 'kind' rather than another[18]. Considered as a substance constituted by an infinity of atrributes God's infinite power completely sustains every mode; particular things are nothing other than modifications of the attributes of God, i.e., modes by which God's attributes are expressed in a certain and determined manner[19]. In this sense, every mode can be said to be substance. Spinoza does in fact talk about "water in so far as it is extended substance"[20]. Consequently, nothing can be given, however finite, as being of a certain kind (be it extended or thinking) without depending on an absolute power having the nature to which that thing belongs. But this does not mean that a mode can be said to be God. The mode can only be said to be God **in so far** as he is **modified** in one or the other of his attributes.

If we cannot put a mode and God or substance on the same level just because a mode can only **in a certain sense** be said to be substance, then God appears to maintain a certain transcendence considered in respect to the effects of his productivity.

At this stage, it seems plain that God and mode are not interchangeable. A mode can be said to be God or substance only in so far as it depends absolutely on or is completely supported by the infinite power of God. Hence, considered in relation to what he produces, God maintains a certain transcedence. However, if a mode can neither be nor be conceived without God, does it mean that God belongs to the essence of things? Can Spinoza escape charges of extreme pantheism?

IV

If certain things said by Spinoza are taken together, one seems to find it difficult to extricate him from charges of extreme pantheism. Consider the following statements from the **Ethics:**

> By mode, I mean the modifications of substance, or that which exists in, and is conceived through, something other than itself (E., I, Def. v).

> From the necessity of the divine nature must follow an infinite number of things in infinite ways — that is, all things which can fall within the sphere of infinite intellect (E., I., xvi).
>
> Nothing in the universe is contingent, but all things are conditioned to exist and operate in a particular manner by the necessity of the divine nature (E., I, xxix).
>
> Things could not have been brought into being by God in any manner or in any order different from that which has in fact obtained (E., I, xxxiii).

Finally, there is Spinoza's definition of essence,

> I consider as belonging to the essence of a thing that, which being given, the thing is necessarily given, and, which being removed, the thing is necessarily removed also; in other words, that without which the thing, and which itself without the thing, can neither be nor be conceived (E.,II, Def. ii).

Though the above statements seem to lead inevitably to the conclusion that Spinoza is an extreme pantheist, it is, however, interesting to point out that Spinoza does not consider substance or God as belonging to or constituting the essence of man[21]. In Spinoza's view, the being of substance or God cannot belong to the essence of man. Were the being of God to belong to the essence of man, then given the existence of substance or God, the essence of man must be given (we must recall Spinoza's definition of essence). Thus, Spinoza concludes that it is those who consider the essence or being of God as belonging to the essence of finite things who fall into contradictions or confusion[22].

Spinoza's conception of the relationship between the essence of God and the essence of finite things so understood seems to permit him to maintain that nothing can be or be conceived without God and still to assert that God does not belong to the essence of his effects. Consequently, that all things necessarily follow from the divine essence[23], does not fulfil the first manner of determining what belongs to the essence of a thing, namely, that which "when given, the thing is necessarily given also". Here we seem to stand face to face with one of Spinoza's paradoxical positions: affirming that if God is given, all finite things are necessarily given also[24], and at the same time denying that the giveness and understanding of God's essence is sufficient for the giveness and understanding of the essence of any finite thing. Can any further examination of Spinoza's text cast light on Spinoza's position?

The essence of a mode, for example man, cannot be constituted nor be understood just by reference to God's essence. The essence of a mode cannot be understood just by taking God to be the **first cause**[25], or the **cause most proximate in its own kind**[26]. It does not suffice to consider God as the unique substance constituted by an infinity or infinite attributes or real **genera** to conceive the essence of a particular mode[27]. To conceive the essence of a particular mode the **absolutely proximate** cause is further needed to account for the fact that a mode is this particular mode and not another.[28]

If one wishes to account for a particular human mind, it does not suffice to refer to the infinite nature of the divine attribute of Thought; one must also take account of the cause explaining that this human mind is a **human** mind, i.e. a particular determination of **a certain sort** of the attribute of Thought. In order to give a more exhaustive account of the problem, one would have also to clarify the relation between the "absolutely proximate cause" as accounting for the **sort** of mode this or that mode is, and that which accounts for the **particular** essence of this or that mode[29]. For Spinoza, particular essences, for example, those of all human beings and their ideas are produced together and "at once" as parts constituting the infinite immediate mode of the attribute of Thought, being the infinite Mind of God[30]. These parts mutually determine one another in the sense that the particular essence of any mode could not be produced without the simultaneous production of all the other modes[31].

Our problem seems now resolved. Given that God necessarily produces all modes, it cannot, however, be said that he constitutes the essence of man as this particular man (and not another thing). Without God, finite things can neither be nor be conceived, and if God is given, all things are given also. Nevertheless, later condition may be interpreted in such a way that God belongs to or constitutes the essence of this or that thing. Spinoza's definition of essence appears to permit an escape from extreme pantheism in our case.

V

However, if God does not constitute the essence of this or that thing, there is still another aspect of the problem which seems to involve pantheism. The relation between God and the infinite modes, i.e., the totality of finite things, seems to be of such a kind that God's essence belongs to or constitutes the essence of infinite modes. This problem will be examined in connection with the relation between God and the infinite Mind, the infinite immediate mode of Thought.

Spinoza is clear on the point that the infinite Mind is an effect of God. Here the infinite Mind belongs not to **Natura Naturans,** but to **Natura Naturata**[32]. If there is no transcendence between God and his infinite Mind, there would be no point holding this strong distinction between God and the infinite immediate mode of his attribute Thought. (One can say the same thing of God and any other infinite mode of any of the attributes of God).

But, if one considers Spinoza's definition of essence, can it be really said that God transcends the infinite Mind. In connection with the infinite Mind, God is both a necessary first cause and also the absolutely proximate cause itself — the infinite Mind necessarily follows from God's absolute Nature[33].

Therefore, the conclusion that the divine essence belongs to the infinite Mind seems unavoidable.

The above conclusion is, however, unacceptable: it follows from a confused application of Spinoza's definition of essence to divine productivity. One cannot

equate the fact that God produces all things necessarily, and first **immediately** in the infinite modes[34], with the first condition expressed in the definition of essence, namely, "that (belongs to the essence of a thing), which being given, the thing is given also", and this is the same with the second condition mentioned in the definition after "in other words", i.e., "(that belongs to the essence of a thing) which itself without the thing can neither be nor be conceived"[35].

This equation of God's necessary production of all things (and particularly of the infinite modes) with the definition of what belongs to the essence of a thing forces one to say that God's essence belongs to the essence of infinite modes. If this equation must be rejected, it is primarily because by making God dependent on his modes (as seems strongly suggested by the second condition after "in other words"), the **most fundamental** Spinozist distinction between substance and mode is completely confused. Hence substance is reduced to a status comparable in character to modes[36].

It is clear that for Spinoza, substance is in itself (substance exists **in se** or and, therefore, is **causa sui**) and is conceivable through itself alone. Substance is not dependent on anything else "outside" itself. Modes are dependent on substance. All modes depend ultimately (and for the infinite modes directly) on substance. If the divine substance necessarily and immediately produces all infinite modes according to each attribute, it does not mean that God or his attributes are dependent on the infinite modes. The latter exist and are the kind of things they are (for example infinite Mind and not Motion and Rest) on account of substance and its attributes. Though God necessarily produces his effects, he does not depend on these effects as something **else** which would support his essence. The modes or divine effects cannot support God, since by their nature, they do not support, they are supported. Considered as that which exists in itself and conceived through itself alone, substance must produce an infinity of modes; nevertheless, this does not mean that substance is ontologically supported by some other thing(s), or that the epistemological conception of its essence or being requires other fundamental concepts besides those expressing its infinity of attributes.

In brief, one can say that substance must be considered as really transcendent or that it differs from its effects (whether finite of infinite modes) in essence and existence. Substance has necessary existence by itself alone — the necessary and eternal existence of infinite modes is only derivative. Each of the infinite attributes of substance expresses the essence of substance — the essence of the infinite modes in the unity-totality of all finite modes of a certain attribute. The essence and existence of substance so understood cannot belong to or constitute the essence of any mode. On the strength of all that has been so far said, one can see the real reason why God does not belong to the essence of any **finite** mode. Furthermore not only can it be maintained that God does not constitute the essence of any finite mode, also, God's essence is absolutely prior and independent with respect to the essence of any mode, whether finite or infinite.[37].

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If one, however accepts, that God is transcendent to his modes in the sense that his essence and existence are totally different from those of his modes, one still faces another cogent problem in the system of Spinoza[38]. The root of the difficulty is that considered as different in essence and existence from his effects, it seems to be impossible that God be the cause of these effects. Things which have nothing in common cannot be the cause of one another[39].

To resolve the present problem, one must seek for "some" community between God and his modes which at the same time permits their difference with regard to essence and existence. In so far as they are finite or infinite modifications of one or other of the divine attributes, modes differ from God. But they have something "in common" with God. They are determinations of certain attributes expressing the divine essence. The modes have something in common with God in another closely related sense. The infinite divine nature which each of the infinite attributes expresses supports each of the modes. Considering this aspect of the essence of modes, God cannot be their cause since the divine infinite nature (which each of the attributes expresses and which supports each of the modes) has always been God's[40]. No mode of any attribute is this attribute itself. Each of the attributes **belongs to** each of its modes or determinations, but this is not in the sense that it belongs to or constitutes their essences as (finite or infinite) modes.

REFERENCES

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2. Spinoza, **Ethics,** I, xiv. See **On the Improvement of the Understanding, the Ethics, Correspondence,** tr. by R.H.M. Elwes, New York, Dover, 1965, p. 54. Subsequent quotations from the **Ethics** are taken from the translation of Elwes, The **Ethics** is abbreviated E.

3. E., I., xv., Elwes, p. 55.

4. Descartes, **The Principles of Philosophy,** 1, LIII. See **A Discourse on Method, Meditations on First Philosophy, Principles of Philosophy,** tr. by John Veitch, London, Dent; New York, Dutton, 1975, p. 185. See also Spinoza, **Short Treatise on God, Man and his Well-being,** tr. by A. Wolf, London, Adam and Charles Black, 1910, p. 52, "...up to the present only two of these infinities are known to us through their own essence; and these are thought and extension." See also Spinoza, **Opera,** 4 Vols, ed. by Carl. Gebhardt, Heidelberg, Carl Winter, 1924, Vol. II, p. 178.

5. I acknowledge my indebtedness to the discussion I had with Prof. Dr. H. De. Dijn for certain insights into this problem. See also his "The Articulation of Nature, of the Relation God-Modes in Spinoza", in **Giornale Critico della Filosofia Italiana,** LVI (LVIII), Fasc. III – IV, 1977. It is true that Spinoza does not talk about this problem in terms of immanence and transcendence. However, it seems appropriate to employ the terms in this context to permit an easy comparison with the views of other thinkers. It should also be noted that E. Giancotti Boscherini does not include "transcendence" or "transcendentia" in her dictionary. See E. Giancotti Boscherini, **Lexicon Spinozanum,** 2 Vols, La Haye, M. Nijhoff, 1970. Compare H. De. Dijn, **art. cit.,** p. 337.

6. Alan Donagan, "Essence and the Distinction of Attributes", in **Spinoza: A Collection of Critical Essays,** ed. by Majorie Grene, Indiana, Notre Dame Press, 1979. Donagan's position on this problem is a version of the objective interpretation of the substance-attribute relationship. It can be characterised as a **unique-relation** thesis. Donagan's thesis seems to resolve this vexed problem in a manner more in keeping with the data of Spinoza's text.

7. See E., I, Def. vi, Elwes, p. 45; E., II, vii, Note, Elwes, p. 86; see also Donagan, art. cit., p. 181.

8. E., I., xxxiv, Elwes, p. 74.

9. Compare Errol E. Harris, **Salvation from Despair, A Reappraisal of Spinoza's Philosophy,** The Hague, M. Nijhoff, 1983, p. 51.

10. E., I, xi, Elwes, p. 11; E., I, xvi, Elwes, p. 59.

11. E., I, xxxiv, Proof, Elwes, p. 74.

12. E., I, xvi, Elwes, p. 59; E., I, xxix, Note, Elwes, p. 68.

13. E., I, xv, Elwes, p.55; E., I, xviii, Elwes, p. 62.

14. E., I, xv, Elwes, p. 55.

15. E., I., xviii, Elwes, p. 62. Immanent cause is here opposed to transcient cause.

16. E., I, xv, Elwes, p. 55; E., I, svi and Corollary, Elwes, p. 59.

17. E., I, xxv, Elwes, p. 66.

18. Kind is here used to denote a qualitative difference in the nature of things. Thus, one can speak about the real distinction between the modes of Thought and Extension, between ideas and bodies. The term "sort" will be employed to refer to "specific" differences between things of the same attribute. Compare H. De Dijn, **art. cit., p.** 338, and G. Deleuze, **Spinoza et le probleme de l'expression,** Paris, Editions de Minuit, 1968, pp. 30–182.

19. E., I., xxv, Corollary, Elwes, p. 66.

20. E., I, xv, Note, Elwes, p. 55.

21. E., II, x, Note 2, Elwes, pp. 89–90. See R. Boehm, "Spinoza und die Metaphysik der Subjektivitat", in **Zeitschrift fur philosophische Forschung,** pp. 166 and 167. See also H. De Dijn, **art. cit.,** p. 338, form where my attention was drawn to the article of R. Boehm and to the importance of the second note of proposition 10 of **Ethics,** II, for the problem at stake.

22. E., II, x, Note, Elwes, p. 89

23. E., I, xvi, Elwes, p. 59.

24. Id., ib.

25. E, I, xvi, Corollary 3, Elwes, p. 59. M. Gueroult points out that in his consideration of the terms dealing with causality, Spinoza was influenced by Adrian Heerebrood's **Hermenia Logica.** Spinoza's consideration of these terms undergoes a development from the **Short Treatise** to the **Ethics.** See M. Gueroult,

Spinoza, Dieu (Ethique, 1), Paris, Aubier-Montaigne, 1968, pp. 253–257. See also **Short Treatise**, Part I, Ch. III, A. Wolf, **op. cit.**, pp. 41–42. For more details on the origin of the work of Heerebrood, see Gueroult, **op. cit.**, 1, p. 245. See also H. De Dijn,"Historical Remarks on Spinoza's Theory of Definitions", in J. G. van der Bend, **Spinoza on Knowing, Being and Freedom**, Proceedings ..., Assen, Van Gorcum, 1974, pp. 41–50. We cannot go into great details here. It is sufficient to note that in the **Ethics, first cause** (E., I, xvi, Corollary 3) means that which is self-explanatory, since nothing precedes the productive power proper to its nature.

26. E., I., xxviii, Note, Elwes, p. 67.

27. See **On the Improvement of the Understanding**, Elwes, p. 67. These real universals or **genera** should be understood as the laws which regulate the passage of modes to existence. Deleuze (**op. cit.**, p. 193) suggests that these laws are not contained in essences themselves but seem to be connected with the laws which Spinoza says are inscribed into the attributes "as in their true codes". These laws are the proximate causes of all things. See M. Gueroult, **op. cit.**, p. 248.

28. In the **Short Treatise** (A Wolf, **op. cit.**, p. 42), Spinoza considers God the **proximate cause** of infinite and immutable things, and which are immediately produced by God. In the **Ethics** (E., I, xxviii, Note), God is absolutely the proximate cause in their kind of particular things. God does not produce particular things in an absolutely immediate manner; he produces them mediately – through intermediaries in the infinite chain of finite causes (the infinite mediate mode). However, God is the proximate cause of particular things in their own kind. Being produced through intermediaries, particular things possess their own kind of being. This point will be elaborated upon. For the present, it suffices to say that the essence of particular modes must have God as the absolutely proximate cause and their existence has God as the proximate cause in its kind.

29. When Spinoza considers the essence of man (or of the human mind) in the Second Part of the **Ethics**, he is not dealing with the particular essence of this or that man. On the contrary, he is dealing with the **specific** essence of every man. (Consider, for example, Spinoza's position in E., I, viii, Note 2, and E., I, xviii.) There is no doubt that what Spinoza says about the specific essence of man applies to this or that man, and the specific essence that can be instantiated only in so far as this or that man exists. However, apart from the specific essence which is like a mould into which every man is cast, each individual human being also has a **particular** essence, which has a kind of existence which is external and comes to exist as a a link in the infinite chain of casually related and finite things. M. Gueroult gives the various senses of essence in Spinoza. See M. Gueroult, Spinoza, L'Ame (Ethique, 2), Paris, Aubier-Montaigne, 1974, Appendix 3, pp. 547–551. See also H. De Dijn, **art. cit.**, p. 340.

30. In Letter 64 (A. Wolf, **op. cit.**, p. 308; Gebhardt, p. 278), Spinoza clearly says that the infinite Mode immediately produced by God (E., I, xxi) is the infinite Mind. See Ethics, I, xxi Proof and Ethics, II, iii and iv where this mode is called the Idea of God. It should here be noted that in certain cases "idea" for Spinoza is the same as Mind or Intellect.

31. See E., V, xl. Note, Elwes, p. 268. Compare E., I, xxviii, E., II, ix, xxx, xxxiii, where Spinoza talks about the causal determination of actually existing things.

32. See E., I, xvii, Note, Elwes, p. 50; E., I, xxxi, Proof, Elwes, pp. 150–153.

See also E., I, xxx – xxxiii, Elwes, pp. 69–74.

33. E., I, xxviii, Note, Elwes, p. 67.

34. E., I, xvi, Elwes, p. 59.

35. Compare H. De Dijn, art. cit., p. 342.

36. Compare H. De Dijn, art. cit., po. 342–343. If the divine essence does not belong to this or that particular thing, and also if God transcends his infinite modes, then Spinoza seems to escape all charges of extreme pantheism. Though all things have followed from the necessity of the divine essence, yet the divine essence does neither belong to the infinite modes nor to particular things. Given Spinoza's affirmation of the unique substance, God, and that whatever is or can be conceived, can be or be conceived only in God, his system can be best characterised as a certain panetheism. Compare M. Gueroult, op. cit., I, pp. 222–239. Spinoza's panentheism should be viewed differently from the Hartshorne things that God must necessarily produce a world, but not just this sort of world. See Charles Hartshone and William L. Reese, **Philosophers Speak of God**, Chicago and London, Midway Reprint, 1976, especially, pp. 499–514. For Spinoza, the world (Natura Naturata) produced by God is the only possible world following by absolute necessity from God. See E., I, xvi and xxxiii. Though in the infinite chain of finite or particular things (E., I, xviii), things could be produced differently (since they come to be and pass away), their finite formal essences would still limit their variations. For a development of Spinoza's account of necessity and possibility, see my dissertation, **The First Part of Spinoza's Ethics, A Reinterpretation**, pp. 208–241. However, as the only substance constituted by an infinity of attributes, God cannot not produce an infinity of modes according to each attribute. God must produce all modes without exception – an infinite infinity. To view the matter differently would mean denying the reality and freedom of God's power. See E., I, Def. vii. Spinoza's position here stems from his view that intellect and will (which are modes) do not belong to the essence of God. See E., I, xxx – xxxiii. Compare H. De. Dijn, art. cit., p. 342.

37. One can express what is being said in other terms by saying that substance of God is the suurce and origin of all things or modes, whether finite or infinite Consequently, the modes, in so far as they are dependent on God for their essence and existence cannot be said to be prior to God.

38. Company H. De Dijn, **art. cit.**, p. 344; M. Gueroult, **op. cit.**, 1, pp. 286-295.

39. E., I., iii, Elwes, p. 47.

40. Compare H. De Dijn, **id. ib.** See also M. Gueroult, **op. cit.**, 1, p. 290.

THE MORAL PHILOSOPHY OF ST. THOMAS AQUINAS: A CRITICAL LOOK

DR. J. I. OMOREGBE

St. Thomas Aquinas, the greatest medieval philosopher, was an Aristotelian and an expert commentator on Aristotle. But he was an Aristotelian with a difference, for he did not always follow Aristotle nor was Aristotelianism the only source of his philosophy. Augustinianism and christian theology were two other important sources that shaped his thought. Augustinianism itself dates back to Plato through Plotinus, and it was coloured with christian elements by St. Augustine, the great African philosopher-theologian. St. Augustine was one of the founders of christian theology, and both he and St. Thomas Aquinas were primarily theologians who philosophized within the framework of christian theology.

Towards the end of **Nicomachean Ethics,** Aristotle discusses the question of the highest good for man. The highest good for man, he maintains, must consist of man's employment of his highest faculty (reason) in contemplating the highest object (God). This is of course an abstract, intellectual activity which can only be carried out by philosophers. Aquinas agrees with Aristotle that all human activities are directed towards the good, and that the highest good for man (the Summum Bonum) consists in the intellectual contemplation of God. But while Aristotle means the philosophical contemplation of God by philosophical contemplation of God by philosophers here on earth, Aquinas means the "Beatific Vision", i.e., the contemplation of God by the saints in heaven.

Aquinas' concept of virtue is basically Aristotelian. He follows Aristotle in maintaining that virtue is a midway between two extremes, and that it is a habit formed by repeatedly and consistently performing the same kind of good action for a long period of time. Once the good habit has been formed, the performance of that kind of action becomes easier. I must add that Stoicism is also one of the sources of Aquinas' moral philosophy. Like the Stoics, he assigns an important role to reason in morality and makes "right reason" the moral standard. He sees virtue as basically the rule of reason over the passions and sees morality as basically the function of reason. "The good of man is to be in accordance with reason and evil is to be against reason. Actions are called human or moral inasmuch as they proceed from reason. Being a rational animal entails being a moral being and vice-versa."[1]

Aquinas' notion of goodness and evil is heavily influenced by those of St. Augustine and the Stoics. He equates goodness with being, and evil with the privation of being. He owes this negative concept of evil (as the lack of being) to St. Augustine who in turn owes it to Plotinus. Every being, in so far as it is being is good, because it was created by God. God is Goodness itself and whatever comes out of Goodness itself participates in goodness and must therefore be good. Hence whatever God has created is good. Every being is good. Evil is not a being, it is not a positive entity. It is the privation of being, the lack of the

integrity of quality due to a being. Consequently evil, since it is not a being, was not created by God. God did not create evil, he only permits it; and he permits it because it is inseparably connected with good so that to remove evil would mean to remove good as well. For example, to remove the capacity for pain (which is evil) would mean to remove the capacity for pleasure (which is good) as well. Aquinas also distinguishes between physical evil and moral evil. Moral evil is the result of man's misuse of his free-will which was given to him by God for doing good but which man misuses for doing evil. Physical evil makes its own contribution to the beauty, order and harmony of the universe.

This idea that even monstrosities and catastrophes are part of the order and harmony of the universe goes back to the Stoics.

Aquinas strongly opposes determinism which he describes as "heretical" and of no relevance to philosophy. To deny the freedom of the will, he says, is to remove the basis of morality. For if the will were not free how could man be held morally responsible for his actions? How could we blame, praise, punish or reward people for their actions? Determinism is therefore to be rejected. Human actions are free actions. A free action is a voluntary action, and a voluntary action is an action that has its source within the agent and not from outside him. The doer of a voluntary action must be conscious of what he is doing, and it must come from his own free decision. Aquinas distinguishes between the role of the intellect and that of the will in human actions. The role of the intellect is to execute an action in line with the illumination, approval or disapproval given by the intellect. The will should always comply with the recommendations of the intellect, it should always follow its guide. But unfortunately this is not always the case, for the will is sometimes blinded by the passions and goes against the recommendations of the intellect. This is what happens when a person does what he knows to be wrong. In that case there is a conflict between the intellect and the will, that is, between the recommendation of the intellect and the will, that is, between the recommendation of the intellect and what the will actually executes. Aquinas was indeed a psychologist who had a deep insight into the psychology of human behaviour. The executive and the legislative functions of the government in a presidential system of government would be a good analogy of what Aquinas means. In the presidential system of government the executive arm should always comply with the recommendation, approval or disapproval of the legislative arm in regard to any proposed action. But if the executive insists on going against the recommendations of the legislative, then things would go wrong for the entire country.

The will, says Aquinas, is meant for good and is directly oriented towards good. The direct object of the will therefore is good just as the direct object of the intellect is truth. Because it is basically oriented towards good, the will always chooses what it sees as good. The will can never choose evil precisely as evil nor can it refuse to choose good when it is seen as purely good. When the will chooses an evil thing, it is because it sees it as good or at least it sees some good aspect in it. Just as the intellect is not free not to assent to truth when it is clearly seen as good. This doctrine which goes back to Aristotle and Plato is sometimes described as "ethical determinism" since, according to the doctrine, the

will is determined (By its basic orientation) to choose good and it cannot do otherwise when it sees good purely as good. From St. Augustine Aquinas derives the idea (but not the term itself) of **synderesis.** Quoting St. Augustine, Aquinas says: "Augustine declared that in our natural power of judgement there are rules and seeds of virtue which are unchangeably true. Now this is what we mean by synderesis."[2] Synderesis in Aquinas' moral philosophy is the innate, natural disposition and capacity to grasp spontaneously and naturally the fundamental moral principles. Aquinas also describes it as a habit, a natural tendency imparted to us by nature which enables us to know the fundamental principles of morality. He seems to be saying, in other words, that we know the fundamental principles of morality by intuition, and he calls this capacity of intuitive apprehension of the fundamental moral principles **synderesis.** This is an element of intuitionism in Aquinas' moral philosophy. He also distinguishes between the role of synderesis and that of conscience. While the role of synderesis is to grasp the fundamental principles of morality, that of conscience is to apply these principles to particular, concrete cases. By their very nature these principles are abstract, but actions are concrete and take place in particular situations. Conscience bridges this gap between the abstraction of the moral principles and the concreteness of actions, and it does so by applying the former to the latter. By synderesis we know that certain kinds of actions are wrong. Now it is conscience which applies this knowledge to the particular action we intend to perform in a given concrete situation, in order to see whatever the proposed action, given the situation in which it is going to be performed, falls within the category of right or wrong actions.

Having made this application, conscience comes up with a decision or judgement to whether the proposed action is right or wrong, whether it should be performed or avoided. Conscience can of course make a mistake in the application of these principles and consequently it can make an erroneous judgement regarding the rightness or wrongness of a proposed action. But Aquinas tells us that the judgement of conscience should always be obeyed, even when it is wrong. "Every conscience, whether right or wrong, whether it concerns things evil in themselves or things morally indifferent, obliges us to act in a such a way that he who acts against his conscience sins."[3] It is of course understood that an erroneous conscience is unaware of its error and is therefore convinced that it has made the right decision. In other words, when conscience makes an erroneous judgement regarding the morality of an action its error is made in "good faith", hence its recommendation is as binding as when its judgement is right.

NATURAL LAW

The doctrine of natural law is an important aspect of Aquinas' moral and political philosophy. His doctrine of natural law reflects the influence of the Stoics though he developed it much more than the Stoics did. He made a significant contribution not only to the doctrine of natural law but to the philosophy of law. Hence Aquinas occupies an important place in the history of the philosophy of law. He defines law as "an ordinance of reason directed towards the common good and promulgated by the one who has the care of the community."

This means that a law is a command, a directive which must be reasonable (for if it is unreasonable it would not qualify as a law), and must be aimed at the common good of the community. A law should therefore not be intended to foster the private interest of some members of the community, otherwise it would not quality as law. Finally it is only the appropriate authority in charge of the society that can make law for that society, and it must be made known to all those intended to be bound by it. A law that is not properly promulgated has no binding force. Aquinas distinguishes between four kinds of law, namely, eternal law, natural law, divine positive law, and human positive law.

Eternal law is the law by which God governs the whole of creation, directing each creature to its respective end. It is the law implanted in the very nature of every creature, impelling it to behave in certain ways, thereby fulfilling the purpose for which it was created. "Supposing the world to be governed by the divine providence.... It is clear that the whole community of the universe is governed by divine reason. This rational guidance of created things on the part of God.... we call the eternal law."[4] All creatures derive from the eternal law "certain inclinations to those actions and aims which are proper to them."[5] Thus Aquinas sees the eternal law as the rational guidance of the universe by God, the divine wisdom or providence by which God makes the universe function the way he wants it. Eternal law therefore applies to all creatures in the universe. But it does not apply to all creatures in exactly the same way; it does not apply to rational creatures in exactly the same way as it applies to irrational creatures. As it applies to rational creatures, that is, human beings, it is called the natural law. Natural law therefore is man's participation in the eternal law; it is the law by which God governs rational creatures. For God does not govern all creatures in exactly the way way, rather he governs each creature according to its specific nature. Man being a free and rational being is not governed by God in the same way as the irrational creatures. While the irrational creatures are governed by the physical laws of nature, which are necessitating laws, human beings are governed by the natural law. "The natural law is nothing else but a participation of eternal law in a rational creature."[6] By the term "natural law" Aquinas thus means the moral law. This term, which has a long history dating to the Sophists, has in the course of its history became an ambiguous term. It could mean the physical laws of nature (which include the biological laws in the human and animal bodies) or the moral law. Some philosophers used it in one sense while others used it in another sense. The Stoics confused the two senses of the term, Spinoza used it in the sense of the physical laws of nature, so that when Spinoza spoke of the natural law he meant the physical laws of necessity. Aquinas and Kant used it in the sense of the moral law, a law that appeals to man's reason and which man is free to obey or to disobey. Hobbes and Locke also used it in this sense. The natural law, according to Aquinas, is expressed through several principles the most fundamental of which is that good should be avoided. All other principles of the natural law derive from this fundamental principle.

How are the principles of the natural law discovered? Since the natural law is a law that appeals to man's reason, its principles are discoverable by reason. Aquinas classifies the principles of the natural law into two categories, namely, the primary principles and the secondary principles. The former are immutable, eternal, self-evident and discoverable by reason. They are known by "synderesis", that is, they are known naturally and spontaneously as soon as one reaches the age of reason, prior to any specific instruction or reflection on them. They are just known "naturally". Other principles are discovered by reflecting on man's natural inclinations; for man, according to Aquinas, has certain natural inclinations towards certain ends intended for him by God. Hence these natural inclinations are indicative of God's intentions for man, and by reflecting on them we shall discover the principles of the natural law because "the order of the precepts of the law of nature follows the order of natural inclinations." Now, man's nature comprises three levels of being, and on each of these levels man has certain natural inclinations.[7] These levels are the universal level, the animal level, and the rational level. On the universal level man shares certain natural inclinations with all the beings in the universe. An example of this is the inclination towards self-preservation; all beings have the natural tendency to preserve themselves in existence. Reflecting on this natural inclination reason discovers that suicide (which is the very negation of this tendency) is morally wrong because it is contrary to this tendency and therefore contrary to God's will for man. From this it also follows that self-defence is morally justified. On the second level, the animal level, man shares animal nature with the animals and has certain natural inclinations in common with the animals. These natural inclinations include the inclination towards sexual activities and the tendency to take tender care of offsprings. Quoting Ulpian, Aquinas says that "natural law is what nature teaches all animals", and by "all animals" both Ulpian and Aquinas mean both the beasts and human beings. In order to know "what nature teaches all animals" in the sexual domain we should observe how the animals make use of sex. In other words, Aquinas thinks that in order to know how nature intends sex to be used we should observe how it is used by the animals since they do not and cannot frustrate the purpose of nature as human beings do. Among the animals sexuality is used exclusively for procreation, for the animals never have sexual relation except when procreation is possible, that is, when the female is ready for pregnancy. They never have sex during pregnancy, nor do animals of the same sex ever indulge in sexual activities together. From all these Aquinas draws the conclusion that sexuality is intended by nature exclusively for procreation. Consequently all sexual activities which deliberately exclude the possibility of procreation are contrary to natural law and therefore morally wrong since they frustrate the very purpose for which sexuality is intended by nature. Hence the use of contraceptives, sex relation during pregnancy, masturbation, homosexuality are all contrary to the natural law and are consequently immoral. These are "sins against nature" (peccata contra natura). If we observe the animals we shall also notice that they take tender care of their offsprings. From this the conclusion also follows that the natural law obliges human beings to take care of their children and educate them. The third level of our being is the rational level, and on this level we have certain inclinations peculiar to our rational nature. These include the tendency to seek the truth, the tendency to

know God, the tendency to live in society with other men. Reflecting on these tendencies reason discovers the natural law precepts which oblige men to speak the truth, to know God, to love God and one's neighbours, to keep one's promise, not to kill, not to steal, not to commit adultery, etc.

The third kind of law, according to Aquinas, is the divine positive law. This is the law that God is believed to have given to mankind through certain individuals to whom he appeared. Since this is in the realm of faith we shall not go into it. The fourth kind of law is human positive law, and it refers to all man-made laws. All such laws, Aquinas says, must be based on the natural law and be derived from it. Any human law that is in conflict with the natural law is ipso facto null and void; it is not a law at all, but a perversion of law. "Any law has the nature of law is so far as it derived from the law of nature. If in any case it is incompatible with the natural law it will not be law, but a perversion of law."[8] No ruler has the right to make laws that are in conflict with the natural law, for such laws would be unjust and immoral. Quoting St. Augustine, Aquinas says: "Augustine said, 'There is no law except it be just'. So the validity of law depends upon its justice. But in human affairs a thing is said to be just when it accords aright with the rule of reason to the extent that they derive from natural law. And if a human law is at variance in any particular point with the natural law, it is no longer legal but a corruption of law."[9] Unjust laws do not deserve to be obeyed since they are really not laws at all but perversions of law. They therefore have no binding force and should not be obeyed "except perhaps in certain special cases when it is a matter of avoiding scandal or some special danger."[10] Any ruler who persists in making unjust laws should be deposed by rebellion. Aquinas thus holds that the people have the right to rebel against a bad ruler and remove him from office. But he adds that if such an act of rebellion is likely to result in a situation that would be worse than that which it is intended to remedy, then it should not be carried out.

What does Aquinas mean by justice? He defines justice as "the firm and constant will to give to each one his due." His concept of justice follows that of Aristotle closely. For example, he follows Aristotle in condemning usury as contrary to natural justice. Aristotle had argued that money is not intended for increase at interest, but simply for exchange. It is therefore "un-natural" and morally wrong to take interest from loan. Aquinas argues that to lend money at high interest amounts to selling it twice and this, he says, is contrary to natural justice. But unfortunately neither Aristotle nor Aquinas saw that slavery was contrary to natural justice. While Aquinas condemned polygamy as contrary to natural law (!) he saw nothing wrong with slavery. In fact he defends slavery as natural, for, according to him, slavery "arises out of natural law."[11]

There is a basic inconsistency in the moral philosophy of St. Thomas Aquinas. His analysis of the phenomenon of moral conscience, the roles of the the intellect and the will in human actions is remarkable. Indeed, it is a fact of moral experience that when there is a conflict between the intellect and the will there is division and disharmony in one's innermost being. When the will is blinded by passion or desires and goes against the guidance of reason one

experiences internal conflict and disturbance of one's conscience. Aquinas rightly gives primacy to reason in morality and sees morality as basically the function of reason. Hence he makes "right reason" the moral standard and maintains that actions that conform to "right reason" are morally right while those that are opposed to it are morally wrong. In fact morality is inseparable from reason since it is precisely because man is a rational being that he is a moral being. To be moral is to be rational and to be rational is to be moral. Credit must also be given to Aquinas for taking into account particular concrete situations in his moral theory. He rightly recognises the fact that the circumstances of the concrete situation in which an action is performed could change the moral nature of the action. Hence Aquinas maintains that before a moral judgement can be passed on any action, that is, before one is in a position to judge the morality of any action, one must consider four things, namely, whether the action was a free/voluntary action, the nature of the action itself, the intention of the doer in performing the action, and the circumstances of the situation in which the action was performed. This insight of Aquinas was lost sight of by his successors who ignored the vital role of concrete situations in morality. Traditional christian ethics degenarated into absolutistic ethics that took no account of concrete situations. It was as a reaction against this that "Situation Ethics" arose, with its emphasis on the situation as the decisive factor in the morality of an action.[12]

Inconsistency begins to appear in Aquinas' moral theory as we go through his doctrine of natural law. He makes a sharp distinction between national and non-rational beings and says that natural law is a "rational participation" in the eternal law, that is, the eternal law as it applies specifically to rational beings. Up to this point reason still predominates and man is still differentiated and characterized by his rationality. But as soon as he goes into the deduction of moral principles from the natural law reason gives way and natural inclinations take over. Here morality is no longer a matter of rationality but a natural inclinations which are alleged to be indicative of God's will (or nature's intention) for man. Moral laws (the principles of the natural law) are conceived as written in man's biological nature and discoverable through reflection on man's natural inclinations. We are told that "the order of the precepts of the law of nature follows the order of natural inclinations."[13] Reason having been deposed from its privileged positions, a new concept of man appears. In this new concept, man is not characterized or differentiated by rationality nor is morality for him basically the function of his reason as we were made to believe earlier on. Rather, in this new concept of man, man is equated with the other animals without distinction. Then follows a new concept of natural law, taken from Ulpiam: "Natural law is what nature teaches all animals". "All animals" here means human beings and the beasts. The rationality which differentiates man from the beasts has been dropped. Aquinas then goes on to think that from the behaviour of the beasts we can infer "what nature teaches all animals" about the correct use of sexuality. And since among the beasts sexuality is used only for procreation, the conclusion follows that both among the beasts and among human beings (since they are all animals) sexuality is intended **exclusively** for procreation. Consequently the use of contra-

ceptives by human beings is morally wrong since it is a deliberate frustration of the very purpose of sexuality as it is intended by nature. It means using artificial means to frustrate nature's purpose and this is immoral.

In view of the fact that even today the morality of contraception is still a controversial issue, and that the Catholic Church — the strongest opponent of contraception — bases her arguments against contraception on the natural law philosophy of St. Thomas Aquinas,[14] it is important to point out the error in this argument of Aquinas. In the first place there is nothing wrong (and Aquinas fails to show **why** it is wrong) in using artificial means to intervene in the natural process of any bodily organism. Modern medicine has made tremendous progress in successfully using such intervention to restore man's endangered health. Secondly (and this is more serious) there is a fundamental error in equating animal nature in the beasts with animal nature in human beings. Animal nature in the beasts is by no means the same as animal nature in human beings. Although it is true that human beings have animal nature as part of human nature, yet animal nature in human beings is not animal nature pure and simple. Hence it would be wrong to define man simply as an animal, since man is much more than an animal. He is a **rational** animal. Animal nature in man is permeated with rationality and is therefore very different from animal nature in the beasts which is devoid of rationality. It is therefore wrong to equate the two as if they were the same thing. Similarly, sexuality among the beast is by no means the same thing as human sexuality. They are two very different things, the former is a simple, purely biological activity while the latter is a complex phenomenon involving biological, psychological, social, rational, and spirirual dimensions. Consequently, to argue from animal sexuality to human sexuality is to involve oneself in the fallacy of equivocation since the term "sexuality" in both cases does not mean exactly the same thing. From the fact that animal sexuality is intended by nature for procreation it by no means follows that human sexuality is also intended by nature **exclusively** for procreation. The purpose of human sexuality or the norm for human sexual behaviour can never be validly infered from the sexual behaviour of the beasts since the two are not the same thing. Aquinas is therefore guilty of the fallacy of equivocation by arguing from animal sexuality to a conclusion in human sexuality (using one word with two different meanings and arguing from one of its meaning to a conclusion in its other meaning). Such a conclusion is invalid and erroneous. He has therefore not demonstrated validly that nature intends human sexuality **exclusively** for procreation. Procreative effect is only one of the many effects (others being psychological effect, social effect, spiritual effect and pleasurable effect) of human sexuality and there is no reason why the procreative effect cannot be excluded from the sexual act or why the act cannot be performed for the sake of the other effects. In other words there is nothing morally wrong with the use of contraceptives.

REFERENCE NOTES

1. Summa Theol. 1a 2ae 94, 2
2. Ibid. 1a 2ae, 94, 4.
3. Quadlibetum 3, 27
4. Summa Theol. 1a 2ae, 91, 1, 2
5. Loc. cit.
6. Loc. cit.
7. Ibid. 1a, 2ae, 94, 2
8. Ibid. 1a, 2ae, 95, 2
9. Loc. cit.
10. Ibid. 2a, 2ae, 104, 6
11. Ibid., Suppl., q.52, art. 1, ad 2 and 3
12. See Joseph Fletcher, **Situation Ethics,** New York, 1966
13. Summa Theol. 1a, 2ae, 94, 2
14. In 1968 Pope Paul VI published his controversial Encyclical, **Humanae Vitae** in which he condemned all methods of "artificial" contraception as morally wrong. The arguments he presented for this view were basically those of St. Thomas Aquinas.

FOUNDATIONS OF WELFARE: A CRITIQUE OF PREFERENCE UTILITARIANISM

BY DR. S. GBADEGESIN

The concept of welfare is often appealed to in discussions of social and political issues.[1] Generally, it is presumed that the promotion of welfare is a good thing. The welfare of oneself, as well as that of others, provides a strong reason for acting in certain ways, or for making certain choices. Institutions are believed to be justifiable if they are adapted toward the promotion of human welfare, or at least, if they do not have a tendency to jeopardize it. But in spite of its predominance in social and political discussions, there is still no concensus of views about what constitutes an adequate criterion of human welfare. It is not so much a question of the meaning of the concept. Not many would deny that welfare means well-being, happiness or good fortune. But since political discussions usually center on what should be done to promote human welfare, such issues are not clarified by simply substituting well-being or happiness for welfare.

One approach to this question, which has enjoyed some predominance in social and political theory is the desire-satisfaction account, according to which welfare consists in the satisfaction of desires. My objective in this paper is to raise a few problems with this account. My discussion here is based on the assumption that an adequate account of welfare should serve as a reasonable basis for persons to make morally justifiable claims on one another, as well as to make individual life-plans that could be justified on both prudential and moral grounds.

To avoid confusion, it is important to draw a distinction between personal and social issues and the type of reasonings applicable to their settlements. Personal preferences or desires may be used to reach a decision about personal issues. An example is choice of career. In this area, the individual is usually considered to be a sovereign. Whether I should go into show business or take up a career in philosophy depends on my preference. Of course, as should be obvious, the issue is sometimes much more complex than this, and success in a particular career requires a lot more than one's desire for it. One of the questions I want to address, ultimately, is about the strength of the connection between individual desires and individual welfare. Preference utilitarians believe that the connection is very tight. In their view, one does not promote a person's welfare (whatever else one may be doing) if one denies that person the satisfaction of his desires. This is an open question. For it seems obvious that not all desires contribute to the promotion of welfare.

Besides this, however, there are other problems. Even if personal preferences or desires or regarded as the main components of welfare, these cannot provide a valid basis for persons to make morally justifiable claims on one another. That X has a desire for A does not, in itself, provide a basis for X to make a morally justifiable claim on anyone to help X realize A. For A may be an imprudent or immoral desire. There is reason then to discriminate between desires. This is not all. For even if individual preferences are bases for settling personal issues, it is

more difficult to take them as adequate bases for settling social issues which arise in context where others have a claim. Their just settlement requires certain objective considerations beyond the intensity of desires of those involved. Subjective preference, as I will argue, are quite inadequate as a basis for settling issues of human welfare in society.

When we conceive welfare of individuals as a function of the satisfaction of desires, we have to face the fact that desires, as such, are unconstrained. They can be for anything under the sun. Some, if satisfied, may actually frustrate, rather than promote the well-being of a person. A person may have an actual preference for what is bad for his welfare. Evidence about preferences, as Braybroke rightly observes, "has at most presumptive claim to being evidence about welfare."[2] In some cases, we find it plausible, and sometimes necessary, to advise the concerned individual, against the satisfaction of his self-regarding desires. We give such advice on the basis of our belief that the desires in question is not in the best interest of the person. The problem is this. If it is true, a preference utilitarians suggest, that there is a conceptual connection between the satisfaction of desires and the promotion of a person's welfare, then there cannot be a case of desire whose satisfaction may actually jeopardize a person's welfare, But this is not only possible; it happens everyday. So can utility theory advise against the satisfaction of such desires? On what grounds?

A true utilitarian, steadfast in the faith, may want to adopt the approach of William James. According to James, any demand however slight, which any creature, however weak, may make, ought for its own sole sake, to be satisfied. As he puts it, "....the essense of good is to satisfy demand. The demand may be for anything under the sun.... all demands as such are prima facie respectable, and the best simply imaginary world would be one in which every demand was gratified as soon as made."[3]

James realizes, however, that this actual world is different, and since not every demand can be satisfied, the guiding principle for ethical philosophy must be simply to satisfy at all times as many demands as we can. A demand for something will be made when one has a desire for that thing. According to James, physical facts as facts cannot be supposed to make demands. "If they do they can only do so by having desires, and then they have ceased to be purely physical facts." So to make a demand for X is to have a desire for X. Replacing "demand" in James' account with "desire", we can arrive at the desire-satisfaction account of utility. And it is therefore interesting to note that James is echoed in some utilitarian accounts of welfare. Sartorious is an example. "The concept of utility," in his view, "is tied directly to the actual needs and desires of individuals as they are experienced by them and revealed in their behaviour"[4]. As Sartorious states it elsewhere, it is the satisfaction of desires chosen by people themselves that have "the sole intrinsic value for the utilitarian."[5]

But the view that every deisre has an intrinsic value is obviously unsatisfactory, not only for settling social issues, but also for pursuing one's own welfare. This is why welfare, considered as implying the well-being of a person, cannot be satisfactorily defined in terms of the satisfaction of any and every desire. So

if the utilitarian position rests on the satisfaction of actual desires (as presently expressed), and there is a case for not equating these with a person's welfare, it would seem to follow that there is no conceptual connection between welfare (as it is commonly conceived outside utility theory) and the satisfaction of desires. In that common conception of welfare, it refers to the well-being, or the good of a person. But the good of a person cannot be conceptually tied to the satisfaction of his/her desires and he/she actually sees them. There is usually that possibility that what a person actually desires may not be in his/her interest.[6]

Perhaps, though, the case against the satisfaction of actual desires, cogent as it is, may not yet provide a solid case against the utilitarian account of welfare. Have we then set up a case against a strawman? Can the desire-satisfaction account provide a satisfactory criterion for delimiting desires such that only certain types will be plausible candidates for welfare?

There are at least two ways for sorting out desires, based on certain criteria of rationality. Rational desires are to be satisfied, irrational desires are to be frustrated. On one criterion, a desire is rational if it is consistent with the full realization of a person's stable preference pattern. Notice though, that there is no suggestion here that a stable preference might itself be irrational. If I am right, this is the version adopted by Sartorious. As he puts it, "although the utilitarian is committed to equating value with utility as revealed in an individual's choice behaviour, the preference patterns revealed are not identical with any particular set of choice, so that an individual's choice in any given instance may consistently be said to fail to represent what he really prefers."[7] This will be the case, for instance, if a person's desires are intransitive. He might claim that he prefers oranges to apples, apples to bananas, but bananas to orange; thus manifesting irrationality of preference.[8] But this is not enough. Taking the stable preference pattern as a given precludes the possibility of asking questions about its conformity with a person's welfare. But sometimes we find it necessary to make decisions to revise even our stable preference patterns in the light of new information and adequate knowledge. This suggests that the relationship between desires which are ational in this case, and welfare, is at best, contingent.

On another criterion, a desire is rational only if it is compatable with the welfare of a person. An individual's stable preference pattern must itself be judged for rationality of this account. Adequate knowledge and full information are not sufficient to guarantee that a desire of rational.[9] For a desire could be rational on the first criterion without contributing to the overall good of the person desiring. To put is simply it makes sense to say, "A desires X, but X is against A's welfare, therefore X is an irrational desire." But if this makes sense, very little is left of the plausibility of the desire-satisfaction account of welfare. For to say this is to start courting a concept of welfare which does not take desires as basic (since the rationality of desires is now to be judged by their compatibility with the welfare of a person). It is to start recognizing the defects of a preference account of welfare. It is to separate the concept of welfare or the good of a person from the concept of desire-satisfaction

II

In certain cases it is not hard to see the need for such separation. Consider the case of an alcoholic who claims to be fully informed about the consequences of satisfying his urge for the next bottle of brandy. He forsees the threat to his health if his desire is satisfied. Yet he want that next bottle, come what may. Shall we say his good health is not an essential component of his welfare? If so, it will be a curious notion of welfare. We find it puzzling that a man in his senses should value the satisfaction of his present desire (for brandy) more than his health. But suppose he does not value his health. Suppose he is satisfied even if he does not survive the last drop of his favourite drink? Still we will not characterize his reasoning as paying attention to his welfare. We might say he is not the type that cares for such things. But since we consider such things important for an adequate notion of welfare, we might want to characterize that desires as irrational, and say that it is not in his best interest to satisfy it.

Now the motion of interest, welfare and the good of a person are intimately connected. It is essential to distinguish between real interests, apparent interests and subjective interests. I shall say that an action or policy X is in a person A's real interests if and only if X promotes A's good. Second, X is in A's apparent interests if and only if X promotes the satisfaction of A's actually desired ends. X is in A's subjective interests if and only if A believes that X promotes A's desired ends.[10] A person can be mistaken about his real interests so that he might favour an action, or desire an end, which is actually contrary to his good. That is the case of the alcoholic. It is true, of course, that in such cases, where the only individual concerned is the person desiring, and where his decision one way or the other affects no one else, it is not the business of anyone to interfere. Defining his interests in terms of his desires already precludes the need to reason with him about his welfare and interest. The only thing, however, is that he cannot then have any moral claim on others to help him realize his imprudent and immoral desires. Neither can others be morally justified in helping him realize the object of his irrational desires. Yet this point is often overlooked.

But if it is true that it would not be proper to 'interfere' against a person on his own account, and that he is justified in having any concerns he happens to have for himself; it is of course equally true that he cannot use that as a basis for making a moral demand on others.

Take the alcoholic's case again. Does he have any moral claim on us to help him? Suppose someone gives him the bottle of brandy, shall we describe that person's action as "morally good" despite the fact that he is enhancing the alcoholic's 'pleasant' experience? Of course, not. If his conception of his own good is his business, moral predicates grounded in the objective considerations of states of affairs are inapplicable to that area. But we normally want to characterize a person's action as morally good if it is directed towards the promotion of other people's welfare. Benevolent actions are of this nature. They cannot be characterized as such if they are usually directed towards the promotion of people's conception of their good, including the imprudent ones. It would then appear that, to accommodate such tendencies, we would need an objective account to welfare

that is not conceptually tied with a person's subjective desires. This is even more obvious when we consider situation in which the welfare of others are involved.

III

In judging the adequacy of social institutions, one has to take into account the distinction so far drawn between a subjective and objective criterion of welfare. We have discussed the problem that might be faced when the welfare of a person is conceived in such a way that it is restricted to his conception of what he wants. Part of the problem, we have seen is that desires and wants are unconstrained. They could be for anything and, if we conceptually link desires to welfare, there will be no room for the claim that a desire might frustrate a person's welfare. What I want to consider now is whether, and to what extent, the rightness of institutions or states of affairs could be justified by their conformity to the intensity of people's desires for them. Just as there are problems with a desire-satisfaction account of individual welfare, so I think an adequate justification of social institutions in terms of welfare considerations, cannot be based simply on the intensity of people's desires for them.

Welfare economists, like utilitarians, especially believe that the aggregation of a personal preferences ought to be the basis of social policies. Thus Professor Arrow makes it "thoroughly clear that the preference systems of individuals that (he regard(s) as basic raw material for the formulation of social choice refer to what Professor Brandt calls "Personal Welfare", not moral principle".[12] The problem that bothers them is how to make interpersonal comparisons of the intensity of preferences when many people are involved and their preferences are to be ordered. This problem arises from the fact that to arrive at a justifiable social choice, there is need to determine the strength of several individuals' desires for different states of affairs.

The reasonaing is clear. Personal welfare is a function of a person's desires. So social welfare should be a function of the intensity of the desires of the several members of the society. But for this to be possible, we must have a satisfactory method for comparing the intensity of desires of different people; and to do this, we need to be able to measure the intensity of desires of different persons for the different states of affairs. Some believe that it is possible to measure intensity of desires by considering what a person will be willing to sacrifice in order to get a particular object of his desire By comparing the value of what A will be willing to get X with the value of what B will be willing to give up to get Y, it is believed that we can arrive at a satisfactory basis for comparing the values of X and Y to the welfare of A and B, respectively.

It seems to me that there is a problem here. If we are to calculate the value of what A and B are willing to give up to get X and Y respectively, we must calculate the value of such thing for each of them. Suppose A is a wealthy businessman. He might be willing to give up millions of dollars just to get the government approval for a gambling house. B is a "poor church rat", but he is prepared to give up his life-savings to block such a deal. He might even be prepared to die for his cause. In each case, there is no objective criterion for measuring the

intensity of the desires of A against B's. We can't use monetary calculations without favouring A over B. What we can say is that the value of what B is willing to give up (his whole savings) is **for him** greater than the value of what A is willing to give up, also relative to A. But to say this is just to say that on B's scale of preference, Y is highest. But so is X on A's scale of preference. We have no ground yet for the judgement that the intensity of B's desires is greater than that of A. But even if we do have a ground for making such judgement, it would be morally inadequate to create or justify social institutions simply by appeal to the intensity of desires, for not all desires are morally legitimate.

IV

It seems obvious that some intensely felt desires may be regarded as morally inadequate because they are detrimental to the good of other members of society. As such they deserve no considerations, however intense they may be. To be sure, in practice, utility theorists may be sensitive to the possibility that some desires may be immoral. However, they are committed to allowing every desire into their calculation to be rejected only if it does not contribute to the maximization of social well-being. There is no other basis for utilitarians to sort our desires. But if social well-being is already defined as the maximization of desire-satisfaction, it becomes clear that, certain institutions like slavery could be legitimized on the ground that the well-being of society would be maximized. For if the desire of potential slave-owners (for slaves) is quite stronger than the desire of potential slaves for freedom; or if the potential slaves could be so conditioned as to derive satisfaction from slaves, then on the desire-satisfaction account of welfare the welfare of both slaves and slave owners would be promoted in a society where slavery is practised. Again, the theory seems to fail such a test of adequacy as this.[13]

On the other hand, if we turn to legitimate desires which do not violate the welfare of others we can also distinguish between them in terms of their relative urgency.[14] It is considered morally praiseworthy to help others satisfy their needs and promote their interests. But that depends very much on what those interests are. As has been remarked earlier, we are not under any moral obligations to help an alcoholic satisfy his interest in brandy, even if that is his conception of his good. On the other hand, we would not hesitate to take a decision to give what we can to a person dying of hunger. Such a decision is often guided by the belief that the latter is truly in need. Our conception of need is not as closely tied with having a bottle of brandy.

An adequate justification for institutions devoted to human welfare cannot be based simply on the intensity of desires for them. It also has to consider the nature and urgency of people's needs. The intensity of preference is an indication of how strongly and individual wants something. It is also important to take account of what role that "something" will play in his life. This is not an easy question to determine. There are hard cases where it is not clear how intensity is closely related to urgency. But there are at least cases where we can see clearly that having an intense desire for something does not really mean that its satisfaction is an urgent need. What can be said is that if a theory of welfare is to have any moral significance, it cannot be based simply on the strength of desires of individuals.

FOOTNOTES

1. This concept is central to the recent accounts of utility as a theory of social choice, and a number of modern utilitarians have urged in its support. Included among these are Rolf E. Sartorious, **Individual Conduct and Social Norms.** (Dickson, California, 1975); Jan Narveson, **Morality and Utility** (Johns Hopkins, Maryland, 1967); John C. Harsanyi, 'Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility, "in **Journal of Political Economy**, 63, (1955), 309-321; and more recently in his "Rule Utilitarianism and Decision Theory," **Erkennthis** II (1977) 25-53. Harsanyi refers to the version of utility theory he is defending as "Preference Utilitarinism".

2. David Braybroke, **Three Tests for Democracy** (Random House, N.Y., 1968), p. 129.

3. "The Moral Philosopher and the Moral Life" in his **Will to Believe and Other Essays** (Longmans, N.Y. 1927), pp. 201-202.

4. Op. Cit., p. 28

5. Op. Cit., p. 152.

6. See Brian Barry, **Political Argument**, pp. 174-186; D.A.J. Richards; A Theory of Reason for Action (New York, O.U.P., 1971), pp.32-37; Mary Gibson, "Rationality" in **Philosophy and Public Affairs**, Vol. 6, No. 3 (Spring, 1977, pp. 193-225.

7. Op. Cit., pp. 28.

8. As Andrew Levine recently observed this requirement that a person's preference be consistent (Transitive) is central to the tradition's conception of rational agency. See his Foundations of Unfreedom" **Ethics**, Vol. 88 No. 2 January 1978, pp. 162-173 esp. pp. 165-169.

9. c.f. Levine, ibid, p. 167. In the tradition, "There are no rational standards against which the content of our ends can be assessed." Such a standard exists, as has been seen, only for the relation of ends (desires) to each other. A person's "true ends" (then) are just those ends he would entertain given full knowledge and adequate reflection." I am sure this way of putting it captures what Harsanyi would also want to say constitutes his "true preferences". But as Levine also adds "knowledge and reflection are often inadequate" and the elimination of "factual and logical errors" does not necessarily guarantee the compatibility of one's system of ends with one's good.

10. cf. Mary Gibson, "Rationality", Op. Cit., p. 222

11. K. J. Arrow, "The Place of Moral Obligation in Preference Systems" in Sydney Hook (ed), **Human Values and Economic Policy** (New York Univ.

Press, 1967), p. 117. Professor Arrow interpretes "moral obligations as the carrying out of agreements which may, however, be implicit," (p. 118).

12. For the view that Interpersonal Utility, Comparison is impossible, see Lionel Robbins, **Essay on the Nature and Significance of Economic Science** (London: Macmillian, & Co., 1932), p. 140. For the opposite view, see Harsanyi; "Can the Maxim Principle serve as a Basic for Morality: A Critique of John Rawl's Theory" in **American Political** Science Review, (Vol. LXIX, No. 2, June 1975), pp. 594-606 esp. pp. 600-601, and Sartorious, **Individual Conduct and Social Norms, pp.** 28-31.

13. For an account of the possibility of this difficulty for Utilitarianism, see M.G. Singer, **Generalization in Ethics** (Atheneum, N.Y., 1961) p. 195; John Rawls, **A Theory of Justice** (Oxford, 1972), p. 167.

14. My discussion here has been influenced by T. M. Scanlon's Preference and Urgency" in **Journal of Philosophy,** Vol. LXXXII, No. 19, No. 1975, pp. 655-689.

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FREGE ON SENSE AND REFERENCE

DR. H. G. CALLAWAY

Frege's distinction between the sense and the reference of linguistic expressions has exerted a powerful and continuing influence of philosophy of language in this century. The distinction, introduced in Frege's "On Sense and Reference," makes its appearance in connection with the attempt to solve several important puzzles concerning identity. Largely on the basis of this paper, Frege is credited with originating the modern conception of linguistic meaning.[1] My objective here is to evaluate Frege's concept of meaning through an examination of the crucial arguments and conclusion of "On Sense and Reference." I will show that Frege's arguments do not force the acceptance of his concept of linguistic sense, while also indicating why many philosophers have sought to avoid the sense/reference distinction.

I

Frege's paper opens with two puzzles concerning identity. First he asks, is identity a relation between objects or a relation between signs of objects? In his earlier work Frege held that a sentence such as **'a=b'** expresses a relation between the two sings **'a'** and **'b'**. Now he rejects this view. If **'a=b'** expresses a relation between the signs, then it could only mean that **'a'** and **'b' name** the same object. This cannot be the correct analysis, Frege argues, because the fact that **'a'** and **'b'** name the same object is the result of purely arbitrary conventions - a result of mere stipulation. This point demonstrates the error of the analysis, because a sentence of the form **'a=b'** may convey "actual knowledge." For example that the morning star = the evening star was an important empirical discovery. This sentence tells us something about the heavens and not merely about the words.

While Frege's conclusion here is correct, it is important to see that his argument is very doubtful. The conclusion is correct simply because a sentence such as 'the morning star = the evening star' is not a claim about linguistic expressions. As Frege emphasizes; this is a claim about a certain observable astronomical object: the planet Venus. Still there is a flaw in Frege's argument which it is crucial to see. The astronomical claim 'the morning star = the evening star' is true just in case a corresponding claim about the names is true. Generally, if **a=b** then **'a'** is a name of **b** and **'b'** is a name of **a**. Likewise, if **'a'** is a name of **'b'** and **'b'** is a name of **a**, then **a=b**. The point is that a sentence which is about the names is demonstrably no more trivial then the corresponding sentence of the form **'a=b'**. Yet, in his argument, Frege assumed that if **'a=b'** is about the names, stating that **'a'** and **'b'** name the same object, it would have to be arbitrary, not expressing "actual knowledge." The mistake comes of thinking that semantic claims regarding the relationship between names and objects named must be trivial because they depend upon linguistic conventions. This assumption is simply false. It overlooks the empirical element in semantic claims. To know that two names have been given to the same object, we must know that it was the same object named twice. But, recognizing that we have the same object again sometimes involves considerable empirical work.[2] Frege's oversight in this argument will prove to be of considerable importance.

Frege's second puzzle concerning identity is the more important of the two and the extensive influence of "On Sense and Reference" is closely connected with the solution Frege offers. This second puzzle depends on the fact that there are two sorts of identity sentences. Those of the form 'a=b' are informative and may represent significant empirical discoveries, those of the form **'a=a'**, on the other hand, are not so informative. Frege remarks that on the Kantian theory sentences of the form **'a=a'** are analytic. The puzzle is how to explain this important difference between the two forms of identity sentence.

Frege argues that we cannot explain the difference between these two forms of sentences unless his distinction between sense (or meaning) and reference is brought into the account. Thus, suppose contrary to Frege's conclusion, that the meaning of a name is just its reference, that is, the object named. Given this assumption, if **'a=b'** is true then **'a'** and **'b'** have the same meaning, since they do do have the same reference. But, if **'a'** and **'b'** have the same meaning, then **'a=b'** must be as trivial as **'a=a'**. This consequence is obviously false, and in order to avoid it, Frege argues that we must distinguish between the reference of a name and its sense or meaning.

According to Frege, the sense of an expression is "grasped by everybody who is sufficiently familiar with the language." The sense contains the "mode of presentation" — the say in which the sign gives us the object.[3] Though having the same object as referent, two signs may still differ in sense, and it is only because of this that a sentence such as 'the morning star = the evening star' conveys "actual knowledge."

Frege is surely correct to insist that sentences of the form **'a=b'** are more informative than are sentences of the form **'a=a'**. Moreover, he is also correct to reject the identification of meaning and referent. In spite of these points, however, Frege's argument from identity is not sufficient to establish the need for his notion of sense or meaning. Many philosophers reject the identification of meaning and reference because they also reject the notion of linquistic meaning — given any traditional understanding of 'meaning'. This is Quine's view for example. He argues that the traditional conception of linguistic meaning — such as Frege's notion of sense — has no place in scientific theory.[4]

I will return to Frege's argument from identity, in order to provide a more definitive evaluation. It is sufficient for the present, however, to see that Frege's argument, though extremely plausible, is not an unquestionable deductive demonstration. Rather, Frege offers an explanation of the difference between the two sorts of identity sentences. He does not show that no alternative explanation is possible, and he does not show that no alternative is preferable. Before returning to consider the argument from identity more closely, it will be worth the effort to see how Frege developed the sense/reference distinction. In order to evaluate Frege's distinction one needs to know a bit more about it.

II

It is a serious mistake, says Frege in **The Foundations of Arithmetic,** to ask after the meaning of a word in isolation. Rather, "it is only in the context of a sentence that a word has a meaning."[5] This dictum was applied both to sense and to reference. Under certain circumstances — in certain sorts of sentences — a word or other expression does not have its customary reference. Frege distinguishes the customary reference of an expression from its "indirect reference." and he equates the indirect reference of an expression with its customary sense. For example, the customary reference of 'the morning star' is the planet Venus, and we are to think of the customary sense as the usual meaning of the expression. A sense or meaning, for Frege, is a special sort of abstract entity, which is "grasped" when the corresponding expression is understood. In certain linguistic context, then, Frege's view is that 'the morning star' takes its indirect reference; it does not refer to the planet Venus, but instead refers to its own customary sense. In addition, Frege's view is that when the reference of an expression is different, under such special circumstances, the expression also take as distinct sense.

These distinctions are employed in Frege's attempt to explain apparent failures of Leibniz' law. Leibniz' law is a logical principle which states that expressions having the same reference may be substituted for each other **salve veritate,** that is, preserving truth, Clearly, if x=y, then whatever is true of x is also true of y and vice versa, since x and y are the very same object. The way in which an object is referred to makes no difference to the truth or falsity of a sentence — this is the rational of Leibniz' law. The following argument illustrates its use.

(1) Venus has a surface temperature in excess of 900°F

(2) Venus = the morning star.

∴ (3) The morning star has a surface temperature in excess of 900°F.

The argument is surely valid. If (1) and (2) are true, then so is (3). Frege's aim is to show that apparent counter-examples to this mode of inference can be explained, without amending the logical principle.

Problems arise in so-called "intensional contexts," for instance, linguistic contexts created by modal verbs 'must', 'can', and verbs of "propositional attitude," such as 'believes', 'knows', 'desires', and other psychological verbs. Consider the following argument:

(1) Smith believes that Venus is a planet.

(2) Venus = the morning star.

∴ (3) Smith believes that the morning star is a planet.

Leibniz' law appear to fail here, for assuming that (1) and (2) are true, (3) may still be false. For example, Smith may not believe premise (2), and may believe instead that the morning star is not a planet but actually a star. But, even if Smith does not believe premise (2), the premise is true, and this is the point,

Leibniz' law appears to fail because the premises (1) and (2) are true while (3) the conclusion is false. How can this be?

The seriousness of this sort of problem is evident in the radical solutions which have been proposed. For example, it might be held that such counter-examples are genuine, but this is just to say that Leibniz' law must be rejected. This is not a proper solution to the problem, for philosophers are justifiably conservative when it comes to altering the accepted principles of logic. But the alternative approaches to the problem may also seem quite radical. Quine takes the view, for instance, that it is "intensional" idioms which cause the problem, and the offending expressions, on his view, need to be banned from serious scientific discourse. If certain expressions are so unclear as to create problems in the application of sound logical principles, then, so much the worse for the cogency of such expressions. Talk of beliefs, desires and other mental states may have some utility in everyday life, on this view, but any serious psychology will have to do without any expressions. Quine argues that if the offending expressions are banned then the problematic counter-examples cannot be formulated.[6]

In contrast to such radical solutions, Frege's approach may have considerable appeal. But, as we shall see shortly, Frege's approach requires an acceptance of the sense/reference distinction. In particular, Frege makes use of his distinction between the customary and the indirect reference of expressions, and the indirect reference of an expression, recall, is its customary sense.

For Frege, there is no genuine failure of Leibniz' law. He maintains that coreferential expressions may be safely submitted for each other, and he further maintains that in the problematic cases, such as the argument cited above the substituted expressions are not genuinely coreferential. We cannot, on Frege's view, substitute 'the morning star' for 'Venus' in the sentence 'Smith believes that

Venus is a planet'. The reason is that in the context created by 'believes', 'Venus' does not have its customary reference, and thus is not coreferential with 'the morning star'. Rather, in this context, 'Venus' has its indirect reference, that is, the word refers to its own customary sense. Because 'Venus' does not refer to Venue in this context, it is a misapplication of Leibniz' law to substitute 'the morning star' — an expression which does refer to Venue.

There is a special ambiguity which affects the word 'Venus' in the case considered, and on Frege's view, this is the source of the problem. If someone argues from the premises 'Smith put his money in a bank' and 'A bank is the side of a river' to the conclusion 'Smith put his money in the side of a river', we will not wonder long at the failure of the argument. Assuming the premises are both true the conclusion still does not follow, because 'bank' does not have the same reference, in this sentence, that it has in the identity sentence 'Venus = the morning star'. In the context created by 'believes', 'Venus' refers to the customary sense of the word. This account of the problem adds to the appeal of the sense/reference distinction, because Frege provides further philosophical work for his

notion of sense or meaning. In spite of this, however, it has often been held that this notion of meaning is not sufficiently clear. One wants to know more about Frege's "senses." In particular, one wants to know what the identity conditions are for sense — how can we tell whether two words or other expressions have the same sense? This crucial question Frege did not answer, and it has proved to be the single most important problem facing the theory of meaning.

Frege also applies the sense/reference distinction to entire sentences. He calls the sense of a sentence a "thought". The German work is 'Gedanke', which is also sometimes translated as 'proposition'. Frege's usage might be more literally captured by a phase such as 'that which is thought', for he is quite emphatic in his claim that these thoughts or propositions are not psychological entities. For Frege, "thoughts" are abstract, objective entities existing independent of mind and language.

Frege assumes, initially, that a thought or proposition exists and is somehow associated with each sentence — either as the sense of the sentence or as its reference. He then argues that the thought cannot be the reference of a sentence, and consequently must be considered the sense of a sentence. Consider the following sentence:

(1) The morning star is a body illuminated by the sun. In accordance with Leibniz' law, we may substitute coreferential expressions, preserving truth. Substituting 'the evening star' for 'the morning star' in (1), the result is (2).

(2) The evening star is a body illuminated by the sun. Now, (2) differs from (1) only by the substitution of coreferential expressions. Therefore, Frege argues, the substitution could have no effect upon the reference of the sentences. If we assume, as Frege does, that a sentence has a reference, then because of the relationship between (1) and (2) they can only have the same reference. Yet (1) and (2) express quite different thought — a person might believe (1) without believing (2). It follows, then, that a thought cannot be considered the reference of a sentence, and Frege concludes that a thought must be considered the sense of a sentence.

Frege holds that the reference of a sentence as its truth-value, and he also conceives of the truth-values as abstract entities: a sentence will either refer to the true or to the false. Although this view seems quite artificial, nonetheless, it is dictated in part by the above argument. Since the reference of a sentence must remain constant under the substitution of coreferential expressions, and by Leibniz' law, truth-value does as well, Frege identifies the reference of a sentence with its truth-value. Further support for Frege's notion of the truth-values as the referents of sentences is derived from his analysis of sentences into functional expressions and object expressions or names.

Given a mathematical formula such as 'x+3=y' the value of y is said to be a function of x. Substituting '2' for 'x', 2 is said to be an argument of the function, and each argument 2, 3, 4 and so on, determines a value of y. For example, if x=2, then y=(2+3)=5. In a similar way, Frege views sentences as being com-

posed of function names and argument names. For example we can think of 'Tom runs' as composed of the predicate '...runs' (the name of a function), and the object name 'Tom'. Other names could equally well fill the blank in '...runs' and each of such names Frege regards as providing an argument of the function. To follow through the mathematical analogy, each argument must determine a value of the function. Obviously, such values are not numbers. Still, like the values of mathematical functions, Frege regards the values of sentential functions as objects — the truth-values. For each argument, the function will determine a value, of which there are two possibilities: the true and the false. Although hesitant over Frege's view of the truth-values as referents of sentences, subsequent philosophy has generally placed a very high value on Frege's analysis of sentences, into function names and argument names.

III

Now, if senses are entities of some sort, as emphasized above, we want to know what is to count as one, and what is to count as more than one. Put in a slightly different fashion, the crucial question for Frege's theory of senses is what is it for two expressions to have the same or different senses? Neither Frege nor the philosophical traiditon which has followed him has provided any adequate answer to this sort of question, and this is the major reason why philosophers such a Quine have sought to avoid employment of Frege's notion of linquistic sense. Lacking a clear account of sameness of meaning, we are quite likely to get into conceptual problems either on the assumption that two expressions have the same sense or on the assumption that they do not Before returning to consider this general problem, however, it will be important to look a bit more closely at Frege's argument from identity. The sense/reference distinction was introduced by means of this argument, and the plausibility of the distinction has often been rested on Frege's solution to the puzzle concerning the two forms of identity sentences.

The argument from identity, as we saw above, offers Frege's sense/reference distinction in explanation of the difference between the two forms of identity, sentences: 'a=a' and 'a=b'. The latter form is more informative, providing "very valuable extensions of our knowledge and cannot always be established a priori."[7] Sentences of the form 'a=a' are, obviously, not so informative. Frege is correct to this point, there is an important difference here that an adequate sematic theory should be able to explain. The problem, then, is how best to account for the difference. Interestingly, Frege cannot say — at the outset — that sentences like 'a=a' and 'a=b' differ in meaning or sense. This is his final view, but he cannot characterize the difference in this way initially without begging the question in favour of the sense/reference distinction. Thus, Frege can only say, initially, that the two forms of sentences differ in their informative value. This much is beyond dispute.

Now to accept Frege's theory of senses involves a very considered able ontological price. To claim that 'a=b' is more informative than 'a=a' because of a difference in sense between the names 'a' and 'b' involves accepting Frege's

ontology of sense. Even if we restrict ourselves to consideration of the senses of proper names, the ontological expense is quite large. First we have, on Frege's view, the sense of a word such as 'Venus'. In addition, as we have seen, in certain linguistic contexts 'Venus' has a distinct sense: when it is used to refer to its customary sense, it takes an "indirect sense." Further, the same word can also be used to refer to its indirect sense, in which case Frege holds that the word takes a third sense. This will be so in iterated intensional contexts such as we see in the following sentence.

Jones believes that Smith believes that Venus is a planet. The sense of 'Venus' in this sentences is distinct from the sense it has in 'Smith believes that Venus is a planet', which is distinct again from the sense it has in 'Venus is a planet'. Since there is no end, in principle, to the complexity of such iterated intensional contexts, it follows that on Frege's view there is no end to the number of distinct senses a single name will have.[8]

The problem, then, is to solve Frege's puzzle in a more economical fashion. In fact, this can be done without the need to introduce the sense/reference distinction at all, in terms of the concept of logical implication.

First, it should be noticed that there are sentences which logically follow from 'a=b' and which do not follow from 'a=a'. Thus, if 'a=b' is true then so is '(∃x)(a=x)' — something is identical with a— '(∃x)(x=b)' — something is identical with b — and '(∃ x)(a=x & x=b)' — something is identical with both a and b. But the latter two sentences do not follow from 'a=a'. Thus, we can understand how 'a=b' is more informative than 'a=a' in terms of the wider logical implications of the former sort of sentence.

Further, similar points arise if we consider the logical implications of the two sorts of sentences taken in conjunction with other sentences. A sentence of the form 'a=b & Fa' logically implies 'Fb', while 'a=a & Fa' does not logically imply 'Fb'. Given Leibniz' law and 'a=b', whatever we know about a, for instance Fa and Rac, we get a further interesting implication concerning b, for instance Fb and Rbc. But given 'a=a' in place of 'a=b' these logical implications are not forthcoming.

Frege identifies the sense of a name with its "mode of presentation," the manner in which a name represents an object. In the argument from identity, his central contention is that we cannot identify the mode of presentation of 'a' with the mode of presentation of 'b'. For if we do so then, 'the cognitive value of 'a=a' becomes essentially equal to that of 'a=b' provided that 'a=b' is true."[9]

What is needed, then, is an alternative conception of "mode of presentation" — one we can make use of in explaining why it is that sentences such as 'a=b' are more informative than are sentences such as 'a=a'. The central requirement Frege lays down is that the mode of presentation of 'a' and of 'b' not be the same simply because 'a=b' is true. Thus, let the mode of presentation of 'a' be a function of all the sentences we accept including 'a' and the mode of pre-

sentation of 'b' be a function of all the sentences we accept including **'b'**. Now, since the two names may be given to the same object without anyone knowing that this is so, (i.e., contrary to Frege '(∃ x)('a' names x & 'b' names x)' may be true without being trivial or obvious), in view of this, it follows that the modes of presentation of 'a' and 'b' are not the same merely because a=b.

Something quite similar to this alternative notion of mode of presentation is implicit in the standard semantics of logical theory. (This, by the way, derives in large part from Frege himself). For instance (1) is a logical truth, while (2) is not.

(1) (Fa & a=b) only if Fb.

(2) (Fa & a=a) only if Fb

The manner in which **'b'** must be interpreted in (1) in order that the antecedent **'Fa & a=b'** turns out true, rules out the negation **'-Fb'**. Thus **'Fb'** is true on any interpretation which renders **'Fa & a=b'** true — (1) is a logical truth. However, there are interpretations of **'b'** which will render the antecedent of (2) **'Fa & a=a'** true but 'Fb' false — that is (2) is not a logical truth. The difference between (1) and (2) has little to do with whether **'a=b'** is actually true. Rather the difference is a function of the different tentative assumptions we make, in trying to decide if the sentences (1) and (2) are logical truths. Given **'a=b'** as a premise (or tentative assumption) the interpretation of **'a'** and **'b'** must be the same. However, given only **'a=a'** as an assumption, the interpretations of **'a'** and **'b'** are allowed to differ. As I have put the point elsewhere, it is not sameness and difference of reference which is crucial to validity but, rather, sameness and difference of purported reference; and this is something which is capable of strict definition.[10]

The conclusion, then, is that Frege's puzzle concerning the two sorts of identity sentences is capable of a solution which does not invoke Frege's ontology of senses. The sense/reference distinction can be avoided, in favour of an account which proceeds in terms of the well-behaved terms of standard referential semantics. This point serves to return consideration to the general problem represented by Frege's semantics of sense and reference — the problem of the identity conditions of senses.

The point is that senses or meanings, like attributes, and unlike sets, lack clear conditions of identity. Frege gives us little help with this problem since he provides few examples of difference expressions having the same meaning, and no examples at all are provided in "On Sense and Reference." The general character of this problem can be illustrated within the confines of Frege's theory, by considering again arguments based on Leidbniz' law. Frege claims to provide a solution to this general sort of problem, as we saw above. However, the problem persists even within Frege's theory. Thus, premise (2) below is the consequence of Frege's use of the sense/reference distinction to explain the apparent failure of Leibniz' law.

(1) John believes that Venus is a planet.

(2) The reference of 'Venus' in (1) = the customary sense of the word 'Venus'.

(3) John believes that the customary sense of the word 'Venus' is planet.

Obviously, sameness (or difference) of essence remains problematic. Given (1) as an assumption, (3) is a consequence of Frege's semantics of sense and reference. The problem is that (3) appears to be false or nonsense. More generally, problems associated with identity or meaning continue to haunt Frege's theory. In view of this fact, and the possibility of avoiding the sense/reference distinction, as urged above, in providing a solution to Frege's puzzles, I conclude that Frege's notion of sense is best dispensed with entirely. The problem has always been the difficulty of imagining how we can do without the sense/reference distinction. Once this begins to become clear, then there is every reason to turn away from the traditional notion of meaning and look for substitutes.

N O T E S

1. Cf. W.V. Quine, **From a Logical Point of View**, Cambridge: Harvard University Press, 1953, pp. 9, 21, and 130.
2. H.G. Callaway, "Sense, Reference and Purported Reference, "**Logique et Analyse**, No. 97, Mars, 1982, pp. 93–103.
3. G. Frege, "On Sense and Reference," translated in P. Geach and M. Black, **Philosophical Writings**, Oxford: Blackwell, 1952, p. 57.
4. For instance, in **Word and Object**, Cambridge: MIT Press, 1960, Quine says "The very question of conditions of identity of propositions presents not so much an unsolved problem as a mistaken ideal". See p. 206 and Sec. 42. More recently Quine has been somewhat less emphatic, though his skepticism concerning the theory of meaning remains. "Meaning, like thought and belief," he says, "is a worthy object of philosophical and scientific clarification and analysis, and like them it is ill suited for use as an instrument of philosophical and scientific clarification and analysis." See "Responses" in W.V. Quine, **Theories and Things**, Cambridge: Harvard University Press, 1981, p. 185.
5. G. Frege, **The Foundations of Arithmetic**, translated by J. L. Austin, Oxford: Blackwell and Mott, 1950, p. x, and Sec. 60.
6. Thus, **Word and Object**, p. 221: "If we are limning the true and ultimate structure of reality, the canonical scheme for us is the austere scheme that knows no quotation but direct quotation and no propositional attitudes but only the physical constitution and behaviour of organis "
7. G. Frege, "On Sense and Reference," p. 56.
8. This point is due to L. Linsky, see **Referring**, New York: Humanities Press, 1967, p. 46.
9. G. Frege, "On Sense and Reference," p. 57.
10. See my related argument in "Sense, Reference and Purported Reference," pp. 96–100.

ARE UNIVERSAL STATEMENTS FALSIFIABLE? A CRITIQUE OF POPPER'S FASIFIABILITY CRITERION

— L. KEITA

Discussions on the problem of induction constitute vintage philosophy. Philosophers have written extensively on the problem of establishing universal or general statements from a finite number of singular statements. The problem derives in part from the fact that many philosophers have attempted to solve the problem of truth by holding up as a paradigm the formal truths of deductive logic. Consequently, statements formulated on the basis of inductive inference were seen as possessing less than an adequate amount of cognitive content. Some scientifically-minded philosophers (Hans Reichenbach, for example) have taken a more pragmatic approach to the issue, in arguing that although inductive inference cannot be justified on logical grounds, it is nonetheless the best available methodology for research in the empirical sciences.[1] The justification of inductive inference derives from the thesis that predictive statements about the future can be supported on the grounds of probability estimates.[2]

One radical approach to the problem has been suggested by Karl Popper. Popper argues that the problem of induction is in principle insur-mountable and that its solution is to be found in a new conceptual approach: it is logical impossible to verify scientific hypotheses by means on inductive inference; but the formulating of hypothesis on the basis of their falsifiability is an epistemically defensible alternative. According to Popper, the falsifiability criterion offered a way out of the impasse to which the theory of scientific explanation had come. Popper's methodology of scientific research, with its emphasis on (a) the falsifiability potential of theories in place of verification, and (b) the corroboration of sternly tested theories instead of their validation based on inductive inference, is held up not only as a normative guide for scientific research but also as descriptive of the actual processes of research and discovery in empirical science as its best moments.

Popper's central ideas have been expressed in his classic text, **The Logic of Scientific Discovery**[3], and later embellished in **Conjectures and Refutations**[4] and and **Objective Knowledge.**[5] There has been much comment on Popper's philosophy of scientific methodology. Those critical of this approach include Kuhn, Harre, Stegmuller and O'Hear. Kuhn, for example, argues, implicitly in support of inductive inference, that verification procedures do play a role in scientific progress. More importantly, there is the assertion that "if only severe failure to fit justifies theory rejection, then the Popperians will require some criterion of "improbability" or of "degree of falsification."[6] This is a position against which Popper has strongly argued. Further differences with Kuhn are exemplified by Popper's claims that scientific research pursued from the standpoint of a psychology of testing theories according to their falsifiability potential sets up the conditions of creativity and progress in science, Kuhn, more a student of

the history of science than methodologist of scientific procedure, would contend that extraordinary or revolutionary science is rare in the history of science and that paradigm conservation and normal science puzzle-solving constitute the major aspects of the scientific enterprise.[7]

From an actual study of the way in which scientific research is conducted, it appears that Kuhn's thesis is more plausible. Within the scientific community, the dissemination of research findings is carried out by way of journals, etc. The acceptance of new thesis is determined by whether it could be successfully confirmed by the replication of the experimental data given for the particular thesis. The methodology suggested here is rather one of confirmation than of falsification. And even the researcher who has managed to formulate an explanation for some problem is not so much concerned to falsify existing hypotheses, as is interested in confirming the new hypothesis. This is the case even when the new hypothesis is a "bold conjecture."

A similar unwillingness to accept the thesis that the foremost aim of researchers in science is to falsify theories is demonstrated by Wolfgang Stegmuller. Stegmuller writes: "Thus given the choice between the alternatives presented by Popper and Kuhn, we will opt for Kuhn's[8] and

> The reason that Popper's conception fits poorly with historical fact can perhaps be most succintly described as follows: no physicist seems ever to have let himself in for the risk of falsification which would result from explicitly defining a property necessary and sufficient for membership in I. To hold this against the physicist is, seen from Kuhn's angle, to espouse an exaggerated rather than a sensible rationalism.[9]

Note too the questions raised by O'Hear as to whether Popper's epistemology does not lead to an unacceptable skepticism.[10] It is difficult for O'Hear to accept the thesis that there can be no basis for proposition that are descriptively true, based on the idea of "a measure of continued stability in the world...." (O'Hear, p.123) On this basis, Popper's epistemology of science, with its emphasis on corroboration, growth and increasing approximation of the truth (verisimilitude) cannot avoid making some commitment to inductive procedures.[11] A similar argument is proposed by Salmon who argues that Popper's idea of theory corroboration entails reference to inductive procedures. Popper's problematic defense of theory corroboration claims no compatibility with inductive procedures yet forms the basis for selecting the best theory from a set of competing theories. This leads Salmon to state that "we can still legitimately wonder whether Popper's epistemology is as far from traditional inductivism as he would have us believe."[12]

Witness also Harre's critique of Popper's discounting of general existential statements and particular probability statements as genuine scientific propositions.[13] According to Harre', existential statements are important in the general structure of scientific theories, hence no genuine scientific theory could stand up without recourse to them. In fact, Harre offers support for his thesis by pointing out that although Popper's methodology relies on particular evidential statements

as confirming support for theories, it does not accept the logical consequence of this, that is, general existential statements.[14]

While the above-mentioned authors have been somewhat critical of Popper's methodology of scientific analysis, Lakatos' appraisal of Popper, though also critical, is more concerned with developing the existing Popperian school of thought. Lakatos is concerned to develop Popper's theory of "methodological falsificationism" with its emphasis on the testability of particular theories into the theory of "sophisticated falsificationism" which entails the idea of a "research program" consisting of a set of interrelated theories. This revision of Popper's thesis of theory falsifiability, no doubt, helps to render it more compatible with actual scientific practice. Popper's normative model of "Boldness in conjectures on the one hand and austerity in refutations on the other....." is seen to contrast with Lakatos's view that "Popper's criterion ignores the remarkable tenacity of scientific theories. Scientists have thick skins. They do not abandon a theory merely because facts contradict it."[15]

II

In this paper it will be argued that one of the key foundations of Popper's methodology of scientific research, that is the falsifiability criterion, is open to serious questioning on logical grounds mainly. It will be argued that the idea of inductive inference, the critique of which serves as the basis for Popper's epistemology, is a necessary assumption even for operations in deductive reasoning. This point is not without interest since deductive inference is at the core of the arguments to which Popper appeals in order to support the falsifiability criterion. It will be shown too that Popper's world 3, "the world of **objective contents of thought,** especially of scientific and poetic thoughts and of works of art." (Popper, **Objective Knowledge,** p. 106) would function only if assumptions about inductive inference were made.

Given that the basis of Popper's falsifiability criterion is founded on the thesis that universal laws are epistemologically dubious on account of the problem of inductive inference, a short discussion of scientific law will attempt to show that the idea of scientific law as understood by the researcher is at variance with that formulated by Popper. The problem of induction derives from the assumption that universal laws are unrestricted in temporal and physical scope. But in actual scientific practice, laws are propositions descriptive of the behaviour and characteristics of particular phenomena subject to the constraints and experimental boundary conditions specified by the theories in which they appear. In other words, scientific laws are theory bound statements rather than unrestricted universals.

Popper's point of departure in his classical text **The Logic of Scientific Discovery** is that there is no logical justification for making the inference from any number of singular statements (describing events) to universal statements. According to Popper any attempt to justify inductive inference (which includes discussions about probable inference, etc.) leads to an infinite regress or apriorism. Consequently, universal statements are not genuine statements at all since they are unverifiable.[16]

Since theories may be viewed as being maximally dependent on universal statements, it follows that "theories are, therefore, never empirically verifiable." (Popper, p. 40). Popper then makes the important suggestion that proper scientific procedure requires that the falsification rather than the verification of theories ought to be the research goal of the scientist. According to Popper, this distinction is an asymmetrical one: it is argued that while universal statements are not derivable from singular statements, they may be refuted by singular statements. This refutation is effected by means of deductive inference, specifically the use of **modus tollens** of propositional logic. Popper goes on to make the assertion that the natural laws of science have the structure of universal statements, which though not verifiable, are, on the other hand, falsifiable.[17]

But if, according to Popper, "there is no such thing as induction," and hence "inference to theories, from singular statements which are "verified by experience" (whatever that may mean), is logically inadmissible;"[17] then it is reasonable to develop a methodology whose effectiveness depends on the verification of such statements. To assert that some scientific law L, derived by deductive inference from a finite set of singular statements, is logically inadmissible is tantamount to stating that L is false. Thus the truth status of any theory which contains L as one of its constituent propositions is thereby rendered untenable. Is Popper's falsifiability criterion founded then on the falsification of false theories?

The point being made is strengthened further by an analysis of Popper's application of the rule of **modus tollens** of propositional logic to universal propositions. According to Popper the conclusion p from some theory and its initial conditions t may be represented as $t \rightarrow p$. If p is assumed false, i.e., -p, then the conjunction of $(t \rightarrow p)$ and $\sim p$ yields $\sim t$, i.e., the falsification of t. Thus by means of this mode of inference we falsify the **whole system** (the theory as well as the initial conditions) which was required for the deduction of the statement p, i.e., of the falsifying statement."[18]

But this formulation of the rule of **modus tollens** raises questions, given that Popper's point of departure is a critique of **universal** statements. Popper will, one recalls, that **universal statements** are not genuine statements, hence cannot be logically justified. Yet they may be falsified. One might assume, therefore, that $/(t \rightarrow p).\sim p/ \rightarrow \sim t$ represents the falsification of a universal statement. This formulation is somewhat probelmatic since universal statements properly formulated as (x) (Fx → Gx), equivalent to (Fa → Ga). (Fb → Gb). ... (Fn → Gn). The assumption of -Ga would yield -Fa, thereby falsifying (x) (Fx → Gx) falsified. But (x) Fx → Gx) could not have been falsified in the first place if -(Fa. -Ga) -(Fb. -Gb), etc. were not the case. Yet Popper argues that the falsifying rule of **modus tollens** requires the falsification of the universal proposition and the falsification of one of its instantiations. In other words: /(x) (Fx → Gx). -Ga /→ +Fa. But as was noted above, this proposition is a contradiction. Assume with Popper that universal statements are not genuine statements, i.e. (x)(Fx→Gx) is not logically derivable from (Fa→Ga). (Gb→Gb) ...(Fn→Gn). On this account, Fz. -Gz).

does not falsify (x) Fx Gx) since the latter could not have been genuinely formulated in the first place.

It seems, therefore, there are no good grounds for the formulation of universal statements except by convention. Thus despite Popper's thesis that the formulation of universal statements involves some kind of a patrotism or an infinite regress, the justification offered for this usage is defensible mainly on those grounds. Consider the following:

> In any case, the question whether the laws of science are strictly or numerically universal cannot be settled by argument. It is one of those questions which can be settled only by an **agreement** or a convention. And, in view of the methodological situation just referred to, I consider it both useful and fruitful to regard natural laws as synthetic and strictly universal statements ('all statements.')[19]

Popper's conventionalist approach to the problem of the formulation of universal statements can be questioned on the same grounds that he invokes to criticize previous attempts to justify inductive inference. Witness for example Popper's critique of Kant's attempt to justify inductive inference.

> Kant tried to force his way out of this difficulty by taking the principle of induction (which he formulated as the 'principle of universal causation') to be a priori valid.' But I do not think that his ingenious attempt to provide an **a priori** justification for synthetic statements was successful.[20]

It seems that there is not much methodological difference between Kant's justification of universal laws by appeal to the metaphysical principle of universal causation. How else could the convention to regard universal laws as genuine statements be justified except by appeal to some metaphysical principle such as the "uniformity of nature" or "universal causation?"

But the decision to regard natural laws as genuine statements on conventionalist grounds is extremely important for Popper's thesis since the principle of falsifiability is operative only with the assumption that universal statements be justifiably formulated. Otherwise universal laws would have to yield place to a finite conjunctions of a singular statements evaluated according to probability estimates.

It is instructive at this point though to determine what impact the above discussion could have on the actual research procedures of the scientist. When the scientific researcher is about to test an hypothesis that has already been subjected to experiment, some predictive judgment is made as to what the likely outcome of the experiment might be. No probability judgments are made in those cases where there have not been previous exceptions to a particular occurrence. In the researcher's scheme of thought, it would appear that laws are regarded as statements descriptive of properties of phenomena under consideration. I will elaborate on this point later. However, if one regards laws as a set of repeatable singular events, then their formulation as universal statements is logically inadmissible. This is Popper's argument. But as was argued above, if it

is not possible to formulate universal statements on the basis of empirical observation, then they cannot in reality be falsified. Popper's defense of the falsifiability of universal statements springs, however, from the questionable decision to formulate universal statements on the basis of "an agreement or a convention."

As suggested above, researchers in science do not refer to science laws as universal statements, nor are they formulated as such. Apparently, therefore, there is a difference in emphasis between Popper's methodology of scientific research and the actual procedures of practising scientists. The one derives from Hume's concerns about inductive inference, the other is based mainly on drawing conclusions from statements (laws) descriptive of the properties of phenomena confined to controlled experimental conditions.

There are, however, some areas of scientific research in which laws established by the enumeration of particular events play central roles in predictive theories. One refers to the application of statistical inference to areas of social science research such as econometrics, economic history, etc. Similar statistical procedures are applied to other scientific areas such as genetics and statistical mechanics). The inductive statistical method of scientific explanation, popularized by Hempel and others, captures the essence of statistical inference in these areas of scientific research.

But, it can be argued that theories structured on laws which are established by statistical enumeration are incomplete. For statistical laws differ fundamentally from genuine scientific laws in that it is not possible to derive a genuine scientific law from a statistical law by revising probability estimates. It is a mistake to regard general scientific laws as statistical laws which predict events with the probability of one. Statistical laws would appear to state **correlations** between events rather than to describe the **properties** of phenomena as in the case of general laws. For example, the probability of some individual contracting lung cancer, given certain background data about his smoking habits, is founded on correlations between sets of phenomena rather than on an explanation of why the individual will or will not contract lung cancer.

One must, therefore, come to terms with the scientist's appeal to exceptionless general statements for prediction and explanation purposes. Consider the first law of thermodynamics ($\Delta U = q + w$) which states that the total energy of a closed system is constant. Researchers in thermodynamics do not admit of any exceptions to this general law. But according to critics of inductive inference, such a law could not really be justified. It can be argued though that in most areas of modern natural science general statements are justifiably employed when confined to experiments performed under controlled conditions and to closed systems. Thus, empirical observations may be generalized if repeatable under identical conditions. If, for example, a general relationship is observed to hold between two sets of phenomena S and P over a set of experimental conditions then it follows logically that whenever those conditions are re-established that the general relationship between S and P should hold. One makes the assumptions that calculations and measurements were accurately carried out during the initial experimental conditions and that they will be accurately carried out in subsequent testings.

An immediate reply to the above thesis is that it rests on the problematic assumption of the uniformity of nature. In fact, the critique of inductive inference is founded to a large extent, on arguments raised against the assumption of the uniformity of nature as a basis for making scientific inferences. But it was pointed out that the experimental conditions necessary for the establishing of general statements be identical in all cases. In this regard, the problem of the uniformity of nature does not arise. New results from identical experimental conditions occur, for the most part, when researchers have made more accurate observations because of improved research techniques, etc.

On the other hand, Popper's falsifiability criterion applies mainly to those areas in which theories confirmed within given boundary conditions are extrapolated outside these conditions with the result that the theories in question are not confirmed. But the fact that a given theory is not confirmed for new, though already confirmed for old boundary conditions, is not sufficient to falsify the theory completely. In fact, Popper concedes this point. Witness, for example, the following:

> Thus I pointed out that Newton's theory contradicts both Kepler's and Galileo's **theories — although it explains them,** owing to the fact that it contains them as approximations, and similarly Eintein's theory contradicts Newton's which it likewise explains, and contains as an approximation.[21]

It is instructive to note that Popper is not willing to argue that Newton's theory is definitely falsified; it is rather a lesser approximation of the facts than Einsteinian theory.[22] But this methodological approach to the evaluation of scientific theories would seem to be at variance with the view that since the successful formulation of Einstein's theory, Newtonian theory is properly viewed as " 'mere' hypothesis". Yet Newtonian theory continues to be greatly successful in its application to modern engineering technology. Although one could argue that Newtonian theory has been validated (with respect to Einsteinian theory) for a set of well-defined and boundary conditions, it cannot be claimed that it has been definitively falsified because of its inductive limitations.

A quick glance at the history of science demonstrates that as a rule eventually unsuccessful theories are rendered inadequate when confronted with new and anomalous data. But as was suggested above, not all unsuccessful theories have been definitely falsified. Some theories have been totally discredited while others are considered viable within particular experimental contexts. Consider, for example, the definitive falsification of the phlogiston theory in chemistry and the Ptolemaic theory in astronomy. On the other hand Bohr's atomic theory, though now rendered inadequate by later developments in quantum theory, is still considered useful in predicting the energy levels of hydrogen-like atoms. The same could be said for Newtonian mechanics in the light of Einstein's formulations. One curious phenomenon though: there has been a notable recent attempt to reconsider Lamarchian theory in biology with respect to a more successful Darwinian revolutional theory.[23] It is clear from the above discussion that the ascription of varying degrees of falsification

to disconfirmed scientific theories entails consideration of the idea of context-bound universal propositions or theories.

Popper's falsifiability criterion depends a great deal on the purported intractability of the problem of induction. However, this problem lessens in importance if one assumes that genuine scientific theories are context-bound. That is, those portions of the world that they purported to describe are circumscribed by given temporal and physical constraints. The problems of verification and falsification assume importance only when the researcher attempts to extend the scope of already confirmed theories beyond already recognized experimentally defined parameters.

At this point of the discussion, the following observations should be made. If one rejects inductive inference as a proper tool of scientific methodology (i.e., one rejects the possibility of formulating universal statements from a finite set of empirical data) then it is not logically possible that universal statements be falsifiable. On the other hand confirmable universal statements may be formulated for context-bound scientific theories. If one accepts the thesis of context bound scientific theories, then Popper's claim that verification and falsification are asymmetrical procedures would seem questionable. Theories are indeed variflable within the context of well-defined experimental parameters, and are also potentially falsifiable for experimental parameters that go beyond already well-established boundaries.

It is a general custom in classical and contemporary epistemology that deductive inference differs fundamentally from inductive inference in that correct conclusions drawn from deductive inference are acceptable with absolute certitude whereas conclusions drawn from inductive inference are probable at best. This thesis is at the heart of Popper's critique of inductive inference. In fact Popper appeals to the rule of **modus tollens** from deductive logic in order to demonstrate the workability of the falsifiability criterion for empirical science.[24]

But if one makes the assumption that the theories and rules of deductive inference are human inventions and that memory and other neurological processes are crucial for the correct implementation of these theories and rules, then it is evident that there must be grounds for the belief that these theories and rules are correctly applied when claims are made in this regard. These grounds cannot be deductively derived since the activities of the human mind are involved in inductive inference.

In this context, memory plays a very important role. Clearly, to apply the rule of **modus tollens,** it is necessary that the rule be first recalled from memory. But the fact that the researcher's memory has served him well at time t_1 offers no guarantee that it will serve him (or anyone else for that matter) at time t_2. To apply confidently the rule of **modus tollens** in the falsification of an universal hypothesis is to make the kind of inductive inference that Popper considers unwarranted. Paradoxically, this is the basis for Popper's formulation of the falsifiability criterion as a methodologically sound alternative to inductive inference. There is more than the hint of contradiction here. Let "I" stand for inductive inference and "F" stand for the falsifiability criterion. Popper rejects

"I" and offers "F" as a sound alternative. But there is an appeal to "I" in order to establish "F".

An imaginary critic would raise immediate questions about the appeal to psychological processes to answer questions about logical inference. It is indeed a fact that the validity of logical inferences is independent of the questions that one may ask concerning the psychological processes that prompt such inferences. But psychological assumption about the **reliability** of the human memory must be made whenever the scientific researcher makes logical inferences based on rules, the appeal to which are grounded in memory. In other words, if one assumes that **modus tollens** is a valid rule of logical inference there must be criteria by which one could determine whether the rule is being correctly applied or not. This question, though independent of the validity of the rule itself, is pertinent in determining when the rule is validly applied. To answer this question, one must necessarily appeal, to Popper's ontological scheme which consists of three worlds. According to Popper, World 1 consist of the physical universe; World 2 encompasses "mental states, including states of consciousness and psychological dispositions and unconscious state." Obviously, Worlds 1 and 2 represent the familiar dualistic universe. But Popper introduces the ideal of World 3 as "the world of the products of the human mind, such as stories, explanatory myths, tools, scientific theories (whether true or false), scientific problems, social institutions, and work of art. World 3 objects are of our own making, although they are not always the result of planned production by individual men."[25]

But it is World 3 that imposes structure, coherence and understanding on Worlds 1 and 2. Hence, theories of logic, founded on ideas that must be recalled from memory belong to Popper's World 3. Given the highly artificial nature of World 3, in the sense of the sheer complexity and magnitude of neutral firings that must take place for the creation of its contents, it is quite probable that lapses in thought, whether in the form of faulty memory recall, or erroneous conceptualizations, would often take place. The decision apply the rule of **modus tollens** as a methodological tool in the process of testing scientific theories demands assumptions about the reliability of memory recall, and concepts already learned.

In short, any appeal to the falsifiability criterion as a method of testing scientific theories requires at the same time appeal to inductive inference. And even if memory recall necessary for some deductive inference is not faulty there is no proof that a given system based on rules of deductive inference may not be subject to later revision. Recall the revised status of plane geometry since the advent of non-Euclidean geometry. Thus any intellectual process (like logical inference) that requires appeal to the complex processes of Popper's World 3 entails the usage of inductive inference. But this is exactly what Popper's methodology of research tries to avoid.

Thus it can be shown that Popper's attempt to reject inductive inference as the methodology whereby universal laws are established incurs a second serious flaw. It was suggested above that a logical error is evident in the assertion

that universal statements are not genuine statements yet they would be falsifiable. It is not argued that the falsifiability criterion, in an apparent contradiction, must rely on inductive procedures for its implementation.

From the above discussions, it is clear that the core of Popper's scientific program rests on the status of scientific law. The reason for this is that the problem of inductive inference and Popper's attempt to resolve it by way of the falsifiability criterion derive from questions concerning how scientific laws are established. Much importance is assigned to the problem of the status of scientific law in the philosophy of science because the formulation and success of scientific theories depends maximally on the role played by their laws. The literature on the topic of scientific law is copious, some authors regard laws as universal statements of unrestricted scope, others regard them as inference rules, and so on. I do not propose to say much about the nature of science law in this paper except to suggest that if it can be shown that the essential feature of scientific laws is not their unrestricted universality then the problem of induction would seem to be quite irrelevant to the pursuit of science. From a practical point of view this is indeed the case. Researchers in science seem to be very minimally concern with the problem of induction and may be somewhat puzzled by the importance ascribed to it in discussions in the philosophy of science.

IV

A study of the actual formulation of science law in the literature of scientific research reveals that laws are not expressed as universals statements (statements of the form all S is P) but rather in the symbolic language of equations and proportionalities. It is fairly standard practice though in the philosophy of science to formulate scientific laws as universal statements of unrestricted scope. But to express complex mathematical relations between phenomena and processes as universal statements may seem somewhat simplistic.[26] It would appear that it is this simplistic formulation of scientific laws emphasizing their universality that offers the basis for the critique of inductive inference.

Consider Henry's law, an important law in the theory of Phase Equilibria: "At a fixed temperature the amount of gas dissolved in a given quantity of solvent is proportioned to the partial pressure of the gas above the solution". This is expressible as $P_2 = X_2 K_2$, where K_2 is Henry's law constant. According to the standard formulation in the philosophy of science we would construct some universal proposition reducible to some variant as ALL S is P. The point emphasized by this formula is the essential universality of laws. Laws, therefore, are unrestricted in temporal and physical scope, and support counterfactual conditionals.

Given that one of the aims of empirical science is to construct theories founded on predictive laws it is understandable that statements descriptive of regular properties and process of phenomena play an important role in theory formulation.[28] Thus laws describe processes characteristics of regular hence predictable behaviour of the members of a class of phenomena: gases.

But it must be recognized that the class of gases to which Henry's l applies is finite class containing only those gases which have been subjected experimental analysis. Thus if Henry's law may be expressed by the formula A S is P, it is clear that the universality suggested here is restricted in scope t finite universe of discourse. This restricted universe is further limited to a wel defined set of experimental conditions such as temperature and pressure. B the restricted scope of Henry's law may be summed up by pointing out th it is confined to the theory of Phase Equilibria: it is not unconnected to a par cular body of knowledge as is suggested by the formulation ALL S is

Similar restrictions apply to the temporal scope of scientific laws. It assumed that the temporal sequence of events described by Henry's law, for exam ple, is repeatable only because the experimental conditions relevant to the theo of Phase Equilibria are themselves repeatable. The supposed unrestricted scop in time characteristic of laws gives way, therefore, to the restrictedness of th experimental conditions. There appears to be a logical deducible justification fo the point made. If in times T_1 to T_{n-1} experimental conditions. A relevant to law B yield results C, then it is correctly inferred that for time T_n that A and B would yield C.

It could be argued, however, that a principle of a uniformity of nature mu be assumed if predictions of laws and theories are to be confidently made. It on this point that discussions on the problem of induction derive some justi cation. Before discussion of this issue, it is instructive to reformulate the proble in the light of the above discussion. It has been argued that the supposed indu tive leap from a proposition describing information concerning a finite set o processes of phenomena to a proposition of universal scope is not an accura portrayal of the way in which researchers use past experimental data to mak predictions about the future. It has been pointed out that laws are universa restricted to a particular universe of discourse determined by experimenta conditions relevant to a particular theory. A repetition of experimental cond tions for the purpose of prediction explains the temporal regularity ascribed laws. Thus we see that the so-called inductive leap from a finite set of da to an unrestricted class — the basis of the critique of inductive inference — is no really relevant to scientific practice.

But how does the above reformulation deal with the question of new flouting a well established law? Such a situation is possible in the case of change in nature. Some law L successfully operative for some spatio-tempo region R_o is now shown to be unsuccessful since R_o has been qualitatively tra formed to R_1. It is also possible that a well-established law L comes up aga new phenomena relevant to some of the elements of the class described by but not all. Again, assume that L, successful for R_o, now appears compro for $R_o + \quad R_o$.

Situations concerning the first case are not unknown to researchers in For instance, biologists have often been confronted with flora and changes in nature, but their ready response to the new experimental data simply to establish new laws and theirs to accommodate the novel pheno- No doubt, ornithologists would be somewhat surprised that the proposition swans are white" once considered true, but later regarded as false consti- a major debating point for philosophers".

But, it is also a fact that researchers are also able to deliberately vary experimental conditions for well tried experimental laws. Consider Raoult's law, the theory of Phase Equilibria: "The mole fraction of a component in a (consisting of two gases) is equal to its pressure fraction in the vapour." law may be written as $P_i = P_i^o X_i$, where P_i^o is the vapour pressure of pure liquid, and X_i is the mole fraction of the component in the solution. fact that Raoult's law does not accurately describe ideal liquid mixtures empirically observed in deviations are not uncommon.[29] Yet the extent of deviation from Raoult's law could be determined by the extent of dissimilarity between the species in the solution under analysis. Thus, the researcher is capable of designing experiments in which deviations from a known law are detected.

The point of the above discussion is to show that the spirit of modern science demands that the researcher be willing to confront nature with well-established theories at any time and to make revisions concerning the scope of well-established laws should new experimental data be sufficiently confirming.

The second possibility mentioned concerning the way in which science gains new knowledge is that of some well established law at loss to explain phenomena pertinent to it, but beyond its accustomed scope. It is useful to note that the language of science describes phenomena in terms of intrinsic and extrinsic properties. For example, the behaviour of all known gases approximates the general gas law: $PV = nRT$. This and other properties of known gases have been determined experimentally. Consider a newly discovered gas-like phenomena, G, that does not obey $PV = nRT$ but $PV = \frac{nRT}{2}$. The important research question at hand would be to determine whether G differed sufficiently in terms of intrinsic properties from other gases to warrant a novel classification. In other words, is G a member of a heretofore undiscovered new class of phenomena whose members differ intrinsically from those of the class of the set of known gases? Or can G be adequately explained in terms of the well-known kinetic theory of gases? It is instructive at this point to reiterate the view that laws are general statements operative only within the context of some explanatory theory. It is the explanation of G within some theory T that will determine whether the intrinsic properties of G warrant inclusion in the class of gases discussed within the kinetic Theory of Gases.

Yet the possibilities discussed above are not unknown to research in science. Consider the debates in contemporary paleo-anthropology as to whether a particular fossil find should be classified as hominid or otherwise. Consider too the classi- ary problem in zoology as to whether Protozoa should be placed in the

kingdom Protista or in the Kingdom Animalia. The issue would be settled only with more empirical research.

Philosophers of science sometimes point to universal statements such as "All swans are white" as an example of the kind of statement about which philosophers of science raise questions concerning inductive inference. It is argued that despite the fact that all previously observed swans are white there are no sufficient grounds to justify the inductive leap to the proposition, "All swans are white". Proof of this claim is hard from the fact that black swans were subsequently discovered.

But note that in actual scientific practice, laws are posited within the context of theories. The researcher approaches his subject not with a psychology of falsification but a recognition of the limitations of predictive explanatory and willingness to subject every new hypothesis to test. In fact, the impressive record of scientific research in recent times signifies that research at its best adheres to this methodology.

This summary discussion on the nature of scientific law leads to the following conclusions. In answer to questions raised about inductive inference it is instructive to note that no scientific rule states the number of times some phenomena be observed before it is accepted as a scientific law or theory. A scientific law derives its validity not from the cardinal denumeration of the occurrence of sets of phenomena, but from its explanatory power within the context of some theory. In this regard, researchers appeal to experiments to confirm rather than to falsify hypotheses.

V

Popper's falsifiability criterion is central to his theory of scientific methodology. It is greatly dependent on the assumption that the problem of inductive inference is a genuine problem for scientific research. In this paper, I have attempted to make a case for three arguments: (1) Popper's falsifiability criterion founded on a purported speciousness of universal statements commits a logical error in its formulation. (2) The rules of deductive inference to which Popper appeals in order to validate the criterion of falsifiability are themselves dependent on inductive inference (i.e., memory recall) for their implementation. (3) It can be shown that the idea that scientific laws are universal statements of unrestricted scope in space and time is not borne out by examination of actual scientific laws. A recognition of this fact tends to minimize from the context of scientific research, the importance of the problem of induction.

Thus, it is not that I reject inductive inference as a useful tool in the appraisal of empirical data, but that I believe that modern scientific research with its reliance and theories formulated within set experimental boundaries, has successfully circumvented the problems associated with inductive inference. How else can one explain the burgeoning and seemingly inexorable growth of scientific knowledge in recent years?

Given that Popper's methodology of falsification was initially conceived to illustrate the purported scientific shortcomings of areas like astrology, Marxist psychoanalysis, it may be that this methodology is more suited as a tool of analysis for the social science rather than the natural science.[30]

FOOTNOTES

1. See Hans Reichenbach, **The Growth of Scientific Philosophy** (Berkeley: University of California Press, 1951), pp. 82 and 246, esp.

2. It should be noted that this progmatic solution to the problem of induction has been critized on logical grounds. See W. Salmon, **The Foundations of Scientific Inference** (Pittsburg: The University of Pittsburg Press, 1967). Although conceding that "Of all the solutions and dissolutions proposed to deal with Hume's problem of induction, Hans Reichenbach's attempt to provide a pragmatic justification, seems to me the most fruitful and promising." (Salmon, p. 52), Salmon suggests that "This ingenious argument, although extremely suggestive, is ultimately unsatisfactory." (**ibid**, p. 53). Indeed, Salmon's thesis is that there are no completely satisfactory grounds for defending inductive inference.

3. Karl Popper, **The Logic of Scientific Discovery** (New York: Harper and Row, 1965). Note that the original German edition **Logik der Forschung** was first published in Vienna in 1934.

4. Karl Popper, **Conjectures and Refutations** (New York: Harper and Row, 1968).

5. Karl Popper **Objective Knowledge** (Oxford Clarendon Press, 1979).

6. See, for instance, "Logic of Discovery or Psychology of Research," in **Criticism and the Growth of Knowledge,** Imre Lakatos and Allan Musgrave, eds. (New York: Cambridge University Press, 1977), pp.1—23 and pp.231—278.

7. Wolfgang Stegmuller, **The Structure and Dynamics of Theories** (New York: Springer Verlag, 1976, p. 174.

8. **Ibid.**

9. Anthony O'Hear, **Karl Popper** (London Routledge and Kegan Paul, 1980), viii.

10. **Ibid**, p. 123.

11. Wesley Salmon, "Rational Production," **B.J.P.S.** 32 (1981), p. 124. See also Salmon, **The Foundations of Scientific Inference,** (Pittsburgh: The University of Pittsburg Press, 1967), pp. 21—23, for an earlier but later revised critique of Popper's idea of theory corroboration; also Robert Ackermann, **The Philosophy of Karl Popper** (Amherst: The University of Massachusetts Press, 1976), pp. 93—103, for a similar criticism of corroboration and its relationship to the controversial idea of versimilitude.

12. R. Harre , **The Philosophies of Science** (New York: Oxford University Press, 1978). p. 57.

13. **ibid.**, pp. 52–53.

14. Imre Lakotos, **The Methodology of Scientific Research Programmes**, ed. John Worrall and Gregory Currie (New York: Cambridge University Press, 1980) pp. 3, 4.

15. Karl Popper, **The Logic of Scientific Discovery** (New York: Harper Torchbooks, 1965) p. 37.

16. Karl Popper, **op. cit.**, pp. 68–69.

17. **ibid**, p. 40

18. **ibid.**, p. 76

19. **ibid.**, p. 63

20. **ibid.**, p. 29.

21. Karl Popper, **Objective Knowledge** (Oxford Clarendon Press, 1979) p. 16

22. ibid., p. 269

23. E. J. Steele **Somatic Selection and Adaptive Evolution: On The Inheritance Acquired Characteristics** (Toronto: Williams-Wallace, 1979).

24. See Popper, **Logic of Scientific Discovery.** pp. 75 – 76.

25. Karl Popper and John Eccles, **The Self and its Brain** (New York: Springer Verlag, 1977), p. 38.

26. This formulation is defended by Nagel who argues that "this assumption is adopted in the main for the sake of avoiding complexities that would arise were less simple but more realistic scheme recognized – complexities that are largely irrelevant to the chief points under discussion. There undoubtedly are many scientific laws which do exhibit the simple forms structure mentioned above. Nevertheless, there are also many laws whose logical form is more complicated – a fact of considerable importance in analyzing the rationable of inductive and verificatory procedures in science though only of subsidiary interest in the present context of discussion. However, it seems unlikely that any statement would normally be counted as a law if it did not contain at least one universal quantifier, usually in the initial prefix. It is for this reason that the simplifying assumption adopted in the text does not appear to be a fatal oversimplification." Ernest Nagal, **The Structure of Science** (New York: Harcourt, Brace and World Inc., 1961), pp. 47 – 48.

27. See, for example, Peter Achinstein, **Law and Explanation** (London: Oxford University Press, 1971), pp. 25–38, and Carl Hempel, **Aspects of Scientific Explanation** (New York: The Free Press, 1970), pp. 338–343.

28. Consider Fred 1. Dretske's recent paper ("Laws of Nature," **Philosophy of Science**, 44 (1977), pp. 248–268) which takes issue with the orthodox view of laws as universal truth expressive of the extensions of their constituent predicates, and argues instead that laws are singular statements descriptive of the relationships between universal properties. Dretske writes (p. 252): To say that it is a law that F's are G is to say that ('All F's are

G' is to be understood (is so far as it expresses a law), not as a statement about the extensions of the predicates 'F' and 'G', but as a singular statement describing a relationship between the universal properties F – ness and G – ness, In other words, (G) is to be understood as having the form: (0) F – ness G – ness."

29. See Farington Daniels, **Physical Chemistry** (New York: John Wiley and Sons, 1979) pp. 103–109.

30. Popper's thesis that research should be guided more by attempts to refute rather than to validate theories seems ideally sited to the social sciences where the possibility is greater for research programs to be founded on spurious or value-laden assumptions. A greater willingness on the part of social scientists to subject their theories to new and sterner tests would do well to improve the quality of research in the social sciences. On the other hand, the rigorously applied but manipulable experimental conditions imposed on research in most areas of natural science help greatly in the confirming and falsifying tasks of scientific research. It is for this reason that Popper's prescriptions for good scientific practice, where applicable, are merely congruent with practices already the norm in scientific research. See Michael Mulkay and G. Gilbert "Putting Philosophy to Work: Karl Popper's Influence on Scientific Practice," **Philosophy of the Social Sciences** 11 (1981): 281–302, for a view of what a small sample of biochemists think of the impact of Popper's philosophy of science on their work.

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HUME'S PROBLEM OF INDUCTION

BY K.C. ANYANWU

INTRODUCTION·

History seems to have made Hume a "famous" or an "infamous" philosopher, not only because of the metaphysical problem he posed for modern philosophy and his scepticism about its solution, but because many philosophers want to disprove him. Since scepticism seems to be an uncomfortable position to accept, we may consider the attempt to disprove Hume as reasonable ones; unfortunately, all such attempts do not seem to have succeeded. One cannot refute him by calling him an absolute sceptic, allowed that such an individual exists; or try to minimize the seriousness of his questions to epistemology. Hume was undoubtedly confronted by a metaphysical problem of induction; and it seems that anyone who accepts the manner in which he formulated that question will necessarily accept his conclusion – scepticism.

I wish to examine in this paper Hume's problem of induction and the efforts made by some philosophers to refute him. And I would defend the position that Hume's problem, as he formulated it, cannot be satisfactorily solved.

INFERENTIAL KNOWLEDGE

Though philosophers have raised questions on the validity or justification or inferential knowledge, (inductive reasoning), we know that people are always making use of this mode of knowing. For example, when house-wives try to find a way of lowering their household budgets, when lawyers try to establish the guilt or innocence of suspects, when doctors want to diagnose an illness, and when scientists endeavour to formulate scientific theories, they more or less make use of the inductive method in a spontaneous manner. In spite of what philosophers may think about inferential knowledge, it is obvious that people have made use of it (and continue to do so) before logicians began to reflect on its validity.

In everyday life, there are certain instances in which people are said to have "a direct insight into the meaning of a judgement or a sentence will reveal immediately what is implied in it".[1] If A says that the weather is very cloudy, B may infer that it would rain. Here, a cloudy weather may imply rainfall, and this kind of insight or understanding may be called **immediate** inference. But in the case of **mediate** inference, one has to relate many statements together or with each other so that what is stated in one clarifies or illuminates the other. For example, if A had ten apples and ate two of them, we can infer how many apples remain. Even though people are always using the inferential procedure in their daily activities, philosophers discover that the language in which they formulate their views is not always logically satisfactory. For example people use the terms "inference and "implication" interchangeably as if both have the same meaning. In the strict sense of the term, "inference" is a mental activity in which the mind draws certain conclusions from certain premises. In other words, only the mind makes an inference. But "implication", on the other hand, refers to the relationship existing between some propositions; and by

comparing such relationships the mind can then draw some conclusions. If A states, for example, that he is operating his business at a loss, that he is in debt which he is unable to pay, B can ask him: "Are you inferring that you are going bankrupt? But he would be incorrect to ask from A's statements: "Are you implying that you are going bankrupt".

The points being made here are that the problems of induction are rooted in our everyday knowledge, that most people do not border to reflect on the validity of their knowledge (at least, as long as they successfully use it), and that the works of the logicians or philosophers are relevant because they enable people to become aware of the nature and limitation of their inferential knowledge. In our everyday discussions, we argue from the general to particular cases or from the particular to general cases, without paying attention to the problems inherent in these modes of argument. In the first case, known as **deduction** (implication), there are premises which, according to Ruch, are in need of a conclusion. But in the second case, known as **induction,** there is a conclusion whose premises need to be determined. In the first example, the knowledge of the antecedent enables us to infer what is implied in it. If we place a pot of water on the fire, we would infer that the water will boil. In the second example, the knowledge of the consequence enables us to infer what must be the cause, that is, the necessary and sufficient conditions of the event. If we see a pot of boiling water, we would infer that somebody placed it there.

How do we justify this processes of reasoning? What validity has our inferential knowledge? These are important questions for philosophers, and they need clarifications, because they are intimately related to what we claim to know about reality. Whenever we argue and make certain judgements we are trying to establish an objective truth about something which is contained implicitly in the premises. Since the aim is to arrive at an objective knowledge, or the knowledge of objective reality, philosophers ask certain important questions "Are there real, yet knowable and provable implications? Can the mind represent by its laws of implications, some real implications in an objective world?"

Kant's view on these questions is that the mind, by following it own laws, establishes relationships between the things we perceive or phenomena; but he concludes that those relationships and their implications have subjective, not objective values. And this is so because, Kant explains, the real implications are non-mental and therefore cannot be known. Plato's view seems quite contrary to that of Kant. According to him, the mind can arrive at, or draw logical conclusions, from those relationships observed between ideas. But he holds that those logical conclusions or deductions have application only to the world of Ideas or opposed to the phenomenal world. Both of them agree that we have knowledge but they disagree about the level of that knowledge as well as the kind of knowledge that is accessible to the mind. Plato accepts the objective value of inferential knowledge, but he restricts its objectivity to the ideal world. The empiricts argue however that experience offers solely individual facts, that such facts are related solely in terms of spatial and temporal relationships (spatial distances and temporal sequences). If this is the case, logical inferences are

merely "logical games" which have no significance for reality. The empiricists are saying that each state of affairs is independent of another, and this means that our knowledge of state A would not enable us to infer anything about state B. Let us examine the position of Hume.

HUME'S METAPHYSICAL PROBLEM

From what is said so far, it does not seem very difficult to deduce from a law of a general statement the truth of a set of particular statements. For example, A = B, B = C, therefore, A = C. This process of deduction is demonstrative in the sense that it leads to a conclusion that is certainly true. Inductive inference, on the other hand, presents a difficult problem, namely, how one can infer the truth of a general statement from particular statements that are in themselves true. For example, if A sees that some particular chickens are white, is he justified to infer that all chickens are white? In everyday statements, most people would be tempted to infer that all citizens of a particular nation are bad solely because they have met some citizens of that nation whose conduct they judged bad. In a deductive process one seems to be insured against error or the loss of certainty because one remains within the given facts and does not go beyond them. But this is not the case with the inductive process where one goes beyond the present, given facts hence liable to error.

There seems to be, at present, three main problems inherent in the inductive inference. First, there is a psychological problem as to what induces one to go beyond the present facts; and to do so in the manner that one does it. Second, there is a logical problem requiring that one described "the logical relationship between protocol sentences and the generalizations and hypotheses to which they lead". There is also a third problem, namely, a metaphysical problem requiring that one justifies one's confidence in inductive inference. This was the problem that confronted Hume, and it is the one that I wish to examine.

Any attempt to offer a rational explanation of our confidence in inductive inference would fact, at least, two difficulties. The first has to do with the validity of the laws of nature in time, and the second touches on the uniform application of such laws in space. In other words, can we possibly know whether or not the world is designed in such a way as to justify inductive inference? Hume was thoroughly sceptical about the possibility of offering a national justification of our confidence in inductive inference. And as Keynes states, "Hume's case against induction has never been improved upon".[4]

Hume's analysis of the inductive principle began with the classification of all possible objects of knowledge into two groups; **matters of fact** and **relations of ideas** (matters of logic). The relations of ideas refer to abstract reasoning concerning quantity and number. Since these are equivalent to logical and analytic truths, Hume accepts that these can be known with certainty. In scientific knowledge, Hume's relations of ideas (logical and analytic truths) are "mathematical constructions, or in the language of English philosophy..., the universal and non-temporal demonstrations of the exact sciences".[5] Though Hume does not dispute the certainty and evidence of such truths, he maintains that they are

independent of temporal processes, they cannot be proved or disproved by facts that are dependent on temporal processes. Furthermore, nothing in the future would upset their certainty since they were not based on empirical facts in the beginning. But they are known with certainty only because we pay attention to their rules and definitions, and thus come to the awareness that the deductive consequences of any set of premises that is true will necessarily be true.

In the case of matters of fact, there is a difficulty (if not an impossibility) of arriving at knowledge that claims to be certain. And the reason for this is because, "all reasoning concerning matter of fact seem to be founded on the relation of Cause and Effect".[6]

For example, when we judge that the appearance of a chair is indicative of the actual presence of that chair, Hume would say that our judgement is based on the ground that the presence of that chair causes the appearance (of the chair). Furthermore, the chair is there, Hume explains, because of its earlier causes or antecedent causes (all in space and time) which include the growth of the wood, sunlight and rain, the action of the carpenter who built it, etc. In other words, the knowledge of any matter of fact implies the necessity of knowing the causal relation linking it to one's perception. Does anyone know therefore the causal relation linking one event to another? Hume's analysis of induction leads to this question, and Hume looked for such casual relations in the events he perceived: this event, then another event, and so on. He does not deny the fact that we definitely perceive certain regularities in events; rather he denies that we can detect a relation (surely not causal relation) between them. If we cannot detect such causal relations we can only say that we observe one event following another, that there are series of intermediary events linking one event with another, and that an event does not seem to take place except before or after another event. According to Hume, and I think that everyone would agree with him, all these series of events are still events.

Three elements characterize causal relation in Hume's analysis of causality, namely, continguity, succession and constant conjunction. In order to establish the truth about a matter of fact, we must have a matter of fact as well as the perceptions of the above elements before we can conclude that A causes B. Since however there is no way of getting directly at matters of fact except through their perceptions, Hume concludes that all empirical knowledge is fallible because it is based on completely unprovable assumptions about the causes of perceptions. If, for example, a person says that it will rain tomorrow, we have here a conclusion but no premises or implications. And if he says that it rained yesterday, we have here a premise but no conclusion. From Hume's analysis the problem involved in these examples is that we cannot perceive those elements which are characteristic of causal relation.

CONTROVERSY IN HUME'S ANALYSIS OF CAUSALITY

Hume's analysis of causality into contiguity, succession and constant conjunction is quite controversial, and some philosophers discard it on the ground that there exists an internal necessity compelling one event to follow or "cause" another. This internal necessity, they claim, is open to rational scrutiny even if it does not lend itself to empirical examination.

It seems that Hume's critics misunderstand Hume's problem and intention, and this is why their alternative proposals do not seem to resolve the difficulty of induction. Hume accepts that the idea of causality, as we have it, is derived from the regularities we experience in the world, and that there exists a strong tendency to expect such regularity in our future experience of events. This expectation does not seem to be possible unless we assume that the laws of nature are uniform and stable. Hume insists however that we do not possess the knowledge on which our expectation can be based except for the experience of regularity itself. But some philosophers argue that the logical connections existing in the domain of language and thought must imply real connections in the natural world as well as in the world of perception. Hume may not deny the possibility of this argument hence he considers causality as "the tendency of the mind to produce the idea of what we call the effect when the idea of what we call the cause is presented to it".[7] But the main problem seems to be the discovery of the ground on which anyone may presume that the tendencies and connections in the mind are accurate reflections of the tendencies and connections in the world itself. This is the metaphysical problem of induction which no theory of causality[8] seems to justify, at least, conclusively.

Mill's inductive method, for example, is an attempt to resolve Hume's problem, but what this method does is to enable one to determine "which elements of some antecedent situation is to be matched with which element of some consequent situation as cause to effect"[9].

But underlying this method is an assumption that there exists a parallel between real and ideal relations, and it is precisely this assumption that Hume is challenging and asking for its rational justification. Hegel claims to have identified the connections between the mind and those in the world, but his theory still leaves us with a difficult question. Does our understanding of the combination of what is actual and what is thought give us an accurate representation of reality? Mill, in his method, tries to identify the constant conjunction which Hume claims to be one of the elements characteristic of causal relation, and he speaks of 1) the method of agreement; 2) the method of differences; 3) the method of residues; and 4) the method of concomitant variation. How do these methods work?

Let us assume that A is looking for the cause of some effect B, and that there exists a number of sets of antecedents after each of which A perceives B. The method of agreement then demands that A looks for the cause of B among those antecedents that are the members of all the sets. If, on the other hand, the effect B follows after only one of the sets (of antecedents), the method of differ-

ences would require A to look for the cause among "those members of that set which it does not share with any of the other sets which failed to produce it. which it does not share with any of the other sets which failed to produce it."[10]. The method of residues requires that A eliminates from the set of antecedents any elements that differ from B; and having eliminated them, to look for the cause of B among the remaining sets. The method of concomitant variation insturcts A to look for "the cause of any phenomenon whose intensity varies in some simple ways with respect to the intensity of the first"[11]. Mill's method seems quite obvious from the rule of constant conjunction, but it still overlooks the main problem of Hume.

Hume has been attacked by some of his critics on grounds that have no merit at all. They argue, for example, that Hume's scepticism undermines the possibility of knowledge (the knowledge about future events or the distant course of events, and even the knowledge of daily affairs), and that, in spite of this, he still behaved like ordinary men who possess naive confidence in induction as well as in the uniformity of nature. The critics are saying that since Hume undermined the possibility of acquiring empirical knowledge that is certain, he should not have behaved like any common man who has faith in the inductive method. Since Hume acted like any common man, his critics think that his theory is scandalous. They seem to be saying that anyone who questions or doubts the eternal validity of a principle should not be entitled to share from the benefits of its practical application. Hume anticipated such a criticism and provided his own answer against it. "My practice, you say, refutes my doubts", he wrote. "But you mistake the purport of my question. As an agent, I am quite satisfied in the point; but as a philosopher, who has some share of curiosity, I will not say skepticism, I am anxious to learn the foundation of this inference"[12]. The issues is not whether we believe or should believe in induction or not, but a rational justification of the basis of this belief.

It is possible that there exists an internal necessity linking events in the world, and it is equally possible that it does not exist. And since the truth of either of these possibililities is inconclusive, we can behave as if that internal necessity exists. This is what Hume is saying, and I think that his conclusion is plausible. As a matter of observation, we can see that one event succeeds another.

There is also a discoverable relation between an event at a latter moment and its state at an earlier moment; and it is due to our knowledge of both states that we are able to call the relationships **causal**, and then to assume that the relationship existing between the past and the present states of events will continue to exist between the present and the past events. But what is the mechanism or the principle[13] responsible for driving the world from one state to another and thereby guarantee the uniformity of nature? It is this principle that, according to Hume, we cannot know or expect to know.

Again, Hume's conclusion seems plausible. Our consciousness is not completely independent of our physiological mechanisms, and it is this factor that measures the pace in which the events in the world seem to be moving. We assume for example, that the movement or procession of events is continuous whereas

it may come to a halt, and then proceed again, without our awareness of it. Consider the characters of the screen. They have no awareness of a projector stopping and then moving again. If there were human beings existing like the characters on the screen, and having the awareness of the succession of events from one frame to another, nothing may prevent them from formulating the causal laws of succession in the way we do in our own world. And since they are restricted to that screen, there is no way they can know or find out the mechanism (of the projector) which causes the states of events to follow one another. If we happened to be such characters on the screen, we may argue that there is a Cosmic Projector[14] responsible for our existence. But as Hume shows, cause and effect are members of the same class of events. Since we are not however members of the same class of event, that is, Cosmic Projector, our argument lacks a rational justification.

It is possible, however, to think of events (unknown to us), that cause what we perceive; but those events have to possess the same general characteristics as those we are more familiar with. They would have to be objects and have properties. They would also have to be arranged in configurations that endure through time or change in time. And finally, they would have to exhibit sequences.

If Hume's analysis is correct, we are then living in a phenomenal world and cannot step out of it to know the mechanism that causes the perceived states of affairs to succeed one another. Often times, however, we seem to have reasons for stepping out of the apparent, phenomenal world; especially due to the experience we have when we make decisions to perform certain acts that lead to real change in the world. For example, if we decide to build a house, cut down a tree, build a car; the cause of these activities can be attributed to our decision to to carry them out. In this case, the **cause** is a **mental event**, though our muscular efforts are also involved in the activities. What is essential here is the fact that a non-phenomenal event (the mind) has contributed to the causal determination of phenomenal events (house, car, etc.).

Schopenhauer establishes the non-phenomenal aspect of experience as an alternative view of the phenomenal world. According to him, "we know the world as Idea or Representation, but we know it also as Will"[15]. From this view, the "unknown" and the "mysterious" mechanism which derives the world from one state to another is not as unknown as it appears. It may be something that we are aware of within our subjective experience of volition. Again, Schopenhauer's theory does not seem to resolve Hume's problem because Hume would still want to know whether the subjective experience of volition corresponds to the objective conditions of the world, and, if so, the rational justification for it.

From a scientific view-point, the nature of that objective mechanism (the "cause" of events) is said to be a matter of absolute indifference. As long as a man of science observes the succession of events and possesses a standard for measuring movements, masses and lengths, his work will proceed without any interruption. He may even forget the idea of causes. But what he does not know with certainty is whether his work will continue to proceed[16] without an inter-

ruption, and if he is consciously aware of his activities it would be unreasonable for him to expect to have such knowledge.

The problem of causality is a very important issue due to its bearing on the law of the uniformity of nature. If we phase this law in causal language, it states that similar causes are always followed by similar effects; and it is on the basis of this law that we use the relation **past-present** and an anology for the relation **present-future.** Let us assume that someone suddenly informs us that this law is breaking down, and that as from tomorrow similar causes would not produce similar effects. If the informant did not tell us what the differences would be, all we can do is to wait for a change to occur before we can formulate new kinds of prediction on the basis of the new kinds of observation. But in this case, we are still assuming that there will still be the same regularity of causal connection. If indeed the principle were to fail, there will be complete chaos; but I doubt that we will know the difference (the chaos) since it will embrace our experience and mind or thought too.

It seems however that the argument for the possibility of an occasional or a periodic fallibility of causal principle does not hold; and this is why Hume's scepticism becomes inescapable. To solve Hume's problem, all we may do is to refrain from attempting to establish the truth of causal principle and just affirm it. But this should not imply that the principle must be accepted on faith. The affirmation of the causal principle does not seem to rest on belief but on action, and this is why a scientist, for example, may not have confidence in the truth of the principle but still resolves not to abandon it in practice. A genuine scientist who is aware of what he is doing has no faith in the order of nature (Whitehead has a contrary view), and his ambition is to discover whatever order that may be in nature; an ambition that is surely quite a different matter from having faith or confidence in the truth of causal principle.

In any case, the causal principle cannot be applied in a simple-minded manner. In any specific tests, the cause and the effect seem to be abstracted from a complex situation called the background. If this is so, the causal principle can then be better formulated to mean: similar causes would produce similar effects if the backgrounds are also similar. In this case, the causal principle becomes a conditional statement which can be summed up in the phrase "Other things being equal". Other things being equal, we resolve to proceed on the assumption that the causal principle holds; but we have to proceed cautiously and sceptically by not claiming that the principle has been definitely and and finally established.

CONCLUSION

Hume's metaphysical problem of induction, at least in the way it is formulated, seems insoluble; and the theories of Mill, Hegel and Schopenhaurer do not resolve the epistemological questions involved in this problem. In spite of the criticism of Hume:s theory, no rational ground has been found to justify our confidence in inductive inferences. We are aware of our confidence in this principle, but we do not seem to have a rational justification for it.

NOTES AND REFERENCES

1) E. A. Ruch, **The Ways of Knowing and Thinking,** Roma, Lesotho: National University of Lesotho, 1977, p. 232.

2) Ibid. p. 236.

3) Peter Caws, **The Philosophy of Science,** Princeton, New Jersey: D. Van Nostrand Company, Inc., 1965, p. 196. A protocol sentence is a proposition in which an individual expresses or records his observation.

4) Ibid. p. 248.
cf. J.M. Keynes, **Treatise on Probability,** p. 272

5) James Ward, **Essays in Philosophy** Cambridge: Cambridge University Press, 1927, p. 188.

6) Peter Caws, op. cit. p. 249.
cf. David Hume, **An Inquiry Concerning Human Understanding,** London, 1977, p. 165.

7) Ibid. p. 230

8) One may consider Aristotle's four causes (material, formal, efficient and final) in which all the terms appear self-explanatory. Mill's inductive method and Hegel's theory do not provide solutions to Hume's problem.

9) Peter Caws, Op. cit. p. 251

10) Ibid. p. 251 cf. J. S. Mill, **System of Logic,** Book III, Chapter VIII.

11) Ibid. p. 251

12) Ibid. p. 252. David Hume, **Enquiry,** p. 38

13) The Greek philosophers called if Fate, and the Medieval philosophers called it, God, The idea of time as an independent variable seems to be the closest modern equivalent of Fate and God.

14) The traditional demonstration of God's existence was based largely on causal argument. But it seems that to bring in one terminus of causal relation outside the realm in which that relation is seen to be functioning is to commit a fallacy.

15) Peter Caws, op. cit. p. 253. cf. Arthur Schopenhauer, **The World as Will and Idea,** Vol. 1 (Trans. Haldane and Kemp), London, 1907, pp. 141 ff.

16) The classical view that nature can be predicted with absolute certainty (the idea of strict determinism) has been abandoned in the contemporary science of subatomic particles. Nature, it is said is not continuous. We realise today that the present state of science is unlike the past state. And as a result, we may have no rational ground to suppose that the future will be like the present.

PHILOSOPHY AS IDEOLOGY: AN ESSAY IN RETRIEVAL

— BY NKEONYE OTAKPOR

INTRODUCTION

This essay has been borne out of the need to reassess the relationship between philosophy and ideology. Many Nigerian scholars especially those within the Marxist fold simply reduce Philosophy, all Philosophies to Ideology. This reductionism not only does it involve a serious dilemna, it raises both an epistemological and a social problem. Is knowledge per se, essentially ideological and second, is there no socially related problem in such straight forward reductionism? The paper will attempt to answer these and other related questions. But first, there is need for a proper definition of the relevant terms.

Ideology: manner of thinking, ideas characteristic of a person or group especially as forming the basis of an economic or political system.[1]

Philosophy: the search for knowledge, especially the nature and meaning of existence.[2]

Philosophy is a Human Activity

It has been often supposed that philosophy is specific to nations, ethnic groups or geographical enclaves. Thus arises the current obsessive pre-occupation with the topics of African philosophy, Indian philosophy, etc. The philosophical enterprise, like any other human activity, is undertaken by individuals, and as such, in indifferent and non-specific to national, geographical and cultural demarcations and limitation. Admittedly, it is often the case that for heuristic purposes we do single out for analysis the thought systems and reflections of particular philosophers and their schools, and in the process, classify these according to their nationality and the epochal setting of the proponents of founders. But in most cases, the consequent hotch-potch national or geographical labelling usually fails to portray the wide differences and disagreements or divergencies between the philosophical systems of those so lumped together.

Thus, as examples of such wide-ranging categorization we have: Greek philosophy with reference to the many individual philosophers such as the Pre-socratics, socrates, plato, Aristotle, etc., because they were either Greek or of Greek culture, and this, despite the fact that their philosophical systems were very different and quite often in opposition to each other.

Other examples are: continental Rationalism (Descartes, Spinoza, Leibniz etc.); British Empiricism (Locke, Hume, Berkeley, etc.); German Idealism (Fitche, Hegel, Schelling, etc.); American Pragmatism (James, Peirce and Dewey).

These subsumptions are based on the initial premises or point of departure of a wide variety of philosophical systems, as well as, on the nationality and geographical enclaves of the most prominent exponents irrespective of divergencies among the systems so grouped together. Furthermore, for lack of in-

knowledge of some specific philosophical systems, recourse had often to such blanket or all-inclusive appelations as African Philosophy, Philosophy, Eastern Philosophy, Chinese Philosophy, Arabic Philoso-

All these classifications are instances of merely seeing the wood for the ; that is, ignorance of disperate philosophical systems induces unreflective on national, cultural and geographical basis. Indeed, it is very clear philosophical system bears some similarity or affinity, in one way or to every other one, and very often in terms of the points of departure some other essential aspects.

Philosophy is, indeed, in every respect a human activity, undertaken by human beings wherever they may be found and to whichever culture they may belong. Thus though particular in its origin, every philosophy universal appeal.

The term philosophy originated from ancient Greece. Etymologically we distinguish two components viz: philo-love, strive for, or pursuit of; and wisdom, knowledge. Originally then, the term philosophy meant for the "love for wisdom" or "strive for knowledge". The modern meaning — search for knowledge has not essentially deviated from this ancient one.

Accordingly, all scientists were called philosophers. Thus originally, the term philosophy meant the same as the term science,[3] classified as moral, socio-political and natural. The Pre-socrates were primarily cosmotologists who tried to know how the world is made of by researching into the nature and structure of matter. Efforts were made to discover the laws of nature. Thales of Miletus (600 BC) explained and predicted the eclipse in 585 B.C. Socrates was preoccupied with social and ethical problems. Plato was a mathematician, social reformer and political scientist. Aristotle, the father of logic, was also a political scientist, constitutional historian and an eminent biologist. The list is endless. The several individual research efforts of these philosophers and many others were later organized, further developed and proliferated into the various natural sciences and other disciplines, the attendant benefits of which we are all inheritors and beneficiaries today.

From the once common core, the universal science called Philosophy has grown thin. As a result of the cumulative growth of human knowledge, various fields with particular specializations detached themselves and developed into different sciences as we know them today. At the present time, as specialization detached themselves and developed into the different sciences as we know today. At the present time, as specialization continues more disciplines detaching themselves. Contemporary Psychology, feeling closer to biology and the social sciences than to other philosophical disciplines has virtually broken away. Logic which in some of its parts, considers itself more closely related to mathematics than to its philosophical origins is also breaking away. Even Ethics if taken as the science of moral life, is showing considerable centrifugal tendencies. The only disciplines which remain faithful to the original tradition of philosophy are Metaphysics, Epistemology and Normative Ethics.

In view of all these whittling down, it might be asked what further pre- tensions has philosophy to its name? Regardless of the defection of its daughter disciplines, the central preoccupation of philosophy and philosophers has changed little over the ages: the search for knowledge especially the nature and meaning of existence through the rational and critical examination of the most basic elements of our every day experiences and beliefs.

Philosophical Antecedents of the concept of Ideology.

In a sense, one would say that Ideology in the Marxian conception has its boundaries set in the two extremes of 19th century philosophy: a) the monism of absolute idealism (think of Fichte and Hegel), and b) the monism of mate- rialism as defined by philosophers adhering to the mechanism of the 19th century physical science.

The crux of Marx's analysis is that "Consciousness" is determined by social existence. Mannheim and others have said the same thing of thought and know- ledge taken generally. This way of speaking about thought or knowledge or consciousness has its origin in German Philosophy. "It derives from German Philosophy, from a marriage of philosophy with history, consummated in Germany. That is to say, the concept of Ideology in the broadest sense was born of that marriage."[4] The concept of Ideology in the sense used by Marx, therefore, derives from the attempts by German Philosophers, especially Kant and Hegel, to explain what knowledge is and how it arises. Therefore, to understand this relationship we have to call to mind, very briefly, the main lines of the Philosophy of Immanuel Kant, and that of George Hegel.

Kant was very strongly impressed by the progress and success of the phy- sical sciences, especially by Newton (1664 - 1727). At the same time, he was deeply disappointed by them, and he was concerned with what he called the dead-end of the rationalistic metaphysics of his time. A great admirer of New- tonian physics, he saw in it the final break-through of a truly rational knowledge of the world of nature. So, for instance, the transcendental logic developed by him in his **Critique of Pure Reason** is not the traditional formal logic of Aristotle and Scholasticism, but is rather the logic of discovery of Newtonian physics, a logic consisting in a prior truths about the universe of nature.

Kant unquestioningly adopted the whole of mechanism, which he recog- nised as valid for the entire empirical world, not excluding the world of subjective thought. For him, what we call the empirical world is the result of a synthesis which the transcendental subject constructed out of the formless stuff of expe- rience. It follows that the laws of logic, mathematics and the natural sciences are valid for this world because it is thought which puts them there and provides their very foundation. But the "pure" transcendental subject does not come under these laws because he does not spring from the phenomenal world. On the contrary, he established this world and determines its laws. In this way, it is impossible to know the thing in itself — the self-subsisting reality behind phenomena. Knowledge is confined within the scope of sensible perception, and, apart from experience "the categories are empty".

It follows that metaphysics — true rational knowledge of the thing-in-itself, is impossible. No mode of knowledge is adequate for solving the deep and com- plex problems of existence and of man's life. It is true that Kant does face up to the problem of God's existence, of immortality and freedom — for him they are the three ultimate philosophical problems, but he resolves them in a non- theoretical manner through postulates of practical reason and the will.

Thus Kantian philosophy is a synthesis of marriage of two elements: me- chanism and subjectivism. Of this two things stand out: a) his categories reflect the objective laws of nature, and b) they are (the categories) also products of human intelligence. Whatever may be the case, Kant was a subjectivist. His transcendental subject is a formative principle shaping the intelligible content of the world of experience, if not the world as such, which content, moreover, can be reduced to simple relationships between the phenomena. Consequently, reality is split into two worlds: The empirical and phenomenal which is invariably subject to the laws of mechanics; and the other, a world of things-in-themselves, the noumena to which reason cannot attain.

Contesting the possibility of theoretical metaphysics, Kant allowed only two means of knowing. First, reality might be explained by scientific method, in which case philosophy would be the synthesis of the results of the special sciences; second, one might study the processes by which reality is formed by the mind, in which case philosophy would be an analysis of the generation of ideas. This obviously includes ideology.

The main lines of Hegel's philosophy and the influence it had on the Marxian system are easily discernible. Marx was typical of his own time in being a Hegelian to the extent of adopting the Dialectic, plus the topic of his thesis, Materialism.

Hegel did not speak, as Marx was to do, of "Social existence" and "con- sciousness", but he did speak of "Objective" and "Subjective Spirit". "Objective spirit consists of social rules, institutions and conventional modes of behaviour to which men are required or expected to conform; subjective spirit consists in ways of thinking and feeling, in attitudes of mind."[5] Both affect one another and neither can subsist alone. Spirit at the level of consciousness and reason is both active and reflective. To that extent, its progress is dialectical. This progress and worldly changes is determined by what is — out of one social order, one culture, another is born. This world of culture, one in which man behaves is distinctively human ways, not only consists of human activities but also their product. For example, the ancient Greeks, Romans and Egyptians, could not have behaved as they did unless their conceptions of themselves and of the world, especially their social and cultural world, had been what they are. In effect, they believed and behaved as they did because of the nature of their socio-cultural world. For Hegel, therefore, man is a determined being, but the foundation of this determination is man himself. The only reflection necessary of being in so far as it appears to man, and is some-how constituted by him.

Now how does Marxist ideology fit into or get its inspiration from the mechanistic – subjective philosophy of Kant, Hegel and others? The development of science and especially its counterpart in technique led to the socio-economic phenomena of industrialization and machine production. The offer of a new way of earning one's living by working in the factories enticed whole masses of people to move from the poor country sides to the richer towns and cities, the result being the process of pauperization and formation of a so-called proletariat. In the domain of social philosophy, this particular situation in the 19th century gave rise to the enunciation and elaboration of socialist ideology, which was in turn, the source of inspiration and the manifesto of the socialist movement.

In Germany, Marx as a philosopher of human labour, threw new light on the latter, now only as a means of the self-realization of the subject, but first as a social and economic reality within the technical conditions of work in the 19th Century, in terms of the deep division of society into social classes. Second, he contributed to the increase and salience of the tensions and divisions by his sharp analysis of the social situation of his time. Marx, thus, showed how the proletariat has been excluded from all the spiritual values of the actual world, but at the same time he necessitated in it the idea of progress through its own revolution against the established order. The practical materialism of the proletariat resulting from its being excluded from spiritual values as such, was transformed by Marx into a theoretical materialism, according to which the forces and modes of production constitute the true driving force of history, i.e., the driving force towards progress.

Ideology in the Marxian conception, therefore, is a form of materialism as defined, elaborated, and defended by philosophers adhering to the mechanism of the 19th century physical science – an outmoded 19th century philosophy. It has its origin in the philosophy of Kant, Hegel and others. More to the point, if the political activities of man, his laws, religion and morality, etc, are phenomenal and empirical realities, then they are invariably subject to the laws of mechanics. They are what they are because of the nature of technology and economy. Hence, for example, Marx transposed the religious desire of salvation to a desire of intra-terrestrial welfare realised by man himself through his own labour and technical activity.

Marx, therefore, wanted to realise a philosophy which changes the world, and he placed against it a philosophy which only interprets and contemplates the world. The question is, however, whether or not Marxist ideology is a kind of philosophy, i.e. a philosophy which does not interpret what is, but which ordains what ought to be? The answer to this question is obvious.

Knowledge and Ideology

In spite of its many uses and aberrations, ideology in its more important sense is used to refer to a set of closely related beliefs or ideas or attitudes characteristic of a group of community. The thesis proceeds from the assumption that "the mode of production in material life determines the general character of the social, political and spiritual processes of life."[6] From this it follows

that there is a correspondence between a given point of view and a given social situation, and in general a correspondence between social environment and ideation.

Marx regarded ideology as a false consciousness and spoke of it as determined by social conditions or social existence. By false consciousness, Marx appears to mean a set of mistaken beliefs about matters important and shared by a whole group of persons or even a community. It consists of closely related illusions common to all or nearly all persons whose situations or functions in society are basically the same. Thus ideology is a behaviour of illusion. The illusion is present when there is a difference between reality and the sentiments which correspond to it and this difference makes life easier. Illusion may, thus, be a permanent condition. And it could be that life is located in this zone of illusion, and political philosophy with it, in the same way that individuals manage to live by simply lying to themselves.

Much more important in the context of this paper is the contention that environment is the foundation of social consciousness, that is, of ideation. This position implies for the Nigerian Marxists and, perhaps others, that since knowledge per se is socially determined, it is therefore ideological. Now the problem to be faced is two fold. First, how are we to characterise men's intellectual attainments, science, language, writing, art, etc., which form the heritage of civilization? Are these simply the products of social orders, the ideological forms in which men express their material behaviour? Or is it the case that men came about these purely by chance? Second, to what extent are ideas in general the product of a given social milieu and to what extent do ideas play an active part in all human knowledge.

On the first group of questions, it is clear that Marx's own phraseology is largely to blame for the various misinterpretations and misrepresentations by subsequent Marxists. Engels did not help matters when in his letter to Bloch he argued that: "the economic situation is the basis, but the various elements of the superstructure-political forms of the class struggle and its consequences, constitutions established by the victorious class after the successful battle, etc. – forms of law – and then even the reflexes of....., political, legal, philosophical theories, religious ideas, and their further developments into systems of dogma – also exercise their influence".[7]

This clearly makes knowledge a superstructural phenomenon in the sense that it springs from economic institutions. In so doing, knowledge is thus regarded as having its genesis in the self-justification of the ruling class ultimately a product of the activity of society as a whole. The effect is the reduction of a whole complex body of phenomenon – art, science, language, philosophy, etc, to a certain mechanical and inexorable law and this has given rise to a serious dilemma.

It is obviously untenable to regard mathematics, logic and the various intellectual techniques as the purely transitory efflux of a particular historical and class (false) consciousness – for the simple reason that they outlast any

the law of the stronger, but for convenience men have established institutions and moral precepts to restrain the stron."[12] These doctrines have won more wider assent in our times than they did in antiquity — thanks to the Marxists. They popularised them by their ancestry dates back to another epoch.

The deceitfulness of the sense, of course, led Plamenatz to the assertion that, "no doubt the peculiarities of our thought, reflective and theoretical about things, make it more difficult for such human thought to be objective."[13] This difficulty cannot easily be overcome but this does not render the ideal of objectivity impossible and therefore untenable. It would be grossly and intellectually dishonest to deny the impact of social and historical circumstances on ideation. Popper even admits that "scientific results are relative in so far as they are the results of a certain stage of scientific development....."[14] It follows that if these results are superceded in the course of scientific progress, they do not cease to be relative. But from this it cannot be said that such results cease to be knowledge, cease to be true.

The value of such results will ultimately depend only on what objective support they have in facts not any more on their epochal or ideological content. Newton's theory of gravitation, Quantum Mechanics, Freudism, the XX or XY gene code are all definite forms of knowledge, relative in terms of their development in a given historical environment, but have all continued to be attractive and valid because of the objective support they have in facts.

Contrary to Marx and his follows (in Nigeria especially), what can be admitted with some degree of plausibility are that:—

(a) ideology cannot necessitate the scaling down of the ideas of knowledge;

(b) norms for validation are obviously relative to social environment;

(c) the categories and concepts that are developed and used are usually linked to the social process;

(d) "truth is a property of beliefs, and

(e) truth is wholly dependent upon the relation of the beliefs (senses) to outside things".[15]

It is doubtful whether Marxists would admit to (d) and (e) without contradiction. The reason for this is not entirely far-fetched: ideologies have necessarily distorted reality for Marxists, and they are impelled by considerations of prospective advantage by being avowedly dishonest. Ideology is a lie of interest. Now, in order to lie we must know the truth. Thus truth is the primary fact. The light is natural and the blinkers only come later. "Men sense that truth is their worst enemy, but at the same time they cannot do without it. Thus they do everything to disarm it in ideologies. At the least, they demand that all criticism

be crowned with a constructive part, that is, with a Utopia."[16] The connection between truth and socio-political imperatives ends in asking too much of the first and paralyzing it, hence they are so many ideologies.

If the ideological culture does in fact interfer with the attainment of truth, as is usually the case; it is simply because of the closure of ideological disposition to new evidence about man, his world and nature; and its distrust of others who do not share the same ideological framework. The main source of tension, of conflict between ideology and truth appears to hinge on the demands of the exponents of ideologies for purity, unity of belief and spartan adherence on the the part of their fellow believers. Note, for example, the verbal war between the Imoudu led P.R.P. (Peoples Redemption Party) and the Aminu led PRP. The war reduces to the charge and counter charge of lack of discipline and purity of beliefs of the opposing members. These make for dogmatic stances and an implied unwillingness to allow new experiences to contribute to the growth of knowledge and of truth.

To some extent, therefore, ideology is not just the stratagem of a social class. It is the most "natural" use mankind makes of knowledge. Man want to live and be copiously comfortable in his interests, rather than to be curious and seek out the truth. But this does not entail the conclusion that he is correct. Let us conclude thus: that truth and life do not often get on well together. There are moral truths which can demoralize peoples and their leaders. Consequently ideology, thus, becomes an escape from a realify that appears in a rather macabre light.

Conclusion

This paper has been motivated by the desire to refute the current and persistent argument by (Nigerian) Marxists that (all) philosophy is ideological. In an attempt to rebut this awkward thesis I had, with good reasons, to sojourn into the other branches of knowledge for the simple reason that philosophy is a roving science, the everything and nothing, but broken into its specific and specialized fields, it covers the whole area of human endeavour.

To sum up then, Philosophy is not, strictly speaking an ideology. The converse is in fact what holds and is the case. For all through the history of philosophical ideas, the notion of ideology, in a million "avatars", is constantly brought back to life, as a result of the incapacity of philosophy to absorb the blows arising from the traumatizing and erratic wandering of thought throughout history. Be that as it may, philosophy cannot be reduced to this arbitrariness of culture and randomness of thought. "It was not to rationalise the interests of the rising bouregeoisie that Newton did not bring forward the postulate of universal time. It is not for sociological christianity, for edifying conformity, that Descartes or Leibnitz considered the metaphysical problem of God, which the Greeks barely considered."[17] If Newton was not Russell and Marx was not Thales, it was not because of class objectives.

If we, therefore, "exclude the obvious misnormers in which Philosophy is equivalent to policy or other similar misuses, we are left with the classical concept

as applied to the systems of Aristotle, Descartes, Sartre, Wittgenstein and others or as understood in University departments of Philosophy".[18] Even then, philosophy still retains a great deal of flexibility as opposed to ideology which does not make for reflection but action and adaption and thus enables us to life in a certain fashion. But reflection does not demolish anything without proposing something else in exchange. "Philosophers, thus, unconsciously recoil from the possibility of removing all foundation from what seems to be socially vital; it is not just in case their criticism would be dangerous, but because irresponsibility seems to them scandalous."[19]

FOOTNOTES

1. A.S. Hornby, **Oxford Advanced Learner's Dictionary of Current English,** (Oxford: Oxford University Press, 1974), p.421
2. Ibid, p.627.
3. Knowledge in Latin is Scientia. In our time, however, Science has come to be the name of the most respectable kind of knowledge.
4. John Plamentz, **Ideology** (London: Pall Mall, 1970), p.32.
5. Ibid, p. 39.
6. Karl Marx, **The Critique of Political Economy,** (London: Lawrence and Wishart, 1971), p. 11.
7. F. Engels, **Selected Correspondence,** p. 475.
8. H. Alpert, **Emile Durkheim and His Sociology,** (New York: Russell and Russell, 1961).
9. Immanuel Kant, **A Critique of Pure Reason,** (Oxford: Clarendon Press, 1958), free translation.
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12. Bertrand Russell, **History of Western Philosophy** (London: Allen and Unwin Ltd., 1974), p. 95.
13. John Plamenatz, **Ideology** p. 65
14. Karl Popper, **The Open Society and Its Enemies,** (Vol. 2, London: Kegan Paul, 1974) p. 221.
15. Bertrand Russell, **The Problems of Philosophy,** (Oxford: Oxford University Press, 1959), p. 71
16. Paul Veyne, "Ideology According to Marx and According to Nietzsche," **Diogenes,** No. 99, (Fall 1977), p. 90.
17. Ibid, p. 97.
18. E. A. Ruch, "Is There An African Philosophy," **Second Order: An African Journal of Philosophy,** Vol. III, 2 (July 1974), p. 5
19. Paul Veyne, "Ideology....." **Diogenes,** p. 89.