HUME ON CAUSATION

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ABSTRACT

In the first chapter of this thesis it is shown that Hume has not denied a "real connection" between physical causes and effects. It is argued that Hume is not mainly concerned with the ontological status of causal necessity. His main contention is epistemological; he aims to explain the grounds we have for asserting causal connections. When we look for the grounds of causal inference we find nothing but constant conjunction, which accounts for the mental determination to pass from an impression to the idea of its usual attendant. But it does not follow from this psychological theory that Hume denies "real connections" between physical objects and events. On the contrary, he is committed, as the texts reveal, to admitting that there is a "real connection", although he denies that we have any insight into the nature of that connection.

Chapter two is intended to settle the dispute over the status of Hume's two definitions of "cause". It is shown that they are not incompatible, and it is only when both the definitions are taken together that Hume's analysis of causation is complete.

In chapter three a detailed defence is undertaken of Hume's claim that we do not know causal connections a priori and that the inference

from past experience to future prediction is not rationally justifiable. Although predictions of future events can not be rationally defended, Hume does not reject them, but gives them a naturalistic, psychological explanation. By considering all relevant factors it is shown that Hume's analyses of causation are quite consistent and not subjectivist in the sense often attributed to them.

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Md. Sajahan Miah

This thesis is dedicated to
my father and to my Ma Moni
whose love and affection have
been greatly missed during my
stay in Canada.

KEY TO ABBREVIATIONS

References to Hume's works are given in brackets immediately after passages cited. These references are abbreviated as follows:

T ---- A Treatise of Human Nature, ed. L.A. Selby-Bigge (Oxford: Clarendon Press, 1888), 2nd edn. (revised), by P.H. Nidditch, 1978. We call this text Treatise.

A ---- An Abstract of A Treatise of Human Nature (1740), ed. J.M. Keynes & P. Sraffa (Archon Books, 1965). We call it Abstract.

E ---- An Enquiry Concerning Human Understanding, ed. L.A. Selby-Bigge (Oxford: Clarendon Press, 1902), 3rd edn. by P.H. Nidditch, 1975. We call it Enquiry.

D ---- Dialogues Concerning Natural Religion, ed. N.K. Smith (Nelson, 1974, reprinted by Bobbs-Merrill, New York, no date). We call it Dialogue.

L ---- The Letters of David Hume, 2 vols. ed. J.Y.T. Greig (Oxford: Clarendon Press, 1932). We call it Letters.

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INTRODUCTION

The following work is intended to advance an understanding of the most vital aspect of Hume's epistemology, i.e., his controversial view of causation. For more than two hundred years, Hume's readers have been troubled by his theory of causation, which has been variously interpreted. We intend to revise some commonly held interpretations, arguing that the troubles with Hume's analysis are to be in the commentators rather than in Hume's text.

In the Introduction to the Enquiry L. A. Selby-Bigge states that "Hume's philosophic writings are to be read with great caution. His pages, especially those of the Treatise, are so full of matter, he says so many different things in so many different ways and different connexions, and with so much indifference to what he has said before, that it is very hard to say positively that he taught, or did not teach, this or that particular doctrine" (VII). We agree with Selby-Bigge's comment. There is no denying the fact that Hume's arguments on causation are often very puzzling. However, a proper understanding of Hume's general philosophical position will help to solve the puzzles and to remove seeming inconsistencies. In our present work we shall argue that Hume's analysis of causation can be shown not to be contradictory

(which is a common conviction among most of Hume's commentators), if we consider all relevant factors not at face value, but with special care and attention.

Necessary Connection Between Cause and Effect

Hume begins his analysis of causation with the statement "we must consider the idea of causation" (T. 74) and proceeds to trace the origin of the idea. Hume reflects upon two objects "which we call cause and effect", in order to find the impression from which the idea of causation is derived (T. 74). But what he discovers at first sight is not causation but certain qualities which constitute the objects. Hume realizes that as there is no one single quality "which universally belongs to all beings" to designate them as cause or effect, he concludes that the idea of causation must be derived from some relation among objects (T. 75). These relations are contiguity, priority in time and necessary connection.

But Hume is less concerned with contiguity and priority in time than with necessary connection, which, he says, is of much greater importance. Hume then invokes his copy principle to find the "impression from which this idea [idea of necessary connection] is deriv'd" (T. 77). Initially Hume finds nothing helpful, but finally he realizes that the idea of necessary connection arises not from any single instance

but from a repetition of like instances. He shows that there is no external impression which can serve as the origin of the idea of necessary connection. Therefore, he turns inward and examines the workings of human psychology to discover the origin of the idea of necessary connection. In his whole analysis of causation a major part of Hume's efforts is devoted to the problem of how we come to associate the idea of necessity with observed constant conjunction. He gives his answer in psychological terms. The observation of the constant conjunction of two objects or events engenders an association of ideas in the mind and produces a new impression. This new impression is a propensity or determination of thought to pass from a present object to the idea of another object frequently found in the past to be conjoined with it (T. 165 & E. 75). And finally Hume concludes that "necessity is something, that exists in the mind, not in objects;. . ." (T. 165).

It has become a common conviction that Hume rejects the notion of "real" or necessary connection between cause and effect other than the constant conjunction and thereby the habit of mental propensity to pass from the impression of an actually occurring state of affairs to the idea of its usual attendant. Commentators such C. J. Ducasse[1] and A. N. Whitehead[2] think that since Hume finds no impression (external) of perceived qualities between the so called cause and effect. he has altogether denied that there is such a connection. But we strongly

oppose this reading of Hume's text and we shall try to show that Hume has not drawn the negative conclusion which his commentators suppose. Rather he admits that we have the idea of necessary connection and we must have a corresponding impression of the idea, and finally he locates it in an unexpected place, viz. in the mind.

Now Hume's commentators argue that Hume has reduced causation to wholly psychological terms and thereby turned the objective world into a subjective or mental phenomenon. The ground of their interpretations is Hume's "logical distinctness thesis", that all matters of fact are distinct existences. Taking Hume's "logical distinctness thesis" seriously, they argue that Hume wants nothing more than to say that there is no "real intelligible" connection between external objects

But this is not the whole story of Hume's view of the causal relation. To say that necessity has no reality in and among objects seems to deny all causation whatsoever It may be shown that Hume has not even pretended to make cause illusory. From Hume's assertion that we have no impression of a necessary connection between objects it does not follow that he claims that there is no such connection. When we go through Hume's writings we meet a number of passages where Hume clearly talks of "the power, by which one object produces another" (T. 69), of "that energy, of which it [the cause] was secretly possest" (T. 76) of "the ultimate force and energy of nature" (T. 159), of "ultimate and operating principle" (T. 267), of "secret powers" (E. Sec. IV), of

"pre-established harmony between the course of nature" (E. 54), of "the secret springs and principles" (D. 206), or of every thing as determined by an "absolute fate" (T. 400). The problem is to reconcile such assertions with the commonly held view that Hume dismisses the idea of "real connection".

In this chapter we shall argue that Hume has not denied a necessary connection between cause and effect, although he is not mainly concerned with the ontological status of necessary connection. His claim is epistemological. Some commentators fail to understand the distinction between his ontological and epistemological claims. His main thrust is to explain what it means to say that there is necessary connection. In his analysis he provides a key distinction between the necessity of causal connection and our ability to know that there is such a necessity. What Hume actually denies is a logical tie between cause and effect and in doing so he is attacking a formerly entrenched conviction that there are necessary connections among distinct objects or events in the world. These connections were conceived to be of a logical character such that if the cause occurred, the corresponding effect would follow, not as a matter of accident or even sequence, but as a matter of necessity.

The Two-Definition Dispute

After tracing the origin of the idea of necessary connection in the Treatise Hume proceeds to give "a precise definition of the relation between cause and effect" (T. 169). But actually he gives two definitions of "cause". The most peculiar fact is that he has offered all these definitions as definitions of the same thing. These definitions are as follows:

T-definitions:

(1) We may define a CAUSE to be 'An object precedent and contiguous to another, and where all the objects resembling the former are plac'd in like relations of precedency and contiguity to those objects, that resemble the latter' (T. 170).

(2) A CAUSE is an object precedent and contiguous to another, and so united with it, that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form a more lively idea of the other (T. 170).

E-definitions:

(1) A cause is "an object, followed by another, and where all the objects similar to the first are followed by objects similar to the second. Or in other words where, if the first object had not been, the second never had existed" (E. 76).

(2) A cause is "an object followed by another, and whose appearance always conveys the thought to that other" (E. 77).

The important differences between df. T1 and df. E1 on the one hand, and df. T2 and df. E2 on the other are:

(a) The former set is ontological (of course the latter part of df. E1 says some thing more, i.e., it admits necessity, than df. T1 and the latter set is epistemological.

(b) The former is mind independent but the latter is mind dependent.

Hume's definitions of "cause" have been a source of great debate. This debate is mainly concerned with the problem of a correct reading of the definitions. The contemporary debate over the status of these definitions starts with J. L. Robinson,[3] who argues that they can not both be definitions of the same thing, because they are equivalent neither in their meaning nor in extension. His conclusion is that df. 1 is Hume's real definition of "cause", and df. 2 is not a definition but an empirical psychological statement about what is already defined in df. 1. The current debate over "The Two-definition Dispute" is mostly centered around Robinson's conclusion that these definitions are incompatible

We oppose the above interpretation and in this second chapter we shall argue that df. 1 and 2 are both definitions and definitions of the same thing. In df. 1 Hume reduces causation to some uniform connection: to say that x is the cause of y is simply to say that (a) x is contiguous to y; (b) x precedes y in time; and (c) that whenever an event like x occurs, an event like y also occurs (constant conjunction). But this definition leaves out the element of necessity in causal connections on the basis of which we make causal inference to future existence. Hume

then attempts to provide an account of this necessity in df. 2 by stating that it is derived from the felt determination to pass from an impression or idea of x to an idea of y which is the result of event like x and event like y always having been found together in the past and never otherwise.

Hume's analysis of causation requires both constant conjunction and necessary connection as defining features of causation. Now as both these elements are necessary, they must be included in his definitions of "cause". Df. 1 provides constant conjunction and df. 2 provides the element of necessary connection which together help us to make a transition to unexperienced objects or events. It is only when both these elements are taken together that Hume's analysis of causation is complete.

Causal Inference

In this chapter we shall undertake a detailed defence of Hume's claim that we do not know causal connections a priori and that the inference from the past experience to future expectation is not in any way rationally justifiable.

Hume's main concern with causation involves the question of whether or not cause and effect are necessarily connected. He rejects metaphysical claims associated with the traditional view of causation "that whatever begins to exist must have a cause of existence" on the ground that this maxim is neither intuitively nor demonstratively certain. So the question arises: from where does the idea of necessity

come? Here Hume's answer is plain, "since it is not from knowledge or any scientific reasoning", that the idea of derived, it must "arise from observation and experience" (T. 82). Now Hume puts two questions: (1) how experience gives rise to such a principle; and (2) why we conclude that such particular causes must necessarily have such particular effects, and why we form an inference from one to the other. These questions are concerned with the role of inference and belief in causal situations.

Hume observes that in addition to contiguity and priority in time, constant conjunction of many instances plays an important role in causal inference. It is "when we observe several instances, in which the same objects are always conjoin'd together, we immediately conceive a connexion betwixt them and begin to draw an inference from one to another" (T. 163). Constant conjunction helps us to expect fire when we perceive smoke. This is because we have frequently perceived the constant conjunction of these two objects and we remember that these two objects have always appeared in a regular order of contiguity and succession. So the next time that one of them is presented to the senses, we infer the existence of the other. Hume does not deny or even doubt that constant conjunction or repetition of similar instances is the basis on which assertions (causal inferences) are made. Rather he admits that it is invariably supposed that there is a connection between the present fact and that which is inferred from it (E. 26-27).

The cardinal importance of his theory is to have discovered what exactly is the relation and how to have explained the manner in which such a relation operates.

Hume is not concerned with logically justifying causal inferences (which he thinks impossible), but with explaining how they come to be made. In this inquiry, the problem of induction receives its classical formulation in Hume. He approaches the problem of induction by asking if assertions about the future are made by reasons or by certain associative principles. And if it is made by reason, then our reason would proceed upon the principle, "that instances, of which we have had no experience, must resemble those, of which we have had experience, and that the course of nature continues always uniformly the same" (T. 89). But Hume has clearly shown that this principle of the uniformity of nature itself can neither be demonstrated nor even lay claim to any probability. This problem may be formulated: on the basis of experience we can not go beyond experience, and even if we go beyond experience on the basis of some principle which is not derived from experience, then this going beyond i.e., making inductive generalization, is not justified.

Hume shows that our belief in causal necessity can not be rationally defended, yet he does not intend to reject it from our knowledge system and he gives a psychological account of why we accept this

belief. His contention is that although causal inference (generalization) can not be rationally justified yet the psychological process of habit formation and projection can be shown to account for our making such inferences. And he gives a psychological explanation of how we come to entertain a belief in causality. The number of instances of constant conjunction between fire and smoke that we have observed figures as an initial condition, which makes possible the invocation of a psychological necessity to explain our utterance of a particular causal judgment. This whole process involves an operation of imagination.

Many critics hold that Hume has confused psychological and and logical use of necessity with one another. We strongly oppose this view and shall argue that Hume has not confused the two senses of necessity and his distinction between these two senses of necessity is perfectly alright. We are quite at one with Noxon's comment[4] on this issue, that the confusion actually lies in the critics part between the two senses of the term "psychology" i.e., psychology which explains certain facts of behavior and psychology which defines the meaning of a concept. Hume has clearly shown that the logical use of necessity is confined to the realm of demonstrative propositions, i.e., those propositions that are arranged in such a way that they can not be changed with out changing their ideas, for any attempt to do so would result in a contradiction and would be inconceivable to the imagination. His psychological use of necessity is evident in reasoning

concerning "matters of fact". And "all reasoning concerning matters of fact seem to be founded on the relation of cause and effect" (E. 41). In other words, causal inferences do not lead us to necessary truth but only to matters of fact. So the use of necessity is grounded in causal inferences which is a feeling of certainty. This feeling of certainty is not to be found in any sense impression. Rather it is an impression of reflection. This is clearly Hume's psychological use of necessity.

Hume sees his original task at the outset of the Treatise to be one of supplying "a compleat system of the sciences" (XVI) grounded upon principles which requires no reasoning (in the a priori sense) for justification. In arguing against attempts to logically justify causal inferences, Hume is not attacking our commonsense beliefs about such inferences. He has not suspended or abandoned our beliefs about inductive inferences; rather he gives a detailed account of how we come to hold it and why we can not abandon it. Even Hume believes in the so called "uniformity of nature" (which he merely denied to be probable), i.e., that unobserved instances will resemble observed instances. He never does deny that there is an external world; or that events do cause other events--rather he admits that these and their like, are incontrovertible facts around which our lives revolve. Just as we believe in the existence of external objects by instinct, so nature has set up within one's thought process a habit or custom which impels us to believe in future existence.

NOTES

1. C.J. Ducasse, "Critique of Hume's Conception of Causality" in The Journal of Philosophy, Vol. LXIII (1966).

2. A.N. Whitehead, Process and Reality, Humanities Press, New York, 1929.

3. His two articles on this issue appear in V.C. Chappell ed. Hume, Doubleday, New York. 1967.

4. In Hume's Philosophical Development, Clarendon Press, Oxford 1973, p. 133.

CHAPTER ONE

Necessary Connection Between Cause and Effect

I

Idea of Causation

Hume's epistemological inquiries concerning "matters of fact and existence" lead him to the problem of causation. He observes that all inferences of matters of fact or existence which are not observed or remembered depend upon the relation of cause and effect (T. 74 & E. 76). To justify this claim Hume gives the following argument: "All kinds of reasoning consist in nothing but a comparison, and a discovery of those relations, either constant or inconstant, which two or more objects bear to each other" (T. 73). This comparison involves the following possible cases:

(1) When both the objects are presented to the senses.

(2) When none of the objects are presented to the senses.

(3) When some of the objects are presented to the senses and some are not.

It is in this third case that we can infer from the observed to the unobserved. As for example, seeing smoke (observed event) we can infer that there is fire (unobserved event). Hume's contention is that when we observe smoke we make a transition to a belief that there is fire.

Now Hume's main problem is to find the impression from which the idea of causation is derived. He invokes his copy principle. "Let us therefore cast our eye on any two objects, which we call cause and effect, and turn them on all sides, in order to find that impression, which produces an idea of such prodigious consequence" (T. 75). But Hume fails to find such an impression. What he perceives at first sight is not the causation but some qualities which constitute the object. So he concludes that the idea of causation must be derived from some relation among objects. These relations are contiguity, priority in time, and necessary connection.

(a) Contiguity: Hume discovers that contiguity and priority in time are essential to causation. Because "whatever objects are consider'd as causes or effects, are contiguous" (T. 75). Even in distant objects we can discover a chain of causes which are contiguous among themselves. So Hume thinks that the relation of contiguity is essential to that of causation.

(b) Priority in Time: Further Hume observes that an effect must follow in time. But he also admits that we do not always get an impression of priority in time. His argument with billiard balls shows that we do not actually perceive the contact of two balls to be slightly earlier than the beginning of the motion of the second ball. So he concludes that even if priority in time is necessary for causal explanation that fact will not help us in the search for the impression from whence the idea of causation is derived. "An object may be contiguous and prior to another,

without being consider'd as its cause". In explaining causation "there is a NECESSARY CONNEXION to be taken into consideration" (T. 77).

(c) Necessary Connection: Hume states that necessary connection "is of much greater importance, than any of the other two above-mention'd" (T. 77). He again tries to find the impression of necessary connection by applying his methodological apparatus (copy principle). But he finds no impression which is an impression of necessary connection between cause and effect. What he finds is their contiguity and succession which he already has "regarded as imperfect and unsatisfactory" (T. 77). At this point Hume thinks that he will not get the required idea of necessary connection by a direct survey. So he applies a new technique "which will perhaps afford a hint, that may serve to clear up the present difficulty" (T. 78), and inquires into two questions with the hope of getting the origin of the idea of necessary connection indirectly.

(1) For what reason we pronounce it necessary, that every thing whose existence has a beginning, shou'd also have a cause?

(2) Why do we conclude, that such particular causes must necessarily have such particular effects; and what is the nature of that inference we draw from one to the other, and of the belief we repose in it (T. 78).

Hume's Attack on Causal Maxim:

Hume's first question is directly concerned with the long established causal maxim: "that whatever begins to exist, must have a cause of existence" (T. 78). Hume has employed various arguments and attacks on the rationalists' position of an a priori account of causal necessity. The maxim demands intuitive and demonstrative certainty on which it is supposed to be based. But Hume proves that the proposition is neither intuitively nor demonstratively certain. He gives the following arguments:

(1) Intuitive and demonstrative certainty is possible only through the comparison of ideas. But the maxim can not be identified with the relations that depend on comparison of ideas. The maxim "therefore is not intuitively certain" (T. 79).

(2) The maxim can demand intuitive and demonstrative certainty if and only if the proposition that "it is impossible that any thing can ever begin to exist without some productive principle", is capable of demonstrative proof. But the proposition that "it is impossible that any thing can begin to exist without some productive principle" is utterly incapable of demonstrative proof. So the maxim is based neither on intuition nor on demonstration.

Even Hume shows that any attempt to demonstrate the causal maxim must be fallacious and examines the arguments of Hobbes, Clarke and Locke. The first argument, Hume ascribes to Hobbes relies on the

principle that "All the points of time and place, are equal". The second argument is ascribed to Clarke and others that if anything began to exist without a cause it would be produced by itself, but to be so, it would have to exist "before it existed; which is impossible" (T. 80). The third argument is ascribed to Locke which says that if a thing came into existence without a cause it would be produced by nothing, but "nothing can never be a cause" (T. 81). Hume rejects all these arguments on the ground that they involve a petitio: by presupposing the validity of the principle which they are supposed to demonstrate, i.e., anything which begins to exist must have a cause.

(3) Hume further argues that we can conceive an object as non-existent at one moment and as existent at another moment without having any idea of cause. The maxim claims a necessary connection between cause and effect. But cause and effect are two distinct events, and as they are distinct and separable the denial of their necessary connection involves "no contradiction nor absurdity" (T. 80). The same view is expressed in the Enquiry, "The mind can never possibly find the effect in the supposed cause,... For the effect is totally different from the cause and consequently can never be discovered in it" (E. 29).

But Hume has not denied that every effect has a cause, "effect being a relative term, of which cause is correlative" (T. 82). A thing could not possibly be an effect unless it has a cause. Hume's argument is that even that does not help us prove the maxim. So we can not

demonstrate it by reason. Thus, Hume concludes that this principle is neither intuitively nor demonstratively certain.

Origin of the Idea of Necessary Connection:

Now Hume's question is that as the maxim is neither intuitively nor demonstratively certain, from where does the idea of necessity come? Here his answer is plain, "since it is not from knowledge or any scientific reasoning", that the idea is derived, it must "arise from observation and experience" (T. 82). Hume puts two further questions, "how experience gives rise to such a principle"? and "why we conclude, that such particular causes must necessarily have such particular effects, and why we form an inference from one to another?" (T. 82). At this point he makes another turn to reach his goal and proposes to deal with the second question in the hope "that the same answer will serve for both questions" (T. 82).

Hume observes that in addition to contiguity and priority in time, constant conjunction of many instances plays an important role in causal situations. It is "when we observe several instances, in which the same objects are always conjoin'd together, we immediately conceive a connexion betwixt them, and begin to draw an inference from one to another" (T. 163). Constant conjunction helps us to expect fire when we perceive smoke. This is because we have perceived the constant conjunction of these two objects frequently and we remember that these two objects always appeared in a regular order of contiguity and succession. So the next time that one of them is presented to the

senses, we infer the existence of the other. Here Hume discovers a new relation between cause and effect, i.e., a constant conjunction.

But Hume thinks that neither spatio-temporal contiguity nor priority in time or even their constant conjunction is sufficient to explain the causal relation. From mere repetition of past experience, we do not get the original idea of necessary connection. Constant repetition of impressions and ideas is not the discovery of any distinguishable character of perceptions and therefore, it "seems to advance us but very little in our way" (T. 88) in the search for the origin of the idea of necessary connection. "For it implies no more than this, that like objects have always been plac'd in like relation of contiguity and succession... we can never discover any new idea, and can only multiply, but not enlarge the objects of our mind" (T. 88). And, "what we learn not from one object, we can never learn from a hundred, which are all of the same kind, and are perfectly resembling". So "from mere repetition of any past impression, even to infinity, there never will arise any new original idea, such as that of a necessary connexion..." (T. 88). But Hume believes that though constant conjunction does not tell us what necessary connection is, yet it does indicate the origin of inference from impression to idea. So he forecasts that it may be seen that "the necessary connexion depends on the inference, instead of the inferences depending on the necessary connexion" (T. 88).

As Hume has defined causation in terms of necessary connection

he is confident that without assigning necessary connection it is not possible to define causation. He finds that after having observed the frequent repetition of like objects existing in like relations of contiguity and succession, "upon the appearance of one of the objects, the mind is determin'd by custom to consider its usual attendant, and to consider it in a stronger light upon account of its relation to the first object. 'Tis this impression, then, or determination, which affords me the idea of necessity" (T. 156).

Now Hume gets his required impression of necessary connection. It is just this determination of the mind involved in causal inference. For Hume, the impression of necessity is not an impression of sensation. This presumably, would be an external impression, but he holds that "there is no impression convey'd by our senses, which can give rise to that idea" (T. 165). Instead as he sees it, "there is no internal impression, which has any relation to the present business, but that propensity, which custom produces, to pass from an object to the idea of its usual attendent. This therefore is the essence of necessity". It is this propensity of the mind which Hume identifies with an "internal impression, or impression of reflexion" (T. 165). Hume derives the same conclusion in the Enquiry:

> This connexion, therefore, which we feel in the mind, this customary transition of the imagination from the one object to its usual attendant, is the sentiment or impression from which we form the idea of power or necessary connexion (E. 75).

Thus after a long search for the origin of the idea of necessity Hume finally resorts to his psychological thesis and borrows from natural relations an element i.e., a habitual "propensity" which forces us to move from one event to another in order to explain the credibility of a philosophical relation. Hume's contention is that the logical analysis of causation would never lead us to the idea of necessity unless there were some psychological mechanism, which operates on the observable instances. He confirms it when he says:

> . . . tho' causation be a philosophical relation, as implying contiguity, succession, and constant conjunction, yet 'tis only so far as it is a natural relation, and produces an union among our ideas, that we are able to reason upon it, or draw any inference from it (T. 94).

II

The Meaningfulness of the Idea of Necessary Connection

The problem of the idea of necessary connection is important to Hume because it forms the most essential part of the question concerning the derivation of the idea of cause. He observes that the notion of necessity is not a perceived relation between impressions, nor is there any observed quality in objects or events[1] which could provide a basis for it. It becomes clear that since there is no observed quality or relation to be found as a basis for the idea of necessary connection, the problem is bound to be difficult of solution.

According to the empiricists' principle the idea of necessity

must be reducible to some experience, that "Ideas always represent their objects or impressions, and vice versa..." (T. 157), or "Where we can not find any impression, we may be certain that there is no idea" (E. 78). Hume's argument by which he sought to establish his conclusion is based upon his empirical doctrine that all ideas are derived from impressions and that there can be no idea without its antecedent impression. But Hume finds no particular impression which is supposed to be the origin of the idea of necessary connection. Because this connection lies "beyond the immediate impressions of our memory and senses" (T. 89). He seems to be saying that there is no more to our idea of causation than constant conjunction, that "One event follows another; but we never can observe any tie between them. They seem conjoined, but never connected" (E. 74).

On the empiricists' view of meaning, the meaning of a word is given by a corresponding idea, that unless the meaning of a word can be pointed out in experience it is infact devoid of meaning. So it becomes clear that any reference to necessary connection other than "our outward sense or inward sentiment, the necessary conclusion seems to be that we have no idea of connexion or power at all, and that these words are absolutely without any meaning..." (E. 74). If this is so then it seems to be that Hume's principle as a criterion of meaningfulness is really a semantic problem. As J. L. Austin comments Hume's theory about the "derivation of our ideas" really amounts to the theory that a word, x,

can only have meaning provided that I can know, on at least one occassion, that "this is an x" where "this" denotes something sensible.[2] This interpretation seems to be compatible with Hume's assertion that all ideas in our mind have been preceded by and are derived from impressions. And an impression is the direct representation of something to the mind. Now the question is that what semantic representation of the term "necessary connexion" should be given?

But it is quite impossible to indicate the semantic representation of "necessary connexion" because it is not possible to have the sensation from which the supposed idea of necessity has been derived. And the conclusion may seem to follow that there is no such idea and the phrase "necessary connexion" is entirely meaningless. At this point many commentators[3] have misconstrued Hume's meaning-empiricism and suppose that Hume uses the copy principle to eliminate spurious ideas, rather than, as he sometimes uses it, to locate their true source in experience, and finally draw a negative conclusion for Hume. As he finds no impressions or perceived qualities between cause and effect, "as his [Hume's] empiricism entails there is none".[4] This argument can be formulated in the following way:

(1) All simple ideas are copies of simple impressions.

(2) We do not have any impression of necessity.

(3) Therefore, we have no idea of necessity.

But in applying his theory of meaning to the analysis of

causation, Hume does not draw a negative conclusion. He has not developed a rigid semantic view of the criterion of meaningfulness. Because he is quite aware that there are some concepts like "causation", the meaning of which is not consistent with the principle of the priority of perception, that this concept is not reducible to some observable qualities whose origin can be accounted in the same way. What he actually argues is that:

(1) All our simple ideas are copies of simple impressions.

(2) We have an idea of necessity.

(3) Therefore, we must have corresponding impression of necessity.

Ducasse's misinterpretation of Hume's view is grounded on a mistaken identification of "necessary connexion" with something capable of being objectively observable. If this is so then the connection would be an entity of the same sort as the things themselves between which it holds. But necessary connection is not something that can be perceived to belong to objects. Hume is perfectly justified in saying that no relation of force, power or necessary connection can be detected in the actual phenomena.[5] He clearly understands the implication of the reductionist view which is not applicable to causation. Failing to find the origin of the idea of necessary connection from some observable things or their properties, he has not said that the idea is meaningless or that we have no such ideas. He only argues that when we say that fire and

smoke are necessarily connected, what we mean is that this connection can be found neither in smoke nor in fire or even in between fire and smoke.[6]

Whitehead argues like Ducasse but with a major variation, that he brings a charge of circularity. In the Process and Reality Whitehead advances the following argument against Hume:

> Hume's argument has become circular. In the beginning of the Treatise, he lays down the 'general proposition' "that all our simple ideas in their first appearance are deriv'd from simple impressions..." He provides this by an empirical survey. But... later he finds necessary connection: he discards this because he can find no corresponding impression. But the original proposition was only founded on an empirical survey; so the argument for dismissal is purely circular.[7]

Whitehead's argument may be put in the following order:

(1) According to Hume all ideas must have corresponding impressions.

(2) The issue of "necessary connexion" can be refuted by producing an idea which has no corresponding impression.

(3) If any critic of Hume produces an idea of necessary connection which has no corresponding impression, to refute Hume, Hume may reply that it is not an idea, but only a meaningless word, since no corresponding impression can be found for it.

(4) Therefore, Hume is using his empirical meaning-principle

to support itself against any attack, and hence, arguing in a circle.

In reply to Whitehead's accusation of circularity it can be argued that his interpretation that Hume has dismissed "necessary connexion" as meaningless is false. Hume has never said that "necessary connexion" is a meaningless word,[6] his only concern is that it is "wrongly applied" if it is defined as something observable (T. 162). So the question of circularity in his argument does not arise.

Whitehead tries to refute Hume by bringing up "necessary connexion" as an example of an idea which has no corresponding impression. Hume never does say that it is not an idea because it has no corresponding impression, of which he is accused. He explicitly admits that we have the idea of necessity and that it has its corresponding impression, and he tries to give a clear meaning to this term. That is evident when he says in section VII of the Enquiry that his programme in this section is to "endeavour,... to fix, if possible, the precise meaning of the terms power, force, energy or necessary connexion" (E. 62). And after fai ling to get any antecedent impression of sensation he just shifts his inquiry and proposes that "'twill be proper to bestow another consideration on this subject, to see if possibly we can discover the nature and origin of those ideas [force, energy, power, necessary connexion etc.] we annex to them" (T. 162).

At any rate Hume has not ruled out the idea of necessary

connection as meaningless, rather he gives it a new analysis in terms of an impression of reflexion. It is not Hume's aim to eliminate the idea of cause or necessary connection, or even to develop a negative thesis, but rather he tries to remove conceptual confusion by tracing the idea to its source in experience.[9] So there should not be any dispute about the idea of necessary connection. What he needs is the "impression" or impressions, from which it "may be deriv'd" (T. 80). Let us see how Hume accounts for this impression.

III

Impression-Idea Dichotomy

It is well known that Hume relabels the "ideas" of his immediate predessors' "perceptions of the mind" and subdivides them into impressions and ideas. This verbal modification requires him to conceive experience (in a Humean, technical sense) as involving no necessary contact with the external objects. It is this conception which is very different from the ordinary understanding of the external objects. This modification seems to mislead Hume into representing cause as the notion of a detached observer rather than a participating agent. This is what Flew calls a "paralytic eye view".[10]

According to Hume there are two kinds of impressions i.e., those of sensation and those of reflection. The first kind arises in the soul "from unknown causes" (T. 7), or which "without any introduction make their appearance in the soul" (T. 275). These impressions are

dependent upon "natural and physical causes" the examination of which would lead Hume "into the sciences of anatomy and natural philosophy" (T. 276). The second kind of impressions arise from perceiving one's own feelings, thoughts, or other operations of the mind. Hume observes that some times it happens that an idea which in its turn is derived from some precedent impression will "return upon the soul" to produce "new impressions of desire and aversion, hope and fear" (T. 8), or any of the countless "passions and other emotions resembling them" (T. 275). It is by way of this second kind of impression that Hume accounts for the origin of the empirical belief in causal necessity.

From the beginning of his treatment of causation, Hume promises to make clear the idea of the "power" by which one object produces another (T. 69). So "To begin regularly, we must consider the idea of causation, and see from what origin it is deriv'd" (T. 74). But Hume does not make it quite clear how the most direct way of "understanding perfectly the idea concerning which we reason" might be to consider what does and does not follow necessarily. Moreover, what Hume insists upon is that if the concept of causation is to be validated, we must discover an appropriate variety of vivid experience, "that primary impression, from which it arises" (T. 75). And in search of this discovery he proceeds to a characteristic experiment. "Let us therefore cast our eye on any two objects, which we call cause and effect, and turn them on all sides, in order to find that impression,

which produces an idea of such prodigious consequence" (T. 75).

However, after a brief survey of various sorts of possibilities and probabilities, Hume ultimately comes to the question: What is our idea of necessity (the most important defining characteristic of causation), when we say that two objects are necessarily connected together? (T. 155). Here Hume's answer is that, observation having been sufficiently repeated, upon the appearance of one of the objects or events, the mind is determined by custom or habit to consider the usual attendant of the other. "This connexion, therefore, which we feel in the mind,... is the sentiment or impression from which we form the idea of power or necessary connexion" (E. 75 & T. 165).

With regards to causal necessity, Hume is convinced that "two objects or actions, however related, can never give us any idea of power, or of a connexion betwixt them..." (T. 166), but his reflection on particular causal inference gives him three conclusions which help him to answer the question regarding the origin of the idea of necessary connection. These conclusions are: (1) "This idea arises from the repetition of their union;... (2) the repetition neither discovers nor causes any thing in the objects,..." and (3) "the repetition has an influence only on the mind, by the customary transition it produces,..." (T. 166).

Now applying Hume's impression-idea theory we can get the following conclusion regarding the impression of "necessary connexion".

(1) Every idea is a copy of its corresponding impression.

(2) We have an idea of necessary connection.

(3) As the idea of necessary connection can not be derived from any observed quality or relation of objects, it can not be a copy of an impression of sensation.

(4) But the idea of necessary connection must have its origin from some impression.

(5) Now the only available impression is an impression of reflection.

(6) The impression of reflection is nothing but a "feeling" attached to the determination of the mind to pass from one object or event to the idea of its associated attendant.

(7) Therefore, the origin of the idea of necessary connection must be this mental determination.

IV

Epistemological Consideration of the Ontological Issue

We see that Hume finally locates the origin of the idea of necessary connection in the mind's determination which one may call the "unexpected origin". And one may argue that Hume does allow this extra element of causation, but what this element turns out to be is a

feeling of necessity which is subjective in nature.[11] As Kant comments:

> Therefore the notion of a cause is fictitious and delusive, and, to speak in the mildest way, is an illusion, only excusable inasmuch as the custom (a subjective necessity) of perceiving certain things, or their attributes as often associated in existence alongwith in succession to one another, is inseisibly taken for an objective necessity or supposing such a connexion in the objects themselves, and thus the notion of a cause has been acquired surreptitiously and not legitimately...[12]

Hume says that when we ascribe a power or necessary connection to external objects "this is what we can never observe in them, but must draw the idea of it from what we feel internally in contemplating them". (T. 169). From this assertion one might feel that we are no more justified in ascribing necessity to external objects. And Hume's argument seems to suggest that the term "necessity" is only applicable to a pair of objects if and only if its corresponding impression accompanies the occurrence of those objects.

Although the above interpretation, may seem to be consistent with Hume's position it is not certainly what Hume really intends. The correct alternative to positing necessity as an occurrence in the mind, is not to banish it from existence, nor to suspend judgment on the justifiability of this assumption, but to inquire after the meaning of the question: What is involved in our claim to know that there is necessary connection between cause and effect? And Hume in fact does this. It should be noted here that in his analysis of causation, Hume is not mainly concerned with the ontological status of causation, and he has neither denied nor doubted that some events cause other events, or even

that all events are caused. Rather, he analyses what is involved in the causal relation and criticizes our claim to know, or our ability to prove by reason that cause and effect are necessarily connected.[13]

The idea of causal necessity which we associate with some regularities arises from the observation of the agent who can infer with the natural course of events. But does this mean that necessity exists only in the mind of the observer and is as such a psychological fiction? Hume says that the mind's habit of passing from one object to another is built up by experience; it takes time to pronounce the connection necessary. "The first instance has little or no force: The second makes some addition to it: The third becomes still more sensible; and 'tis by these slow steps, that our judgment arrives at a full assurance" (T. 130). Again in the Enquiry he writes:

> The first time a man saw the communication of motion by impulse, as by the shock of two billiard balls, he could not pronounce that the one event was connected: but only that it was conjoined with the other. After he has observed several instances of this nature, he then pronounces them to be connected. What alteration has happened to give rise to this new idea of connexion? Nothing but that he now feels these events to be connected in his imagination, and can readily foretell the existence of one from the appearance of the other (E. 75-76 emphasis added).

In the above passage it does not appear that Hume has construed necessity as an psychological fiction; rather he surprisingly retains it both in an epistemological and (implicitly) in an ontological sense. These passages do not indicate that before the mental determination

is built up the same objects (billiard balls in their collision) were not necessarily connected. They only qualify our epistemological ground for making causal inference or future prediction. So this subjectivist or psychological conclusion has an objective ground.[14] But an objective necessity of causes and a psychological belief in the necessity of causes are two distinct issues. And it is the latter issue (epistemological) that Hume reduces to custom or habit. So it is not causation which Hume reduces to custom or habit, but the reasoning based upon it.[15] Thus Hume writes:

> . . . the operations of nature are independent of our thought and reasoning, I allow it; and accordingly have observ'd, that objects bear to each other the relations of contiguity and succession; that like objects may be observ'd in several instances to have like relations; and that all this is independent of, and antecedent to the operations of the understanding (T. 168, emphasis added).

His only objection is to our ascribing "a power or necessary connexion to these objects; this is what we can never observe in them; but must draw the idea of it from what we feel internally in comprehending them" (T. 169).

So it is not Hume's intention to make cause illusory or a psychological fiction. If he would allocate necessity to the category of psychological fiction, it would therefore be a pseudo-problem which Hume never intended it to be. Even after ascribing the idea of necessary connection to the mind, Hume is quite aware of the seeming paradoxical result of his analysis. This paradox which he calls "the most violent" lies in the reversal of the generally accepted notion between thought

and necessary connection. [16] Hume covers this controversial claim by answering the common-sensical objection:

> What! the efficacy of causes lie in the determination of the mind! As if causes did not operate entirely independent of the mind, and wou'd not continue their operation, even tho' there was no mind existent to contemplate them, or reason concerning them. Thought may well depend on causes for its operation, but not causes on thought. This is to reverse the order of nature, and make that secondary, which is really primary (T. 167).

The last part of this passage gets its support from Hume's claim that the idea of necessary connection "depends on the inference, instead of the inferences depending on the necessary connexion" (T. 88).

V

Causal Power

In our previous sections we have seen that Hume has neither denied nor ignored the idea of necessary connection between cause and effect. And finally to avoid any negative conclusion, he has traced the origin of this idea to the determination of the mind. But his readers may not be satisfied with this finding and most of them feel that he has ignored the aspect of necessity which escapes his constant conjunction point of view. As Flew comments that "So long as he [Hume] failed to get entirely clear that the real enemy was a misplacement of a logical necessity, he was inclined to confuse the actual power and efficacy which causes do have with the sort of necessitation which he knew that they could not possess". [17]

But the significant insight of Hume's treatment of necessary connection which his critics ignore is that "the idea of power or necessary connexion" and its equivalent, as he seeks, are not the paradigm experience but the archetypal impression-idea. He had always in the mind the logical necessity which he had been overwhelmingly concerned to banish.

Hume even disposes of the suggestions made by Locke in the chapter "Of Power".[18] Hume writes that, "It may be said, that we are every moment conscious of internal power; which we feel, that, by the simple command of our will, we can move the organs of our body, or direct the faculties of our mind" (E. 64). Yet he retorts that a "force", "power", "energy" or "necessary connexion" is in principle unobservable and he calls it a metaphysical notion. Of course, he admits that according to our common notions, the concept of "force", "power", "energy" or "necessary connexion" are fundamental to the concept of "cause". We suppose that heat has a power to boil the water, or if a moving billiard ball collides with another ball which is at rest, and the second ball begins to move, we not only say that when the first ball hits the second ball at a certain angle and velocity, the second ball will always, as a matter of fact move off at a certain angle and velocity (constant conjunction), but we say that the first ball exerts power upon the second ball.

According to Hume's empirical method of clarifying obscure ideas by referring to "the impressions or original sentiments, from which the ideas are copied" (E. 62), he urges his readers to examine the impression from which the supposed idea of power is derived (E. 63). And he declares that "when we look about us towards external objects, and consider the operation of causes, we are never able, in a single instance, to discover any power or necessary connexion. . . " (E. 63). The main point of Hume's objection against power of the Lockean variety that the conjunction of objects implies a power that connects them, is put in the following passage:

> This influence [influence of volition over the organs of the body], we may observe, is a fact, which, like all other natural events, can be known only by experience, and can never be foreseen (sic) from any apparent energy or power in the cause, which connects it with the effect, and renders the one an infallible consequence of the other (E. 64-65).

In the Treatise even after granting that the conjunction of certain particular objects implies the power in those particular objects, Hume states that there is no manner of necessity that similar objects should possess similar power. There is no evidence of our experience to show that those particular objects should retain their power after we had ceased to observe them (T. 90-92). So it seems that Locke's suggested power is of no use for the enlargement of our knowledge.

Hume's argument is that we have no more experience of power in ourselves than in objects. He rejects the view that we have

insight into causal connections through our direct acquaintance with our own volitions and actions. In the Appendix to the Treatise Hume's argument runs as follows:

> But to convince us how fallacious this reasoning is, we need only consider, that the will being here consider'd as a cause, has no more a distinguishable connexion with its effects, than any material cause has with its proper effect (T. 632).

The same argument Hume presents in the Enquiry with greater clarity. It is supposed that the connection that the resistance met within bodies gives a direct experience of force or power. Against this view Hume replies "This sentiment of an endeavour to overcome resistance has no known connexion with any event: What follows it, we know by experience; but could not know it a priori" (E. 67n). We see only sugar and water and the dissolution of sugar, but nothing else which could be expressed by saying that "water made sugar to dissolve (the sense conveyed by most transitive verb). Or to take his popular example with the billiard balls: that the collision is supposed to be the cause of motion of the second ball or that the motion of the second ball is necessarily connected with the collision of the first ball.

But Hume's contention is that if we examine the whole incident we find in it nothing that could support this way of speaking about power or necessary connection. What we perceive during the whole course is the motion of the first ball, we also perceive the ensuing motion of the second ball. "This is the whole that appears to the outward senses" (E. 63). "The mind can never possibly find the effect in the

supposed cause, by the most accurate scrutiny and examination" (E. 29). This is because the motion of the second ball is quite distinct event from the motion of the first ball. A causal connection, a necessary connection between the two (the so called cause, the collision of the first ball with the second ball, and the effect, the movement of the second ball), is not given to us however closely we look at the whole situation.

It becomes clear that we can not discover necessary connection in objects through direct experience.[19] J. L. Mackie comments that (a) for Hume, causation in objects, so far as we know, is only regular succession.[20] Mackie derives this conclusion from the following premises:

(b) Necessity is in the mind, not in objects.

(d) Causal knowledge and inference, and the idea of necessary connection, arise purely from the experience of constant conjunction.[21]

But this derivation of (a) from (b) and (d) is not consistent with Hume's argument. Hume first proves that necessary connection so far as we observe in objects is nothing but constant conjunction. The relation between cause and effect is not perceptible. They can not be logically deduced one from the other. We are no more justified in saying that because there are effects, every thing must be preceded by a cause, than we can prove that all men are married by pointing out that every husband must have a wife. After pointing out that there is no more to be said on the topic ("I find, I am stop short"), then, in order to avoid

any negative conclusion that we have no proper idea of necessity, Hume tries to prove that necessity exists in the mind.

So to derive (a)[22] Hume need not take assistance from (b), rather (b) takes assistance from (a). What Hume argues is that experience of constant conjunction (what Mackie calls regular succession), gives rise to the idea of necessary connection but does not reveal it to be present in objects.[23] Now the puzzle arises: how necessity is derived from constant conjunction? Here (b) is intended to remove this puzzle. The following passage follows this progression:

> The idea of necessity arises from some impression. There is no impression convey'd by our senses, which can give rise to that idea. It must, therefore, be deriv'd from some internal impression, or impression of reflexion. There is no internal impression, which has any relation to the present business, but that, which custom produces, to pass from an object to the idea of its usual attendant (T. 165).

As there is no external experience of necessity, Hume proceeds to explain how experience of constant conjunction develops in the mind a tendency to pass from one idea or object to another. This searching for an alternative explanation is entertained only after discarding the possibility of directly finding necessity in objects.

Now the common misunderstanding that Hume has denied necessary connection between objects, that such connection does not exist because it is impossible, is mainly grounded in Hume's assertion that "necessity is something, that exists in the mind, not in objects;... (T. 165). This is further grounded on another statement that "we can

never have reason to believe that any object exists, of which we can not form an idea" (T. 172). The interpretation of these statements has traditionally been given in the following suppositions:

(1) that Hume holds that perceptions exist; and

(2) that he holds that only perceptions exist.

These interpretations are mainly grounded on a mistaken identification of empiricism with sensationalism which is the theory that the only kind of experiential data which exist are physical sensations. Pringle Pattison comments that "Empiricism, when it is pure and consistent, reduces itself, infact, necessarily to sensationalism, as we find in Hume".[24] Now coming to the above suppositions, W. Robinson rightly states that in the case of Hume (1) is true, and (2) is false, because Hume does not commit himself to the non-existence of unperceived entities.[25]

The main question is whether or not it follows from our not having any direct experience of a necessary connection between objects that there is no such connection. There is no denying the fact that Hume has not explicitly affirmed that there is necessary connection between objects i. e. , between cause and effect. What he has explicitly affirmed is that such a connection (if any) exists in the mind, not in objects. This is misleading in the sense as if he is committed to denying any extra mental causal connection.

There are different lines of interpretations with proper evidences which are sufficient to show that Hume has not denied

necessary connection between cause and effect to be impossible on the ground that it exists only in the mind. What he has denied is a certain philosophical theory that cause and effect are necessarily (logically) connected. In the following sections we shall try to show that it is never Hume's intention to restrict necessity only to the mind. In deriving this conclusion it would be sufficient to point out what follows from Hume's argument at face value and what Hume has really tried to maintain.

VI

Hume's Logical Distinctness Thesis

Hume's distinctness thesis for particular causal connections first appears at the beginning of section VI, Part III, Book I of the Treatise. Here he begins by stating what he wants to deny i. e., that "the inference we draw from cause to effect, is... deriv'd merely from a survey of these particular objects, and from such a penetration into their essences as may discover the dependence of the one upon the other" (T. 86). The reason for his denial of this is that, "There is no object, which implies the existence of any other if we consider these objects in themselves, and never look beyond the ideas which we form of them" (T. 86-87). The ideas we form are such that are one and all logically distinct from one another, and therefore, there can be no self-contradiction in conjoining any cause with any effect.

This view agrees with an earlier passage where Hume states

that "whatever objects are different are distinguishable, and that whatever objects are distinguishable are separable by the thought and imagination" (T. 18). And again, "whatever objects are separable are also distinguishable, and that whatever objects are distinguishable are also different" (T. 18). Or "There is no single phenomenon, even the most simple, which can be accounted for from the qualities of the objects as they appear to us. . . " (T. 69-70). Now if we apply modus ponens to the distinguishable/separable and separable/different passages we can get the following conclusions:

(1) If cause and effect are distinguishable, they are separable.

Cause and effect are distinguishable

Therefore, they are separable.

(2) If cause and effect are separable, they are different.

Cause and effect are separable

Therefore, they are different.

In the Enquiry Hume's logical distinctness thesis comes up in the following passage:

> Let an object be presented to a man of ever so strong natural reason and abilities; if that object be entirely new to him, he will not be able, by the most accurate exmination of its sensible qualities, to discover any of its causes or effects. . . No object ever discovers, by the qualities which appear to the senses, either the causes which produced it, or the effects which will arise from it;. . . " (E. 27).

Hume rejects any connection among distinct objects or existences on a further ground in the Enquiry that matters of fact and existence "are evidently incapable of demonstration. Whatever is may not be. No negation of a fact can involve a contradiction. The non-existence of any being... is as clear and distinct as an idea of its existence" (E. 164).

In his logical distinctness thesis what Hume is denying is not the truth of the propositions but only that propositions concerning observable qualities do not afford by themselves the basis for inferences concerning matters of fact. Nothing is said about what might be accomplished with knowledge of possible non-sensible properties.[26] In different places of the Treatise and Enquiry Hume emphasises the contrast between the "external properties" of bodies and their real nature. "We can never pretend to know body otherwise than by those external properties, which discover themselves to the senses" (T. 64), or "we can never penetrate so far into the essence and construction of bodies, as to perceive the principle, on which their mutual influence depends" (T. 400). Again in the Enquiry he states that "the particular powers, by which all natural operations are performed, never appear to the senses..." (E. 42).

Now if one takes Hume's logical distinctness thesis concerning the relationship between cause and effect for granted, then he can really claim that Hume actually denies any necessary connection between cause and effect, that cause and effect must be distinct is what we learn from Hume. And if this is so then it seems evident

that our idea of necessity can not really correspond to the necessity in material objects or events. But is that the whole story about Hume's view of causation? Of course, sometimes it seems that Hume wants nothing more than to say that there is no "real intelligible" connection between external objects. But still Hume can not be committed to be a denial of the possibility and actuality of necessary connection. To say that necessity has no reality in and among objects seems to deny the existence of all causation whatsoever. But we have seen that Hume has not pretended to make cause illusory or even to deprive the operation of nature of their independence.

Our main concern is to insist that from Hume's assertion that we do not perceive necessary connections between objects, it does not follow that no such connections exist. In the Treatise Hume says that "Wherever ideas are adequate representations of objects, the relations, contradictions and arguments of the ideas are all applicable to the objects;..." (T. 29).[27] If the above case is so then why not likewise in the case of cause and effect? Hume never does contend that the ideas between which the necessary connection or causal relation holds are not adequate representations of objects. What then should we decide about the reality and intelligibility of the idea of necessary connection? Now unless one should be inclined to discount a great deal of Hume's characterization of a relation as "that quality, by which two ideas are connected together in the imagination" (T. 13), the proposed interpretation of the relation of cause and effect would not be without viability.

If the necessary connection between cause and effect is a relation (which Hume says it is) and if the ideas it relates are in no way inadequate representation of objects (there is no reason why they should be so), then we can, by Hume's criterion of reference, apply the idea of necessary connection to external objects.

There are at least two passages in the Treatise where Hume clearly states that a clear and distinct idea implies its possible existence. He says that "whatever can be conceiv'd by a clear and distinct idea necessarily implies the possibility of existence;..." (T. 43), that anything we have an idea of is possible. And "To form a clear idea of any thing, is an undeniable argument for its possibility,..." (T. 89). So logically it implies that either (a) it is possible that there are necessary connections in objects, or (b) that no proof can exist for their impossibility. Here the second alternative, in principle, clearly admits that there are necessary connections in objects even if we can not discover them through direct experience.[28] This view is agreeable to Hume's assertion that it is possible for the mind to carry out the "irregular kind" of reasoning necessary to "discover a connexion or repugnance betwixt objects, which extends not to impression;..." (T. 242).

It is evident that Hume supposes that there is an unknown but necessary connection between cause and effect and that this unknown cause unites them inseparably. It appears most clearly

when he says that "We learn the influence of our will from experience alone. And experience only teaches us how one event constantly follows another, without instructing us in the secret connexion, which bind them together, and renders them inseparable" (E. 66). In this passage Hume clearly states that events are said to be rendered inseparable by their secret causal connection. This passage discloses the inner meaning of causation, that the effect is essentially integral to its cause and it at least suggests that the effect is intrinsically demonstrable from the cause. Thus full knowledge of the cause, Hume implies, must include knowledge of the effect as well, even without any experience of the effect. So our inability to infer effects from causes without experience is due to no fault in objects themselves, but is due to our inability to grasp the full nature of these objects.[29] If the above interpretation is correct then Hume may not have left open the possibility of necessary connections between objects, but may actually have entertained the supposition of their existence though denying that we should know of them. When he denies the possibility of knowing the connections between cause and effect, he is in fact referring to logical necessity; that we can not demonstrate the truth of the causal connections in question.

VII

Hume's Belief in Nonempirical Causal Maxim

In Book I, Part III, Section III ('Why a cause is always necessary'), Hume expresses his firm belief in the causal maxim: "whatever begins to exist, must have a cause of existence" (T. 78), although he rejects its validity on purely logical or rational ground. In this belief he seems to mislead his readers, because it seems to be inconsistent with him, as a consistent empiricist. He expresses the same belief in the Enquiry when he states that "It is universally allowed that nothing exists without a cause of its existence..." (E. 95). And also in the Treatise that it is "universally acknowledg'd that in the operations of external bodies... there are not the least traces of indifference or liberty" (T. 399-400, cf. 403-404). This belief is also manifested in his denial of any chance (T. 125-132). All these suggest that Hume can not be called the empiricist he claims to be, for they do not follow the strict demand of experience.

The above non-empirical analysis gets its clear support from his indignant reply to Professor Stewart:[30]

> But allow me to tell you that I never asserted so absurd a proposition as that anything might arise without a cause, I only maintained, that our certainty of the Falsehood of that proposition proceeded neither from Intuition nor demonstration, but from another source. That Caesar existed, that there is such an Island as Sicily;

> for these propositions, I affirm, we have no demonstrative or intuitive Proof.[31]

Kemp Smith[32] takes this reply as telling strongly in favour of a non-sceptical reading of Hume. But the question is, why did Stewart ascribe this proposition to Hume? It is evident that Hume explicitly maintains that something which begins to exist "is so far possible, that it implies no contradiction nor absurdity" (T. 80), because "the foregoing proposition is neither intuitively nor demonstrably certain" (T. 79). Hume's argument is that "as all distinct ideas are separable from each other, and as the ideas of cause and effect are evidently distinct, 'twill be easy for us to conceive any object to be non-existent this moment, and existent the next;..." (T. 79).

D.C. Stove[33] argues that Hume was committed to denying the causal principle, that Stewart's reading of the Treatise was the correct one. The main strength of Stove's argument is that Hume's adherence to the principle is inconsistent with his inductive scepticism.[34] Stove's claim would be conclusive if we analyse Hume's view in terms of strict empiricist (sensationalist) framework. But we have seen in our section V that Hume's view should not be interpreted in that framework. However, we should accept Hume's affirmations of the principle as expressing his correct view on the issue. But the question immediately arises: whether or how, one can hold both that the causal principle is undeniably true (as Hume expresses in his letter to Stewart) and that it can be supported neither by intuitive nor by

demonstrative argument?

It seems that Hume supports both these views. He wants to prove that since the ideas of causes or effects are distinct and separable, there is no logical contradiction nor absurdity in supposing that any of the objects respectively associated with each of these ideas are also separable in reality. And it is just to say, from logical ground, that an uncaused beginning of existence is a logical possibility for the real world. On the other hand, Hume also maintains that all ontological and epistemological differentiations are reducible, in the final analysis, to the modes of imagination. If this is so, then why should we not take his interpretation of necessity as exclusively logical necessity, thereby, excluding any notion of empirical necessity which might be attributed to empi rical laws even though they be logically contingent.

Again, what could Hume mean by "another source"? It seems evident from his citations "That Caesar existed, that there is such an Island as Sicily", that he means by another source experience. If this is so, then the arguments for the causal maxim are not free from sceptical attack. On the other hand, it seems extremely misleading to claim that experience becomes the source of a maxim. However, what Hume could mean and what Kemp Smith took him to mean, is that our experience causes us to believe in the maxim as necessary. This reading gets support from the same section (section III) where

after examining different possible sources of the idea of necessity, Hume concludes that "the opinion must necessarily arise from observation and experience" (T. 82). So experience is a causal explanation for a universal propensity to believe in the causal maxim.[35]

Now coming to the title statement of section III, what does Hume mean by "why a cause is always necessary"? Two explanations (possible) can be given of this question.[36] He might mean either (a) there must be a cause for every thing that happens (the causal maxim); or (b) that in each particular case of causality there is some kind of necessity between the so called cause and effect. These two claims are logically distinct. Thus one may adhere to the causal maxim and yet maintain that the causal tie in any particular case is not necessary. On the other hand, one may believe that a particular causal connection is necessary without maintaining that every thing that happens is necessary. There is no logical reason why one should not believe in causal necessity in one sense without believing in it in the other sense. Bennett suggests that the link between these two beliefs is a "human one". A person with a "rationalist cast of mind"would assume both that "why did it happen"? must always have an answer and that these answers must have more to them than mere brute-fact reality.[37]

Hanfling[38] is at one with Bennett in holding that Hume had a rationalist cast of mind and that his analysis of causation is a curious mixture of both rationalism and empiricism. But Hume need not have

a rationalist cast of mind (there is no logical inconsistency in believing something, being an empiricst, which a rationalist maintains). Rather Hume would argue that it is a fact of human psychology that we can not but believe in the causal necessity. And he never does deny such common sense beliefs about the causal principle. His contention is that our human nature forces on us and strongly inclines us to believe in the causal principle. The negative and logical force of his argument is directed only towards the conclusion that this belief can be rationally proved, which in the traditional rationalist sense meant that it can be demonstrated.

VIII

Secret Causal Power

In the Enquiry Hume speaks of "secret powers" or "secret causes" in his analysis of causation. Of course this notion is not quite absent in the Treatise where he calls it "unknown cause" (T. 13) or "ultimate and operating principle" (T. 267), but he maintains the reliance on secret powers throughout his whole discussion of section IV ("Sceptical Doubts concerning the Operations of the Understanding") in the Enquiry. His view of secret powers is inconsistent with his argument that unless or until we bring in the constant conjunction view "the necessary conclusion seems to be that we have no idea of connexion or power at all,

and that these words are absolutely without any meaning,. . . " (E. 74). But in talking about secret powers Hume stresses the inaccessibility to human knowledge of the powers behind the constant conjunction. As Hume writes:

> But as to the causes of these general causes, we should in vain attempt their discovery; nor shall we ever be able to satisfy ourselves, by any particular explication of them. These ultimate springs and principles are totally shut up from human curiosity and enquiry. Elasticity, gravity, cohesion of parts, communication of motion by impulse; these are probably the ultimate causes and principles which we shall ever discover in nature;. . . (E. 30).

Even in section VII, of the Enquiry (Of the Idea of Necessary Connexion), Hume admits power behind constant conjunctions that "the power or force, which actuates the whole machine, is entirely concealed from us,. . . We know, that, in fact, heat is a constant attendant of flame; but what is the connexion between them, we have no room so much as to conjecture or imagine" (E. 63-64). In this section Hume takes his enquiry one step further and considers how it would be if we could penetrate to these secret powers, "were the power or energy of any cause discoverable by the mind, we could foresee the effect, even without experience;. . . (E. 63, emphasis added).

Now the question is, what does Hume mean by "secret causes" or "unknown causes" which he pretends not to explain (T. 13). (a) It may be that Hume does believe in some kind of hidden absolute necessity, or (b) he may merely mean causes which have not yet been

explored.[39] (b) seems to be consistent with Hume's "official" (constant conjunction) analysis of causation. But if we accept the second alternative, this would make it hard to see why Hume should go on to warn philosophers against "the interpretative desire" to look for such causes, a desire which he says, can only lead him "into obscure and uncertain speculations" (T. 13). Or again why should he say "when we... desire to know the ultimate and operating principle [unknown causes] as something, which resides in the external objects, we either contradict ourselves, or talk without a meaning" (T. 267).

So it seems evident that by "secret causes" or "unknown causes" Hume means causal necessity which obviously does not come under the scope of constant conjunction. Because "nature has kept us at a great distance from all her secrets..." (E. 32). Hume's contention is that the actual power or necessary connection is never apparent to us, and so can not be the same with that constant conjunction which we actually do apprehend. And the problem is not with these "secret causal powers" or "ultimate principles" but only with us who claim to know what is totally shut up from our enquiry. So "We must certainly allow, that the cohesion of the parts of matter arises from natural and necessary principles, whatever difficulty we may find in explaining them..." (T. 401, emphasis added).

IX

Necessity and Liberty

Hume's notion of non-empirical, objective causal necessity comes out more clearly and satisfactorily in Book II, Part III, Sections I and II of the Treatise and in Section VIII of the Enquiry. In both these works Hume explicitly maintains that there are necessary connections in external objects and that they are the same which he applies to human behavior.

> 'Tis universally acknowledg'd, that the operations of external bodies are necessary, and that in the communication of their motion, in their attraction, and mutual cohesion, there is not the least traces of indifference or liberty. Every object is determin'd by an absolute fate to a certain degree and direction of its motion,... (T. 399-400, emphasis added).

In the above passage Hume is clearly saying that causality lives in its invariability; it is universal. Every cause is linked with its effect not as a matter of accident but by the fact that we can not separate them, they are determined by an "absolute fate". This phrase (Hume has not made it clear what he actually means by this phrase) obviously suggests that there is something over and above constant conjunction in any given case of cause and effect.

The above interpretation gets support from the second clause of the first definition of "cause" in the Enquiry, where Hume states that "if the first object [cause] has not been, the second never had

existed" (E. 76). This counter factual expression, such as, "if the match had not been struck, it would not have ignited", expresses a relationship of dependency between two objects or events i. e. , the ignition of the match and the match's being struck. In a causal statement this may be expressed as: "the ignition was causally determined by the striking of the match". So what the second clause of E-definition-(1) indicates is that there is an actual causal efficacy between two objects--an actual existential dependence of the second object upon the first which is not confined to our experience of objects.[40]

Hume proceeds to bring the same notion of necessity to bear upon the question of human liberty or freedom of the will. And he holds that "the actions of the mind" are indeed "in this respect on the same footing with matter" (T. 400). What Hume seems to conclude is that every human action (no less than every external body) is determined "by an absolute fate to a certain degree and direction of its motions". Causation makes no difference whether the effects are physical or mental (external, natural or mental). "The same prisoner, when conducted to the scaffold, foresees his death as certainly from the constancy and fidelity of his guards as from the operation of the ax or wheel" (T. 406).

If causation makes no difference with regards to physical and moral considerations, then how can Hume talk about freedom or liberty? And it gives rise to one of the most difficult and important

problems in the whole field of moral philosophy. Many people think that there is a contradiction between determinism or universal connection between events and moral responsibility, so that if it is legitimate to hold people responsible then we must reject the principle of determinism. However, whether determinism should be rejected or not needs clarification and reconsideration in light of Hume's view.

After ascribing "necessity" in the strong sense to both external bodies and human actions, Hume falls back upon his "official" empiricist position and argues that all we can ever know about the external bodies is their constant conjunction. We can not know more because "the ultimate connexions" are not discoverable by man, "that we can never penetrate so far into the essence and construction of bodies, as to perceive the principle, on which their mutual influence depends" (T. 400). We can observe regularities in the operation of matters just as we find regularities in human actions.

But when Hume says that necessary connection concerning human actions and physical processes (which are determined by an absolute fate) are exactly on the same footing, he seems to be misled or at any rate to mislead his readers. He seems to be quite aware of this misleading conclusion and later clarifies his view stating "I do not ascribe to the will that unintelligible necessity, which is suppos'd to lie in matter" (T. 410). So it seems evident that the necessity which he ascribes to human actions is no more than constant conjunction

between motive and action. And "'Tis only upon the principles of necessity, that a person acquires any merit or demerit from his actions,..." (T. 411). Hume ascribes this type of necessity to human actions on the grounds that (1) they "have a constant union and connexion with the situation and temper of the agent,..." (T. 403) and (2) that we have always in the past made inferences in accordance with their regularity. But to say that actions "have a constant union and connexion with the situation and temper of the agent" is not to say that this is true of every action to be determined by an absolute fate. What Hume can conclude is that most actions are regularly conjoined with other factors which any libertarian should accept without qualification. Hume no doubt sees a difference between the causal nature of external objects and that of actions. He has brought them on the same footing on the basis of their regular and predictable nature.

It should be pointed out here that in the Treatise Hume has not defined what liberty or free-will actually is. Here he only states what liberty is not. Free action is not a chance action, "what the vulgar call chance is nothing but a secret and conceal'd cause" (T. 130). But in the Enquiry Hume gives a precise definition of "liberty".

> By liberty, then, we can mean a power of acting or not acting, according to the determinations of the will; that is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to every one who is not a prisoner and in chains. (E. 95, emphasis original).

And Hume produces various arguments against the libertarian's view that human actions are not coverable by causal necessity and, liberty is incompatible with necessity.

The problem of liberty or free will and determinism or universal causal necessity is often put in the form of a dilemma:

(1) If determinism is true, we can never do other-than we do; hence, we are never responsible for what we do.

(2) If indeterminism is true, our actions are random, hence not free; hence, we are never responsible for what we do.

(3) Either determinism is true or indeterminism is true.

(4) Therefore, we are never responsible for what we do.[41]

Hume has introduced a line of solution to the dilemma (along with the soft determinists) which consists of denying that the premise (1) is true i. e. , that determinism can be true and yet some actions can be free and those actions are the ones we are responsible for.

On this issue Hume gives an analysis of necessity by introducing the concept of "liberty of spontaneity" and "liberty of indifference" (T. 407). Liberty of spontaneity is wholly compatible with necessity. The moral worth of our actions depend on what we choose to do, on our own thoughts and motives. This liberty means the opposite of compulsion, a man is free if he does not act under compulsion.

A man is compelled, when he is locked up or when some one forces him in the realization of his natural desires.

Hume's main contention is that the question of whether man is morally free is altogether different from the problem of determinism Liberty of indifference completely destroys any moral responsibility--which is the view that human actions are not caused. He tries to show that determinism should not be taken as a thesis that every event is causally determined. He consistently denies that motives are themselves products of necessary chains of causes. His argument is that if all motives are caused, we are ultimately led to some sort of fatalism and predestination, which is wholly incompatible with our moral judgments (E. 99). Here Hume anticipates Kant (it is not of course necessary to believe that contrary to the received chronology, Hume had read Kant. It is just the way people always say) that our moral conceptions demand some form of human liberty and this liberty is certainly compatible with constant conjunction between motive and action.

X

Concluding Remarks

From the foregoing interpretations it becomes clear that Hume can not deny nor doubt that there is necessary connection between cause

and effect. We have mentioned that his particular interest is an epistemological question regarding the origin and nature of our knowledge of causal relation. His main concern is not with the question as to whether there are objective necessary connections, but what does it mean or what grounds do we have for claiming that there are necessary connections. And it is only when we look for the grounds, what we find is that causal necessity consists only in constant conjunction and nothing more. Now the question is that: is there any logical incompatibility in feeling or believing that there must be something behind the observed constant conjunction? When Hume writes that:

> It is universally allowed that matter, in all its operations, is actuated by a necessary force, and that every natural effect is so precisely determined by the energy of its cause that no other effect, in such particular circumstances, could possibly have resulted from it... Would we, therefore, form a just and precise idea of necessity, we must consider whence that idea arises when we apply it to the operation of bodies (E. 82).

It does not appear to be a logical incompatibility between the assumptions that there are objective causal necessity and a psychological explanation of how we know or come to believe in this necessity.

It is sure that Hume tries to deprive the causal principle of any rational support. But our inability to prove or comprehend necessity does not mean that necessity is totally absent. Hume admits that our belief in the causal maxim is so deep that few people question it.

As he says that the causal maxim "which tho' they may be deni'd with the lips, 'tis impossible for men in their heart to really doubt of" (T. 79). In stating that "'Tis universally acknowledg'd", "secret powers", or "Every object is determin'd by an absolute fate" and finally his indignant reply to Professor Stewart, he obviously appeals to a widely felt feeling that there is some kind of non-empirical mechanisms behind all observed phenomena. And all these expressions show where his heart actually lay. He is simply pointing out that constant conjunction is all we perceive of causal relation, but what causes might denote beyond constant conjunction must forever, remain unknown. Thus in the Natural History of Religion Hume writes that "We are placed in this world, as in a great theatre, where the true springs and causes of every event are entirely concealed from us;. . . "[42]

But we have seen that Hume's view of non-empirical causal necessity is unfocused. When ever he comes close to this non-empirical account of causation, he again falls back upon his official empiricist view that unless or until we bring in the constant conjunction account, "the necessary conclusion seems to be that we have no idea of necessity or power. . . " (E. 74, cf. T. 162). This may be because his empiricism inhibits him from reaching explicitly the conclusion of non-empirical causal necessity.[43]

Our conclusion that Hume actually entertains a firm belief in the existence of the objective necessary connection between

cause and effect gets considerable support from the Dialogues Concerning Natural Religions.[44] In this text Philo speaks in different places in ways with which we are familiar from Hume's Treatise and Enquiry. Philo talks of Nature as possessing "an infinite number of springs and principles" (D. 148), "the secret springs of the universe" (D. 206), "the springs and principles of the great machine" (D. 209) etc. "The effects of these principles are all known to us from experience: But the principles themselves, and their manner of operation, are totally unknown" (D. 178). There are even stronger words when Philo states that:

> Chance has no place, on any hypothesis, sceptical or religious. Every thing is surely governed by steady, inviolable laws. And were the inmost essence of things laid open to us, we should then discover a scene, of which, at present, we can have no idea. Instead of admiring the order of natural beings, we should clearly see, that it was absolutely impossible for them, in the smallest article, ever to admit of any other disposition (D. 174-175).

All of the above passages along with a number of passages in the Treatise and Enquiry, we have quoted, indeed lend support to the view that Hume seems to be not only entertaining the possibility but also the actuality of objective necessary connection between cause and effect. And such an interpretation is completely feasible, and it is appropriate to invoke the notion of causal necessity as a unifying principle for "the unity of successive events that would keep them from forming chaotic and non-lawful series".[45]

NOTES

1. Hume has not made any distinction between "object" or "event". Sometimes he uses these two words as synonymous and sometimes interchangeably.

2. J. L. Austin, "Are there A Priori Concepts" in The Proceeding of the Aristotelian Society, Supplementary Vol. XVIII, p. 97.

3. C. J. Ducasse, "Causality: Critique of Hume's Analysis" in The Nature of Causation, ed. Myles Brand (University of Illinois Press, Chicago, 1976) p. 92, Here Ducasse argues "To be is to be perceived. No connection is ever perceived between a cause and its effect. Therefore, there is none". Whitehead, Process and Reality (Macmillan Co. 1929), Part II, Chapter V, Section III.

4. C. J. Ducasse, "Critique of Hume's Conception of Causality" in The Journal of Philosophy, Vol. LXIII (1966), pp. 142-43.

5. A. J. Ayer, Hume (Hill & Wang, New York, 1980), p. 65.

6. However, in our subsequent discussion, we shall argue that there is a "objectifying" character of this connection. What "objectifying" (the term is borrowed from Edmund Husserl) in this context means in a technical sense is that what is objective need not objectively (in the empiricist vocabulary) belong to an object.

7. A. N. Whitehead, Process and Reality, pp. 205-206.

8. N. K. Smith (The Philosophy of David Hume, Macmillan Co. 1941, p. 391) rightly states that throughout Hume has never questioned that we do have an idea of necessary connection, and it is because of his assurance on this point that on failing to find it in the observed, he has sought for it else where, indirectly through a study of the types of inference which rests upon it.

9. James Noxon, "Senses of Identity in Hume's Treatise" in Dialogue, Vol. VIII (1969-70), p. 358. Professor Noxon expresses this view with regards to Hume's notion of self.

10. A. Flew, "Can an Effect Proceed its Cause" in PAS, Vol. XXVIII (1954) pp. 49-50.

11. N.K. Smith, The Philosophy of David Hume, pp. 391-403. H.H. Price, "The Permanent Significance of Hume's Philosophy", in A. Sesonske & N. Fleming ed Human Understanding (Wadsworth Publishing Co., California, 1965), p. 16.

    R.P. Wolf, "Hume's Theory of Mental Activity", in V.C. Chappell ed. Hume (University of Notre Dame Press, London, 1968), pp. 109-111.

    Barry Stroud, Hume (Routledge & Kegan Paul, London, 1977), p. 83.

12. Critique of Practical Reason, tran. by T.K. Abott (Longmans, Green, & Co., London, 1898) 5th edn. p. 141.

13. Sesonske & Fleming, ed. Human Understanding, p. 1.

14. A.D. Lindsay ed. Hume's A Treatise of Human Nature, Introductory chapter, p. xiii.

15. Mary Shaw Kuypers, Studies in the Eighteenth Century Background of Hume's Empiricism (Russell & Russell, New York, 1966), p. 75.

16. This view is further documented by Hume's letter to Henry Home where he states "My fondness for what I imagined new discoveries, made me overlook all common rules of prudence;..." The Letters of Hume, ed. J.Y.T. Greig (Oxford, 1932), Vol. I, p. 31.

17. A. Flew, Hume's Philosophy of Belief, (Routledge & Kegan Paul, London, 1961), p. 129.

18. John Locke, An Essay Concerning Human Understanding, ed. A.S. Pringle-Pattison, (Oxford U.P., 1924), pp. 135-150.

19. In modern physics (quantum mechanics) the dominant influence of Hume's view is seen, although most physicists have not probably read Hume. They use the term "force" or "energy" but they agree the practical disappearance of the concept.

20. J.L. Mackie, The Cement of the Universe (Oxford U.P. 1974), p. 10.

21. Ibid., p. 10.

22. Of course Hume has not derived this conclusion.

23. Mackie is at one with Hume in attributing his premise (e) that experience neither reveals nor produces any necessity in the objects; that is, it does not provide materials for any rational inference from cause to effect (or vice versa) in a new instance. Ibid., p. 10 & 7.

24. Locke's Essay, p. XVIII. But neither Locke nor Hume does hold that there exist only one kind of experience, that is to say, only physical sensation. Both of them believe in two kinds of experience, i.e., sensation and reflection or introspection.

25. W.L. Robinson, "Hume's Ontological Commitments" in The Philosophical Quarterly, Vol. 26 (1976), p. 39.

26. W.A. Suchting, "Hume and Necessary Truth" in Dialogue, Vol. 5 (1966) p. 57.

27. Here Hume speaks like his immediate predessor Locke's tone. Locke says, "Adequate ideas are such as perfectly represent their archetypes--Of our ideas, some are adequate,... [such as those] which perfectly represent those archetypes which the mind supposes taken from; which it intends them to stand for, and to which it refers them". Essay, p. 209.

28. D.W. Livingston in his paper "Hume on Ultimate Cause" in American Philosophical Quarterly, Vol. 8 (1971), p. 64 makes almost the same argument in favour of ultimate cause.

29. R.F. Anderson, Hume's First Principles, (University of Nebraska Press, Lincoln, 1966), p. 165.

30. In an essay which appeared in a publication of the Philosophical Society of Edinberg of which Hume was at that time co-secretary, Professor Stewart attacked a position he claimed to find in Hume's Treatise namely "that something may begin to exist, or start into being without a cause" (Letters, Vol. I, p. 185. cf. C.E. Mossner, The Life of David Hume, (Oxford U.P. 1980), p. 259-260. In reply to the above charge Hume wrote a letter to Stewart in February 1754, in which he flatly denies that he had ever asserted "so absurd a proposition".

31. Greig ed., Letters, Vol. I, p. 187, emphasis original.

32. The Philosophy of David Hume, pp. 411-413.

33. "The Causal Principle, and Kemp Smith", Hume Studies, Vol. I (April 1975), pp. 1-24.

34. However, in our third chapter we shall argue that Hume's view is not sceptical about induction.

35. F. E. Sparshott, in his "In Defence of Kemp Smith", Hume Studies, Vol. 1 (Nov. 1975), p. 67 also maintains this interpretation.

36. Oswald Hanfling in his article "Hume's Idea of Necessary Connexion" in Philosophy Vol. 54 (1979) has given these two explanations.

37. J. Bennet, Locke, Berkeley, Hume, (Oxford U. P. 1971), pp. 264-265.

38. O. Hanfling, op. cit.

39. Capaldi seems to suggest the second alternative for Hume consistently with Hume's "official" view. As Capaldi says, "we are all familiar at this date with the notion of atomic properties of matter, and atom wasone of Hume's presuppositions as well". David Hume, (Twayne, Boston, 1975) p. 163.

40. Anderson, op. cit., p. 153.

41. F. Feinberg, ed. Reason and Responsibility, (Dickenson Publication Co. Inc. California, 1965), p. 246.

42. H. E. Root's edition (Adam & Charles Black, London, 1956) p. 28.

43. We are quite at one with Beauchamp & Rosenberg that Hume never denied non-empirical causal necessity although he is not chiefly concerned with it, "and that his impression/idea theory of meaning somewhat limited his vision". Hume and the Problem of Causation, (Oxford U. P. 1981), p. 143.

44. N. K. Smith edition (The Bobbs. Merrill Co. Inc. 1947). In this work Hume puts his argument through the mouths of Cleanthes, Philo and Demea. There is a controversy as to with whom Hume's position should be identified. However, we agree with Kemp Smith that "Philo, from start to finish, represents Hume" (D. P. 59).

45. E. J. Nelson, "Causal Necessity and Induction" in PAS, Vol. LXIV (1963-64), p. 299.

CHAPTER TWO

The Two-Definition Dispute

I

The Definitions of "Cause"

After fully accounting for the source of our idea of necessary connection in the form of a propensity or determination of thought. Hume's analysis of causation is complete. It remains for him to "collect all the different parts of this reasoning, and by joining them together, form an exact definition of the relation of cause and effect" (T. 169). But in the very next sentence he says that "there may be two definitions given of this relation. . . " (T. 169). The peculiar thing is that not only in the Treatise but even in the Enquiry Hume defines "cause" in two ways. The definitions given in the Treatise are similar to those given in the Enquiry, but they are not identical. The curious fact is that he has offered all these definitions as definitions of the same thing.

Hume's definitions of "cause" have been a source of great debate. The main problem for his readers is the correct reading of these definitions. It seems to be a typical instance of the fundamental problem of Hume's philosophy in general, illustrating how difficult it

is to get clear upon his real (following Passmore) "intentions". However, the definitions[1] are as follows:

T-definitions:

1. A cause is 'An object precedent and contiguous to another, and where all the objects resembling the former are plac'd in like relations of precedency and contiguity to those objects, that resemble the latter'

2. 'A cause is an object precedent and contiguous to another, and so united with it, that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form a more lively idea of the other' (T. 170).

The first definition regards causation as a philosophical relation and the second definition regards causation as a natural relation.

Now if we divide these two definitions into their constituent parts, we get the following components:

Df. T1 states that x is the cause of y if and only if

(a) x precedes y;

(b) x and y are spatio-temporally contiguous; and

(c) all objects resembling x are always conjoined by y in the manner of precedency and contiguity.

Df. T2 states that x is the cause of y if and only if

(a) x precedes y;

(b) x and y are spatio-temporally contiguous; and

(c) the idea or impression of x induces in us the idea of y.

E-definitions:

1. A cause is "an object, followed by another, and where all the objects similar to the first are followed by objects similar to the second. Or in other words, if the first object had not been, the second never had existed" (E. 76).

2. A cause is "an object followed by another, and whose appearance always conveys the thought to that other" (E. 77).

The pattern of both df. T1 and df. E1 is similar. Both are couched in objective terms. Both suggest than an object may be called a cause if it stands in the relation of constant conjunction to any other object. But one major difference has occured in presenting the df. E1. The second clause of this definition includes a contrary to fact conditional. The first clause is used to make a statement of constant conjunction which may be called a brute fact generalization fully analyzable as material implication. But when Hume includes the second clause by interposing "Or in other words" between the two clauses it sounds as if he is claiming that they are logically equivalent.[2] But this does not seem to be his intention. Because the second clause which clearly refers to the necessary connection between cause and effect is neither the paraphrase of nor is entailed by the first clause.

Both df. T2 and df. E2 are stated in psychological terms which suggest that an object may be called a cause if it stands in a certain relation to the mind. So both of them give emphasis to necessary connection in the form of "determination of thought".

In the Treatise Hume makes a claim as well as entertaining a hope on behalf of T-definitions. His claim is that these definitions differ only in presenting different views of the same object. His hope is implicit that the second definition may be substituted in place of the first definition, if the former be considered defective (T. 170). There may be at least two reasons why Hume thinks that df. T1 may be defective:

1. It is only on the basis of the observed precedency and contiguity of any two objects before us that we call one the cause of the other i. e. , that we state that in all objects resembling the two objects currently before us, a causal relation will subsist between them. However, Hume has been at pains to show that this conclusion is unwarranted on the basis of the evidence before us, because it involves an invocation of the uniformity of nature, that the future will resemble the past a presupposition which itself can not be justified either on the basis of rational arguments or even probabilistically.
2. Another reason why Hume thinks that df. T1 may be defective is that according to his epistemological principle he must find either an impression or an idea as the source of the idea of necessary connection

> between cause and effect. Now as the first definition fails to supply the required idea of necessary connection, the second definition fills this gap by referring to the psychological process of the determination of the mind.

In the Enquiry Hume makes the same claim as he claims in the Treatise, but he seems to abandon his hope. In the Enquiry after presenting the first definition he introduces the second definition as "another definition of cause" (E. 77). He frankly asserts the defect (if any). As he states, "But though both these definitions be drawn from circumstances foreign to the cause, we can not remedy this inconvenience, or attain any more perfect definition, which may point out that circumstance in the cause, which gives it a connexion with its effect" (E. 77). Here he no longer considers the second definition as a possible remedy of the first definition.

Now the question is what does Hume mean by "objects foreign to the cause" (T. 170) or "circumstances foreign to the cause" (E. 77)?[3] He may mean by "objects" and "circumstances" those qualities and conjunctions of objects of which we are aware and which give rise to our belief in causal necessity. But what is "foreign to the cause" is the unknown, unobserved, secret causal principle which is precisely the one we are unable to apprehend. Hume's own remark suggests that his definitions on the basis of constant conjunction and

its resulting mental determination may be imperfect or inadequate. A more perfect definition (if such were possible) would disclose the causal power, or the unknown connection between cause and effect. Now since we have no insight into the inner nature of causal connections, a definition that incorporates objective causal necessity is unavailable, and definitions superior to those already offered can not therefore be provided.

In the Treatise Hume makes an explicit distinction between "philosophical" and "natural" relation. In df. T1 the causal relation is defined as a philosophical relation which includes three characteristics of causation viz. contiguity, temporal priority and constant conjunction. On the other hand, in df. T2 causal relation is defined as a natural relation which includes 'determination of thought' to pass from one to the other. It is interesting to notice that this explicit distinction between philosophical and natural relation is altogether dropped in the Enquiry.[4] After defining "cause" in two ways in the Enquiry Hume observes that when we say, for instance, that the vibration of this string is the cause of this particular sound we mean either (a) this vibration is followed by this sound, and that all similar vibrations have been followed by similar sound; or (b) that this vibration is followed by this sound, and that upon the appearance of one the mind anticipates the senses, and forms immediately an idea of the other. Hume asserts, "we may consider the relation of cause and effect in

either of these two lights; but beyond these we have no idea of it" (E. 77). It implies that there is no real difference between these two ways of defining the "essence" of causal relation. This is misleading in the sense that it suggests that there is no problem about taking causation either way.

In the Treatise Hume provisionally allows both spatial and temporal contiguity to be essential to causation. As he holds, "I find in the first place, that whatever objects are consider'd as cause or effect, are contiguous;... we may therefore consider the relations of CONTIGUITY as essential to that of causation..." (T.75). Provisionally Hume admits that it is always believed that cause and effect are always contiguous, either immediately or mediately. For the time being Hume takes it for granted that contiguity is essential to the causal relation "till we can find a more proper occasion to clear up this matter, by examining what objects are or are not susceptible of juxtaposition and conjunction" (T. 75). And later on he makes it clear that he does not regard spatial contiguity as essential to the idea of causation because there are some objects which have no extension and position in space, so the presumption of contiguity makes no sense in these cases. About thoughts, i.e., "a moral reflection" and sensations, i.e., "a smell or sound", Hume says "that an object may exist and yet be no where" (T. 235). We can not place the moral reflection on the right or on the left of a passion; nor can a smell or sound be either of a circular or

a square figure. These objectsdo not acquire any particular place. We can certainly think of passions as entering into causal relations but they can not be said to be spatially contiguous to another thing. Therefore spatial contiguity is not a indispensible element in causal relation.

II

Certain Possible Misunderstandings

Although Hume has offered four definitions of "cause" in his two works, we may rightly accept that he has really offered only two definitions, thereby regarding df. T1 and df. E1 on the one hand and df. T2 and df. E2 on the other hand, as virtually identical.[5] Let us clear up certain confusions and correct some misunderstandings found in commentaries regarding these definitions.

(1) Hume's df. T1 and df. E1 contain an ambiguous use of the term "all" which makes a confusing effect upon his readers. A.H. Basson comments, "We are not quite sure whether Hume means only that A has preceded B, or both that A always has preceded B, and always will precede B".[6] Indeed the former interpretation alone seems to be in conformity with what Hume has said immediately after presenting E-definitions (Hume's vibration sound example). But Hume's real intention seems to be the other interpretation. It should be noted here that Hume does not deny that "A causes B" which is the result

of inference. What he actually denies is that we have any logical justification for this inference. There is no belief in causal inference as long as there is only a constant conjunction of both A and B unless or until there is a customary transition from an observed instance of A to any (all) inferred instance of B.

(2) As to the other two definitions, df. T2 is vague in one respect in which its corresponding df. E2 is not. Df. E2 asserts whereas df. T2 does not, that the appearance of A "always conveys the thought to that other" (E. 77). This "always" is missing in the df. T2. Now the question arises: Does Hume intend to say that a causal relation always produces an association or, that unless it does so, it is not a natural relation or not even a causal relation? He says, "These principles [principles of association] I allow to be neither the 'infallible' nor the 'sole' causes of an union among ideas. They are not infallible causes. For one may fix his attention during some time on any one object without looking further. They are not the sole causes" (T. 92). This does not seem to be consistent with the universality claimed by df. E2.

(3) At the beginning of section XIV, Part III, Book I of the Treatise Hume asserts that his specific task in this section is to discover "What is our idea of necessity, when we say that two objects are necessarily connected together" (T. 155). He then decides to answer this question by tracing the impression which serves as its origin.

However, after a long discussion he gets ready to answer this question by defining causation. But the definition is not of "our idea of necessity" but "of the relation of cause and effect" (T. 169).

Hume omits any mention of "necessary connexion" in his definitions of "cause". Flew comments that after tracing the origin of the idea of necessary connection and finally finding it, his definition should incorporate "something more" than constant conjunction. "Instead he writes rather as if he had shown: not that talk of necessity does after all have some sense here, and what sense it has; but that really it has little or none, and arises from a misconception--the projection of a mental association out on to a physical conjunction".[7] Flew's comment gets its support from the fact that both in the Treatise and Enquiry Hume holds that no proper definition of "cause" can be given "without comprehending as a part of the definition, a necessary connexion with its effect" (E. 95 & T. 77, 407).

But Flew's objection represents a misunderstanding of Hume's view. Hume has not explicitly mentioned the term "necessary connexion" in his definitions, but the impression of necessary connection is not omitted. In introducing df. T2 and df. E2, Hume introduces the term mental determination and customary transition as the impression (impression of reflection) of necessary connection. Thus Beauchamp and Rosenberg rightly comment that "Flew seems to confuse the absence of the term with the term's meaning".[8] Though

the term "necessary connexion" is absent from his definitions, its meaning is not absent.

(4) Some commentators[9] think that there is a circularity in df. T2 and df. E2. It is due to the presence of two causal words, namely, "determines" and "conveys". This charge seems to be quite true at face value. But whether these definitions are circular or not depend on the answer to the question "What is the idea of necessity. . . "? (T. 155). To answer this question we should remember that Hume has described the relation between an idea and its correspondent impression in two senses. (a) In the first sense an idea is the representation of an impression; as he says, "the ideas I form are exact representations of the impression I felt" (T. 3). (b) In the second sense an idea is caused by an original impression, as he says, "our impressions are the causes of our ideas" (T. 5).

Consistently with the above distinction, Hume's df. 2 which contain "determines" and "conveys" conform to the second type of relation between the impression and the idea. In the Treatise and also in the Enquiry in the section "Of the Idea of Necessary Connexion", Hume is searching not for the impression represented, but for the cause of the idea of necessary connection. In tracing the origin of the idea of necessary connection Hume finds two successive causal factors i. e. , constant conjunction and determination of the mind. Constant conjunction produces the impression of determination which again

produces the idea of necessary connection. Hume says, "... the repetition... produces a new impression, and by that means the idea" (T. 155) .

Thus a cause, say, fire and an effect, smoke, are "so united", Hume says, "that the idea of the one determines the mind to form the idea of the other" (T. 170). These two objects, fire and smoke are known to be causally connected if and only if there is a determination of the mind upon the perception of the one to have the idea of the other. Hume calls this determination "an internal impression". He further calls the determination "that propensity, which custom produces, to pass from an object to the idea of its usual attendant" (T. 165). It is this habit or propensity which when activated by the perception of smoke determines the mind to conceive the occurence of fire. So the impression i. e., determination, habit, propensity etc. causes the idea of necessity but these so called causal words themselves are not the idea of necessity. To say that X is the origin, X is the cause or X produces Y is not to say that X is Y.

From the above discussion it becomes clear that Hume has not used the term "necessity" (idea of necessity) as synonymous with "conveys", "propensity", "habit" or "determines". So the questionof circularity in df. 2 does not arise. Another point is worth mentioning here that "determination" is Hume's usual word for internal impression from which the idea of necessity is derived.

But he has not included it in the list of words synonymous for "power" and "necessity" (T. 155).

Flew also raises the same difficulty with respect to Hume's df. 2, viz. that it is circular due to the presence of some causal words.[10] But Flew himself tries to mitigate this difficulty by stating that:

> Certainly both determining and conveying look very like species of causing. But examination of usage in the Treatise suggests that determination is to be taken not as a synonym either for causation or necessitation but as a special word for the alleged impression of habitual association from which the idea of necessitation is supposed to be derived.

Df. 2 looks circular because the impression of determination and the idea of necessity belongs to the same content and their difference is only phenomenological.

III

Hume's Theory of Relation

In the Treatise Hume's first definition considers causation as a philosophical relation and the second definition considers it as a natural relation. Hume introduces the nature of these two relations in his two definitions of "cause" where he states that a philosophical relation is a comparison of ideas and a natural relation is an association between them (T. 169-170). So understanding Hume's notion of relation is important for understanding his definitions of "cause",

especially to settle the two-definition dispute.

Two Senses of Relation:

Hume's distinction of impressions and ideas into simple and complex gives rise to the question of relation. He has used the term "relation" in two senses:

1. In the first sense, "in common language" a relation means "that quality by which two ideas are connected together in the imagination and the one naturally introduces the other, after the manner above explained. . . " (T. 13). The nature of this manner is that "of the connexion or association of ideas" (T. 10). Hume further says, "this we may establish for a general rule, that wherever the mind constantly and uniformly makes a transition without any reason, it is influenc'd by these relations" (T. 92). These relations are contiguity, resemblance and cause and effect. Though Hume says that these relations are "neither infallible nor the sole causes of an union of ideas" (T. 92), nevertheless, he admits that these are "the only general principles, which associate ideas" (T. 92-93).

2. A relation in the second sense is "that particular circumstance, in which, even upon the arbitrary union of two ideas in the fancy we may think proper to compare them" (T. 13). Hume considers this relation as a relation among objects and as such independent of mind. It becomes clear when he says that "distance will be allowed by philosophers to be true relation, because we acquire

an idea of it by the comparing of objects" (T. 14). So in employing the term "relation" Hume means either a relation of association which he calls a "natural relation" or a relation of comparison which he calls a "philosophical relation".

Natural Relation:

The concept of natural relation is introduced in Book I, Part I, Section IV of the Treatise in the context of the association of ideas. It includes the three associative qualities of ideas i.e., resemblance, contiguity in time or place and cause and effect. Hume characterizes these three qualities as natural relation in the sense that "these qualities produce an association among ideas, and upon the appearance of one idea naturally introduces the another" (T. 11). Here Hume's contention is that having become acquainted with two objects which resemble one another, or, spatially or temporally contiguous to one another, an idea of the one causes an idea of the other. It is a transition from one idea to another. If an object X resembles an object Y and a person P has perceived both, then the thought of X causes the thought of Y. But in all these processes P's previous impression of both X and Y is obvious.

Philosophical Relation:

According to Hume there are seven kinds of philosophical relations, viz. resemblance, identity, relations of time and place, proportion in quantity or number, degrees in any quality, contrariety,

and causation (T. 14-15 & 69). All these relations represent an attempt "to enumerate those qualities, which make objects admit of comparison, and by which the ideas of philosophical relations are produced" (T. 14). Hume has divided philosophical relations into two types and accordingly he draws his famous line of "relation of ideas" and "matters of fact".[11] Philosophical relations of the first type are those which "depend entirely on the ideas, which we compare together" and those of the second type are those which "may be chang'd without any change in the ideas" (T. 69).

The above distinction between the two types of philosophical relations is made according to whether they can or can not be the object of knowledge and certainty. Resemblance, degrees in any quality, proportion of any quantity or number and contrariety contain this mark of certainty because they depend solely upon our ideas compared. Any propositions expressing these relations are known by intuition or demonstration and we are "necessarily determin'd to conceive them in the particular manner" (T. 95). To the latter type belong the relations of identity, contiguity in time or place and causation. Any propositions expressing these relations do not give us certainty because the necessity to conceive of them is one particular manner rather than another, "can not take place, and the imagination is free to conceive both sides of the question" (T. 95). As the relational properties of each of these relations, is not contained in the idea related, they can be known only by experience. The first of these two relations (identity and relations

of time and place) are not considered "since in none of them the mind can go beyond what is immediately present to the senses, either to discover the real existence or the relations of objects" (T. 73). So the causal relation becomes vital in Hume's theory of relations because it contains some nonsensory element which "informs us of existences and objects, which we do not see or feel. . . " (T. 74).

When Hume proceeds to expound his distinction between philosophical and natural relations in his analysis of causation it becomes a source of obscurity which results in a confusing effect upon his readers. The main source of this confusion is that Hume considers causation both as a philosophical and as a natural relation. The distinction between these two kinds of relation is applied to the causal relation in the following manner:

> Thus tho' causation be a philosophical relation, as implying contiguity, succession and constant conjunction, yet 'tis only so far as it is a natural relation, and produces an union among our ideas, that we are able to reason upon it, or draw any inference from it (T. 94).

IV

Debate Over the Status of the Two-definitions of "Cause"

One of the main problems of Hume's readers is the correct reading of his definitions of "cause". The problem is not only interesting, but not quite easy to solve. The contemporary commentators on

Hume think that Hume's philosophy requires much explanatory effort. However, the problem may be divided into the following questions:

1. Are Hume's two sets of definitions[12] really definitions of the same thing?
2. If not, then why should Hume proceed to offer two definitions of "cause"?

These questions led to a debate[13] between J.A. Robinson and Thomas Richards.

Before coming to this debate, let us shed some light on the philosophical-natural relation issue which proves most relevant to Hume's two definitions of "cause". Most commentators on Hume who think that a two-definition reading of Hume's theory of causation is an error, strengthen their views by the fact that Hume altogether drops the "troublesome" distinction between philosophical and natural relation in the Enquiry.[14] So there is no longer a basis for saying that df. 1 and 2 define the same causal relation. There is no denying the fact that Hume has not explicitly mentioned the distinction between these two types of relation in the Enquiry, but df. E1 and 2 bear the same elements of philosophical and natural relation respectively. In the Enquiry "relations of ideas" and "matters of fact" represent two types of philosophical relations expressed in the Treatise. And after defining "cause" as a philosophical relation (in terms of constant conjunction) in the Enquiry, he says, "The appearance of

cause always conveys the mind by a customary transition, to the idea of the effect" (E.76, emphasis added). This cause is a natural causal relation. So though the words (natural and philosophical) are absent in the Enquiry definitions, the concept or meaning of philosophical and natural relation is retained.

Now coming to the contemporary debate on Hume's two definitions opened by Robinson and Richards, Robinson regards a two-definition reading of Hume's definitions of "cause" as "an extremely misleading error" and he proposes a "rescue" for Hume. Robinson's papers are mainly concerned with the discussion of those questions (stated on page 85). As to these questions Robinson's answers are:

(a) The two definitions can not be definitions of the same thing; and

(b) df. 2 is not a definition at all, but an empirical psychological statement about what is already defined in df. 1.

Robinson's question is how can one relation, the one causal relation, be defined in two ways, if the definitions are neither intentionally nor extensionally equivalent? Taking Hume's distinction between philosophical and natural relations Robinson argues that df. 1 and 2 "are equivalent neither in their meaning nor by virtue of having the same extension.[15] This being so, it seems strange that Hume should put forward (1) and (2) as definitions of the same term" (CH.133). His

contention seems to be that df. 1 and 2 being non-equivalent, can not define the same thing. His argument for why df. 2 is not a definition at all is difficult to discover. He seems to be saying that:

1. Hume is a supporter of the uniformity view of causation.
2. As he is a supporter of the uniformity view of causation, it is a mistake to bring an element of association into his notion of "cause".
3. But since df. 2 is not supposed to be a definition of anything other than cause, it can not be a definition at all.[16]

Robinson's second thesis involves a most plausible construing of df. 2. His argument seems to be that the right clue to the same is to be found in Hume's real purpose at hand. Indeed, Hume has two tasks to carry out in that part of the Treatise which is devoted to causation: "(A) he must analyse the cause-effect relationship between events and give a clear definition of it, and (B) he must expound his claim that the cause-effect relation, so defined, is a natural relation, and pursue the factual consequences of this claim" (CH. 138). Further, Hume also has to offer an explanation of our belief in causal necessity which seems to have no basis in experience--an explanation which can satisfy those who mistakenly include necessity in the causal relation and may be shocked to find it omitted in df. 1.

It is because of this that Hume places df. 2 along side df. 1. No difficulty remains if we regard df. 2 as merely a statement that the causal relation is a natural relation--precisely, as "simply a restatement of the proposition that the (already defined) cause-effect relation is a natural relation, in a somewhat elliptical formulation" (CH. 139).[17]

But Robinson's view on a two-definition reading of Hume's definitions does not follow Hume's expositions of philosophical and natural relations. In Book I, Part I, Section V, where Hume enumerates seven kinds of philosophical relations, he includes the three natural relations. Here Robinson takes Hume to mean that all relations are by definition philosophical and natural relations are not a distinct kind of relation at all, but the name of all those three philosophical relations. He interprets Hume's notion of natural relation as follows:

> Naturalness is then simply the property of any relation R between a thing or event A and a thing or event B (not between the idea of A and the idea of B) whereby the observation of A and B standing to each other in the relation R is enough to induce an association between the idea of A and the idea of B... Hume's notion of naturalness is dispositional in character: A's relation to B is natural if observation of A and B standing to each other in the relation in question would produce an association between the idea of A and B. This allows A and B to be naturally related without even having been observed (CH. 136).

And further Robinson interprets Hume's notion of Philosophical relation as follows:

> To say that a relation R is "philosophical" is to make a factually empty statement: all relations are philosophical... It must not be thought that here we have a classification of all relations into two kinds, philosophical on the one hand and natural on the other. Thus the cause-effect relation, being a relation, is ipso facto a philosophical relation, and therefore to define it "as" a philosophical relation is, simply, to define it. (CH. 138).

Now even if we take Robinson's interpretation of Hume's second definition as a natural relation, still then Hume is involved in the same inconsistency from which Robinson wants to rescue him. Because, Hume has not denied the existence of "secret" causes which are never observed. Hume speaks of "unknown causes" which are "ultimate inexplicable causes" (T. 84), and even in the Enquiry he says, "...as to the causes of these general causes... they are totally shut up from human curiosity and enquiry" (E. 30). This contradicts Robinson's thesis that df. 2 is an empirical statement about df. 1, since it is not true that all causal relations are empirically observable.

Richards' reaction to Robinson's theses is that he accepts thesis (a) but rejects thesis (b). Richards does not deny that df. 1 and 2, being non-equivalent, can not define the same thing. His own account of this contention is based on the same foundation as Robinson asserts. If two things are different then "ipso facto", they do not admit of the same definition; and if two definitions are different, then, "ipso facto", they can not apply to the same thing. But still there is no denying the fact that Hume has offered df. 1 and 2 as definitions of the same thing.

This is really puzzling. Actually the real controversy between these two philosophers is over the second question. Robinson's view is that a two-definition reading is an error. On the other hand, Richards suggests a two-definition reading, considering df. 1 and 2 to be definition, though not definitions of the same thing. He further claims that Robinson's account of Hume's two definitions of "cause" must be mistaken. In support of this claim (as we argued earlier) Richards argues that Hume does not deny the "secret" causes which are never observed. This contradicts Robinson's thesis that df. 2 is an empirical statement about df. 1, since it is not true that all causal relations are natural. So Richards concludes that the claim that df. 2 is an empirical statement is false, because every instance of "philosophical" causal relation is not a natural causal relation.

Richards' case for a two-definition reading is textual. It is strengthened by the fact that even in the Enquiry Hume offers df. 1 and 2 as definitions of the same notion. And he suggests that df. 2 can be best construed as defining the notion of natural causal relation. He says:

> When an assertion that A causes B is made, there are two questions which we can ask (among others) about this assertion. The first is "what is being asserted"? and the second is "what states of affairs must obtain from the asserter properly to believe that A causes B?"[18]

According to Richards the answer to the first question is the definition

of "cause" as a philosophical relation, while the answer to the second question is the definition of "cause" as a natural relation. But as Robinson rightly rejoins, here Richards brings a "normative" element which is foreign to Hume's intention (CH. 167).

V

Both Regularity and Necessary Interpretations are Incompatible

The whole issue is not a simple one. Its decision mainly depends on the answer to the question: whether Hume has intended df. 2 as a definition and is there any logical objection to regarding 2 as a definition? Hume has repeatedly insisted that there are two definitions of "cause". Now if Robinson's interpretation of Hume's theory of causation is true then as Lesher[19] rightly points out, Hume's view of causation is merely a priority, contiguity and constant conjunction. But Hume always maintains that the causal relation contains not only contiguity, succession and constant conjunction; rather it also contains the factor of necessity. Hume insists both before and after giving his two definitions of "cause" that "necessity makes an essential part of causation" (T. 407, cf. 77, 87). Even in the Enquiry Hume challenges any one to "define cause without comprehending as a part of the definition, a necessary connexion with its effect" (E. 95). It is this necessity which is the crux of any causal relation.

We see that the whole of Part III of Book I of the Treatise and even the major portion of his discussion on causation in the Enquiry are devoted in one way or another to an investigation of the nature of necessary connection. So Robinson's interpretation flies in the face of Hume's explicit assertion that he is giving two definitions. On the other hand, as Robinson construes Hume as giving the df. 1 as the only true definition of "cause", then he is attributing to Hume a theory which he flatly denies. So Hume is compelled to give df. 2 to introduce the element of necessity that a mere "regularity view" fails to capture.

It is interesting to notice that though at one point Robinson admits that for Hume necessary connection is not a proper part of the concept of causation (CH. 140), later on he also admits that Hume not only took the condition of constant conjunction when added to contiguity and succession to provide the adequate analysis of causal relation; but also that Hume took the analysis to include the element of necessity (CH. 144). Admitting the essentiality of necessary connection to be added to other conditions of causation, Robinson mistakenly supposes that Hume takes constant conjunction to supply the required necessary connection. Of course, after remarking that "necessary connexion" must be considered (T. 77), Hume is a little bit hopeful with the possibility that constant conjunction may provide this connection. And Robinson seems to be misled by the following passage (which he quotes from T. 87) where Hume speaks of the relation of constant

conjunction.

> Thus in advancing we have insensibly discover'd a new relation betwixt cause and effect, when we least expected it, and were entirely employed upon another subject. This relation is their CONSTANT CONJUNCTION. Contiguity and succession are not sufficient to make us pronounce any two objects to be cause and effect unless we perceive that these two relations are perceiv'd in several instances. We may now see the advantage of quitting the direct survey of this relation, in order to discover the nature of that necessary connexion which makes so essential a part of it (T. 87, emphasis Robinson's, CH. 143).

Concerning this passage Robinson remarks that this "new" relation which Hume adds over and above contiguity and succession "is heralded here as the missing condition which was needed to provide. . . a sufficient condition for x to cause y. . . " (CH. 143-144). He further adds that "therefore, to provide the analysis of the extra element of necessitation which was lacking when (a) and (b) [contiguity and succession] alone had been adduced earlier" (CH. 144).

But Robinson seems to ignore the very next page of the Treatise where Hume relinquishes any hope that constant conjunction provides the necessary connection previously missing from the account:

> . . . this new-discover'd relation of a constant conjunction seems to advance us but very little in our way. For it implies no more than this, that like objects have always been place'd in like relations of contiguity and succession; and it seems evident at least at first sight, that by this means we can never discover any new idea, and can only multiply but not enlarge the objects of our mind. It may be thought, that what we learn not from one object, we can never learn from a hundred, which

> are all of the same kind, and are perfectly resembling in every circumstance,... From mere repetition of any past impression, even to in infinity, there never will arise any new original idea, such as that of a necessary connexion... (T. 88, emphasis added).

So it becomes evident that Hume has not equated necessary connection only with constant conjunction which Robinson supposes that he has done.[20] Rather, he takes constant conjunction as a guide to discover the nature of necessary connection. And he then goes on to show that constant conjunction produces a new kind of necessary connection, which Hume identifies with the "determination of the thought". So he finally allows our psychological compulsion to provide the required necessary connection.

Kemp Smith takes the advantage of the above interpretation and adopts the following reading of Hume's notion of causation:

> ... Hume is no supporter of what is usually meant by the 'uniformity' view of causation. As he is careful to insist, causation is more than sequence, and more also than invariable sequence. We distinguish between mere sequence and causal sequence; and what differentiates the two is that the idea of necessitation (determination or agency) enters into the latter as a quite essential element.[21]

Kemp Smith defends his view on the ground that after remarking that the factor of "necessary connexion" must be considered, Hume even rejects the possibility that constant conjunction, the third element of the df. 1 of "cause" as a philosophical relation may provide us with the required connection. It should be pointed out here that Kemp Smith

has not explicitly discussed df. 1 and 2, but his remark suggests that he takes df. 2 to be Hume's real definition and df. 1 merely an explanation of our belief in causal connection.

However, it seems that in principle Kemp Smith agrees with Robinson that Hume's two-definition reading of causation is an error and df. 1 and 2 can not be the definitions of the same thing. But if Kemp Smith's interpretation were correct then Hume would deny any extramental causal relation (which surely Hume does not deny). Both of their interpretations (separately) reveal a partial exposition of Hume's notion of causation. Kemp Smith seems to admit that df. 2 is Hume's real definition of "cause" which Robinson denies. On the other hand, Robinson insists that Hume accepts a regularity view of causation, which Kemp Smith denies.[22] But both of them agree that necessary connection is the necessary condition for any causal relation. Both supposes that necessity for Hume (in causal relations) has only one meaning i.e., psychological necessity. But whereas Kemp Smith denies that constant conjunction supplies this necessary connection, Robinson takes constant conjunction to supply the required necessary connection. Now taking both Kemp Smith and Robinson's view on the "Two-Definition Dispute" together we may get at Hume's real intention.

VI

Solution of the Two-definition Dispute

In Hume's analysis of causation he insists on an impression of necessary connection as the condition of the meaningfulness of this term (necessary connection) and because the appropriate impression is the psychological product of observed constant conjunction, he intends both df. 1 and 2 together to provide a complete analysis of causation. He intends it to be through some function of these definitions that we are led to infer "the existence of one object from the appearance of the other", or "one event from the other" (E. 42, 79). Now let us see whether by taking jointly both these definitions we exhaust what Hume means when he employs the term "cause" in the sense of one event causing another event.

In Hume's theory of causation both constant conjunction and necessary connection in the form of mental determination, are two essential elements. As Hume says that "all kinds of reasoning from causes or effects are founded on two particulars viz. the constant conjunction of any two objects in all part experience, and the resemblance of a present object to any one of them" (T. 142). As both of these are necessary conditions, they must be included in his definitions of "cause", if they are to satisfy a complete analysis of causation. Now df. 1 admits that an object is to be called a cause

if and only if it stands in a relation of constant conjunction to another object, and df. 2 admits that it is to be called a cause if and only if it stands in a certain relation to the mind. So df. 1 which includes constant conjunction or repetition of similar instance is observable and is a philosophical relation. But a philosophical relation can never provide us with the basis (necessary connection) for our prediction from past to future existence. The possibility of this rests on df. 2 which involves a thought factor in terms of necessary connection.

Hume is of course interested to answer the question: Why are objects called "causes" or "effects"? And part of the answer to this question, he finds, is that they are so called because we can perceive them to stand in the relation of constant conjunction. As he writes:

> We remember to have seen that species of object we call flame; and to have felt that species of sensation we call heat. We likewise call to mind their constant conjunction in all past instances. Without any further ceremony, we call the one cause and the other effect, and infer the existence of the one from that of the other (T. 87).

Here Hume finds one of the criteria in terms of which we apply the term "cause". This is the criterion (constant conjunction of similar instances) which form his df. 1.

But still Hume is not satisfied and indicates (T-page 87-88) that his account of causation in terms of constant conjunction does not fully capture the notion of causation. After introducing the element

of constant conjunction Hume is not saying that two objects are causally related if we observe the relations perceived in several instances. He makes a much weaker claim that the perception of objects in several instances is sufficient to make us pronounce those objects to be cause and effect. So we must consider "necessary connexion" to be another and most important element of it which is lacking in the first criterion. Because depending on this criterion we can not go beyond the observed situation. So his df. 1 as a philosophical relation, must be supplemented by reference to a natural relation, and only df. 2 can help him to pass from the observed to the unobserved. In examining the idea of necessary connection, what we find ultimately, is the activity of the mind which associates the cause and effect. This association as an additional condition for causal prediction is omitted in df. 1. It omits this because df. 1, as a philosophical relation, permits only the comparison of ideas, not association between them. So df. 1 can not be said to be sufficient for the correct application of "cause".

Now the question may be raised whether df. 2, which includes the vital aspect of causation i.e., necessary connection, can be said to be sufficient for the correct application of "cause"?[23] The answer to this question is no. Although, df. 2 includes necessary connection which df. 1 fails to include, it can not be said to be sufficient for a complete analysis of causation because it fails to incorporate constant conjunction. It can not incorporate constant conjunction

because, constant conjunction is essentially concerned with the comparison of ideas, so it must be left out of any definition of causation as a natural relation. Constant conjunction can only be incorporated in df. 1 from the point of view of philosophical relation. And it is by inference based upon this relation we draw conclusions about things with which we are not acquainted, events too remote in time to be remembered, and objects too distant or too small to be observed.[24]

It is after finding the required necessary elements (constant conjunction and necessary connection) that a complete account of causation is assured and then Hume proceeds to define "cause" in two different ways. And immediately before he gives his definitions in the Treatise Hume explicitly mentions that these two definitions are "only different by presenting a different view of the same object, and making us consider it either as a philosophical or a natural relation. . . " (T. 170, emphasis added). This remark on T-definitions clearly admits that both df. 1 and 2 define "cause". Hume's real intention may be apparent even from his introduction to the E-definitions. He introduced both the E-definitions with the words "suitably to this experience" (E. 76 & 77). He seems to be saying that "so far as experience goes, we are justified in defining causation in two different ways, and we may accept either definition".

But as Robinson thinks, Hume can not do that, since there can not be two non-equivalent definitions of the same thing. Taking

for this moment Robinson's view, what Hume could have done is to equate "philosophical causal relation" with just "causal relation" and then introduce "natural causal relation" as a species of the former. In that case, the letter might be defined as a causal relation which is such that the ideas of the objects so related tend to be associated. But Hume never does say that causation as a natural relation is a species of causation in general, rather he says that df. 2 as a natural relation is the different aspect of the same notion, which claims equal status with philosophical causal relation. So it appears quite evident that df. 1 and 2 must be construed as definitions, but only as alternative definitions of the same notion. This view is quite agreeable to Hume's remark in Book I, Part I, Section V that "cause and effect is a seventh philosophical relation, as well as a natural one" (T. 15).

From a purely non textual analysis Hume's two-definition reading of "Cause" is quite defensible. The function of a definition is to formulate a category which may or may not have any members and it is commonplace that a particular object may come under the scope of more than one definition. For example, the same woman may fall under the category of "wife" and "mother". She can stand simultaneously in both these relations without any inconsistency. Thus "philosophical causal relation" and "natural causal relation" may be said to be two class concepts presenting two distinct categories and a particular causal relation may fall under both of them.

So one should not consider Hume's "either-or" as a mere accident in his general exposition of the causal relation, and think that his presentation of both df. 1 and 2 as definitions is an accidental slip. Rather it is a fact of experience, as Hume sees it, that all causal relations fall under both categories, provided, of course, the concept of natural causal relation is defined dispositionally and this seems to show that:

1. a separate definition of causal relation is quite possible by the side of a definition of philosophical causal relation; and
2. such a definition is necessary for a complete analysis of causation.

And the two definitions will incorporate two types of relations for the correct application of the term "cause". It is only after taking these two definitions jointly, Hume's analysis omits nothing essential to characterizes the "cause".

NOTES

1. Henceforth, the definitions will be mentioned as T-definition and E. definition or df. T and df. E.

2. Flew comments (Book Review of R. Harre & E. H. Madden's Causal Powers, in Hume Studies Vol. II 1976, p. 87) that Hume falsely states the second clause to be equivalent to the first. But Hume's revealing remark "or in other words" which seems to be equivalent to the first is not actually what Hume intends to mean. Selby-Bigge's remark in the Introduction to Enquiry seems to be quite justified that the second of the two sentences not only is not equivalent to, it is not even entailed by the first (E. XVIII). And this clearly indicates Hume's view of objective necessary connection between cause and effect.

3. Almost all commentators on Hume's definitions of "cause" state these phrases without making any comment except R. F. Anderson (Hume's First Principles, p. 157). Our interpretation is in line with Anderson's.

4. However, we shall see that the meaning of these two types of relations are not absent in his E-definitions.

5. We accept T-definitions and E-definitions as identical on the ground that when Hume reiterates his two E-definitions on page 97, he consolidates the two clauses of df. E1 which fails to do df. E1 by assimilating the second clause to the first.

6. A. H. Basson, David Hume (Penguin Books, London, 1958) p. 75.

7. A. Flew, Hume's Philosophy of Belief (Routledge & Kegan Paul, London, 1961) p. 123.

8. T. L. Beauchamp & A. Rosenberg, Hume and the Problem of Causation (Oxford U.P., 1981) p. 12.

9. C. J. Ducasse, ("Critique of Hume's Conception of Causality" in JP Vol. 63, 1966, p. 142) holds that the verb "conveys" makes the second definition circular.

10. Actually Flew raises the question of circularity referring to others "unsympathetic" critics of Hume, Hume's Philosophy of Belief, p. 122.

11. In the Enquiry Hume substitutes these two types of philosophical relations to "Relations of Ideas" and "Matters of fact". Of course, these new expressions are not altogether absent in the Treatise, but in different contexts. One is in the context of his definition of "truth". Truth or falsity consists in an agreement or disagreement either to the relation of ideas or to real existence and matter of fact (T. 448). The other context is his moral distinctions where he states that "the operations of human understanding divide themselves into two kinds, the comparing of ideas, and the inferring of matter of fact..." (T. 463).

12. Henceforth, the two sets of definitions will be mentioned as df. 1 or df. 2.

13. The debate embodies three articles, two by Robinson and one by Richards. These articles appear in Hume, ed. V.C. Chappell (Doubleday, 1967). Hereafter, all bracketed references followed by CH are to Robinson's articles.

14. Kemp Smith holds that because of the lack of clearness as to the character and consequences of Hume's distinction between natural and philosophical relation, he does not even mention these in the Enquiry, "and doubtless for the reason that he [Hume] come to realize how confusing had been his treatment of it in the Treatise (The Philosophy of David Hume, p. 250).
Penelhum comments that "this distinction makes no appearance in the Enquiry, and its absence is a benefit" (Hume, Macmillan, London, 1975, p. 54).
Even Selby-Bigge in the Introduction to the Enquiry says that "the distinction between causation as a philosophical and natural relation is altogether dropped. In the Treatise this distinction is very hard to follow" (E. XV).

15. J. Bennett and J.L. Mackie support this view. Bennett holds that "the two definitions are not equivalent... they can not both be correct accounts of what we mean by "cause" (Locke Berkeley Hume, Oxford U.P. 1971, p. 219). Though Mackie recognizes that Hume's account of causation is "the most significant single contribution", takes it for granted that Hume's definitions "are not clearly equivalent, nor even co-extensive" (The Cement of the Universe, p. 3).

But Donald Gotterbarn in his article "Hume's Two Lights on Cause" in The Philosophical Quarterly, Vol. 21 (1971) opposes Robinson's interpretation. He holds that both df. 1 and 2 are definitions of the same thing. "Hume is correct in his claim that D_1 and D_2 are both definitions of the same object. These definitions are extentionally equivalent and intentionally distinct" (168). From Hume's remark that a philosophical relation is "any particular subject of comparison" he argues that as philosophical relation is a product of a comparison, it requires an agent to do the comparison. He further argues that the object defined by both df. 1 and 2 being the same object, that they consider two different aspects of the same relation, it is not possible for the relation defined by df. 1 to be extentionally distinct from the relation defined by df. 2 (169).

16. Robinson does not argue exactly in this way, but this seems to be his intention, and indeed, it is not clear how otherwise he could argue in order to show that df. 2 is not a definition at all.

17. Here he is in agreement with Penelhum and Basson. Penelhum says, "The relation of causation is a philosophical relation in that its elements (contiguity, succession constant conjunction) are actually present in the object. But the same relation is natural one in that it degenerates an associative connection. . . " (Hume, p. 55). Basson says, "The chief use of Hume's second definition is to explain why the first definition seems inadequate. . . " he wants to explain how people mistakenly come to suppose that it was something more. . . " (David Hume, p. 75).

18. T. J. Richards, "Hume's Two Definitions of Cause" in V. C. Chappell ed. Hume, p. 256.

19. "Hume's Analysis of 'cause' and the Definitions Dispute" in Journal of the History of Philosophy, Vol. 11 (1973).

20. Passmore rightly comments that if Hume's idea of necessity ends up denoting a constant conjunction between events, then he will no longer be able to conclude that "necessity is something that exists in the mind not in objects" (T. 165), cf. Hume's Intentions, p. 76.

21. N. K. Smith, The Philosophy of David Hume, (Macmillan, 1941), pp. 91-92.

22. Ibid. p. 372.

23. In arguing this way we are not claiming that df. 1 and 2 are not (separately) definitions of cause. Our claim is that it is only when both these definitions are considered, then a complete analysis of causation is assured.

24. James Noxon, "Hume's Concern with Religion" in the Southwestern Journal of Philosophy, Vol. 7 (1976), p. 68.

CHAPTER THREE

Causal Inference

I

Preliminary Remarks

In our previous chapter we have seen that Hume's analysis of causation requires both df. 1 and 2. The essential components of df. 1, i.e., contiguity, succession and constant conjunction are observable features. But in causal inference we need to transcend what has not so far been observed. So Hume introduces df. 2 of "cause", which includes a propensity or determination of the thought and accounts for "our inference from one to the other" (T. 165). As Hume says of causation, it is "only so far as it is a natural relation, and produces an union among ideas, that we are able to reason upon it, or draw any inference from it" (T. 94).

Hume's notion of psychological necessity bears directly on his theory of causation. It is evident that he has taken up the nature of inference at the point in his work where he discusses the place of necessity in causal relations. The implication of Hume's meaning-empiricism that "every idea... is copied from a similar impression"

(E. 19), leads him to the conclusion that our idea of necessity is derived from a subjective impression which arises from the observation of constant conjunctions of objects. But it is also evident (as we have shown in our first chapter) that Hume consistently maintains that there are real forces or necessary connections in objects which are not directly accesssible to our sense experience. Hume has clearly shown that we have no objective impression of necessity, yet he consistently maintains that necessary connection is the most important part of the causal relation.

In spite of the fact that the real necessity in nature is inconceivable to us, we suppose that this necessity does exist and on the basis of which we make causal predictions. Hume admits that "the generality of mankind. . . suppose that. . . they perceive the very force or energy of the cause, by which it is connected with its effect" (E. 69). A major aim of Hume's account of causality is to explain why "the generality of mankind" naturally think that there is a real connection in object. [1] Since our beliefs in causal necessity are not derived from any discoveries we make about the causal connection itself, Hume's account of psychological necessity accounts for our propensity to hold our belief in future prediction.

Hume's Problem:

At the beginning of his analysis of causation in the Treatise,

Hume examines "any two objects, which we call cause and effect" (T. 75) to find out the ground of our calling them so. In looking for this ground, he successively discovers two relations which he calls "essential" to any causal situation viz. contiguity and succession. But he is not satisfied with this discovery, because "An object may be contiguous and prior to another, without being consider'd as its cause" (T. 77). It needs something more, a "NECESSARY CONNEXION", which he considers "of much greater importance than any of the other two" and only with that he goes on to claim to have "a compleat idea of causation" (T. 77).

Now Hume needs (as his meaning-empiricism demands) the impression or impressions from which the idea of "necessary connexion" is derived. But Hume is sure that this can be found nowhere in objects or situations, so he takes an indirect approach and translates the problem of causation into two questions:

> 1. For what reason we pronounce it necessary, that everything whose existence has a beginning shou'd also have a cause?[2]
>
> 2. Why [do] we conclude, that such particular causes must necessarily have such particular effects, and what is the nature of that inference we draw from the one to the other, and of the belief we repose in it?

The first question is concerned with the long established causal maxim: "Whatever begins to exist, must have a cause of existence" (T. 78).

However, Hume has shown that this causal maxim of the rationalists can neither be intuitively nor demonstratively certain. He then puts this question in its empirical form: "how experience gives rise to such a principle?" Now Hume sinks the first question into the second question in which the problem of causal inference comes up. In doing so Hume introduces a hope on behalf of the first question and forecasts that perhaps the same answer will serve for both questions (T. 82).[3]

What is an inference:

The important sense of inference of which Hume is interested is a transition from something observed or present to something else which is not observed or present at this moment.[4] This transition is possible in some way or other by past experience from the present to the future. But Hume also believes that in non-empirical domain, there are inferences which are logically validated. Hume's distinction between analytic and synthetic propositions or what he calls in the Enquiry propositions about "relations of ideas" and those about matters of fact" cover these two areas of non-empirical and empirical inferences. Let us see how Hume develops his account of these two types of inferences in his epistemology.

In the Treatise Hume makes the distinction between analytic and synthetic propositions[5] with reference to different kinds

of relations. But in the Enquiry he makes this distinction, with greater clarity, with a direct reference to the notion of propositions. All propositions of "relations of ideas" are analytic, since the denial of such propositions is inconceivable. Their denial is inconceivable, because if it is so, then it would be self-contradictory. On the other hand, propositions of "matters of fact" are synthetic because the negation of such propositions is conceivable. It is conceivable because their denials do not involve self-contradiction.

But Hume uses the concept of analytic and synthetic propositions in two different senses:

Two Senses of Analytic Propositions:

(a) Analytical propositions, in the first sense, are those which are based upon those relations whose truth values are discoverable "at first sight". Here Hume includes three of the four (first type) philosophical relations such as, resemblance, contrariety and degrees of quality (T. 77). The propositions concerning these relations are analytic because any changes in relata may give rise to changes in relation and they are epistemologically indubitable. He says, "When both the objects are presented to the senses along with the relation, we call this perception rather than reasoning. . ." (T. 73). That is to say, inferences or reasonings are not involved here.

(b) The second sense of analytic propositions (which is properly so called) is that whose truth-value is discoverable by

abstract reasoning and demonstration. "Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is any where existent in the universe" (E. 25). Hume here includes propositions of quantity and number within this category which comprises non-empirical inference. One major difference between this sense (ω) of analytic propositions and the other (a) is that it is only the former which provides us with demonstrative knowledge, the latter is "discoverable at first sight, and fall more properly under the province of intuition than demonstration" (T. 70).

Two Senses of Synthetic Propositions:

(a) The first sense of synthetic propositions are those which contain separable relation i.e., relations of time and place, and identify, which are intuitively discoverable without "any exercise of thought [reasoning] " (T. 73). In this type of propositions no inference is involved, "since in none of them the mind can go beyond what is immediately present to the senses, either to discover the real existence or the relation of objects" (T. 73).

(b) The second sense of synthetic propositions are those which, although containing separable relations which are not given immediately, are discoverable by thought or reasoning. Here Hume includes relation of causation "that can be trac'd beyond our senses, and informs us of existences and objects which we do not see or feel. . . " (T. 74). These are what Hume calls propositions concerning

"matters of fact" (E. 25).

So it appears that inference or reasoning is associated only with the second type of analytic propositions and to the second type of synthetic propositions. Propositions which are not concerned with reasoning or inference are as follows:

We call our sense data "P" and "Q".

1. P resembles Q--(resemblance).
2. $(\exists P)\cdot\sim(\exists P)$, there is a P and it is not the case that there is a P--(contrariety)
3. P is lighter than Q--(degrees in quality).
4. P is to the right of Q, or P is shorter (in time) than Q } relation of time & place).
5. P is Q--(identity).

In all the above relational propositions, what Hume wants to say is that, our knowledge of them is non-inferential. But our knowledge of quantity and number (mathematical) and propositions concerning causal relations are inferential.

In case of non-empirical inference[6] it is never the case that the antecedent is true but the consequent is false. To say $p \supset q$ (if p then q), is valid (logically) if and only if it is not the case that $p\cdot\sim q$ (which is logically absurd). So the move is $[(p \supset q).\ p] \supset q$ which is true, not as a matter of fact but as a matter of logical necessity that $p \supset q$. It is called <u>inductive</u> inference where the truth of the premises

guarantees the truth of the conclusion and the truth of the conclusion follows necessarily from the truth of the premises.

But in case of empirical, factual or causal inference at least there is a theoretical possibility that given p or smoke (which is true by intuition) inferring q or fire (unobserved) may be false because no logical consistency is involved here, there is at least a possibility of a change of nature. The conclusion of reasoning concerning "matters of fact", or causal inference always goes beyond the immediate evidence of the sense experiences, it always advances from what is already known to a new knowledge claim. As this kind of inference always involves a "leap beyond the observed or known" the strength or weakness of this inference is always open and hence probable[7]

Hume's Account of Causal Inference:

Initially Hume analyzes the notion of causal inference into three basic components:

1. An impression of the senses or an idea of the memory;
2. an idea, or an idea of that existent which is the cause or the effect, causes the object of the impression; and
3. a transition from (1) to (2) (T. 84).

In order to account for the process of inference Hume finds at least "a new relation betwixt cause and effect" (T. 87), which has always been found in constant conjunction. We constantly experience the

constant conjunction of two objects say fire and smoke and we remember that these two objects have appeared in a regular order of contiguity and succession. Then "without any further ceremony we call one cause, and the other effect" (T. 87) and (a) "we immediately conceive a connexion betwixt them" and (b) "begin to draw an inference from one to the other", even when only one of them is presented to the senses.

In the Enquiry Hume enumerates three types of experience by which a causal connection is known to obtain among distinct events or objects and by which we make a transition from a present one to the future existence.

(a) Repeated Constant Conjunctive Experience:

When we repeatedly make some "uniform experiments" of like objects in like relation "we attain a firm reliance and scrutiny with regard to a particular event" (E. 36). When one particular event, say fire, has always been seen in all circumstances to be conjoined with another object say, smoke, in all past experiences, we make a transition upon the appearance of the one to the other, and then "employing that reasoning, which can alone assure us of any matter of fact or existence. We then call the one object, Cause; the other Effect (E. 75).

(b) Repeated Analogous Experience:

Hume further states that when the causes are entirely similar with past experience, the analogy is perfect, and the inference drawn from it, is regarded as certain and conclusive. But when the objects have no exact a similarity "the analogy is less perfect". It is less perfect because the force of similarity is weak and hence "the inference is less conclusive". From this analogy Hume states that "when the circulation of blood... is clearly proved [by repeated analogous experience] to have place in one creature, as a frog, or fish, it forms a strong presumption [by analogy], that the same principle has place in all" (E. 104). This same conclusion appeared in the Dialogue where Philo says, "that where several known circumstances are observed to be similar, the unknown will also be found similar" (D. 170).

(c) Traumatic Experience:

Hume further maintains that ignorant peasants, infants or even beasts learn many things from experience and infer that "the same events will always follow from the same causes" (E. 105). If "a child

> has felt the sensation of pain from touching the flame of a candle, he will be careful not to put his hand near any candle; but will expect a similar effect from a cause which is similar in its sensible qualities and appearance" (E. 39).

It is evident that any causal reasoning begins with a present impression of sensation or memory which acts as the basis of the whole process of inference. From this impression the mind passes to an idea. This passing to the idea of future existence is the inference. But the main question for Hume is how can the repetition of contiguity and succession between the two objects, fire and smoke, account for our inference? Or what is the mechanism which facilitates the inference from smoke to fire or vice versa? What we actually experienced in the past is that both smoke and fire were constantly conjoined; how does it enable us to conclude that the smoke which we are now experiencing will be followed by fire? Hume puts the question as follows:

> Since it appears, that the transition from an impression present to the memory or senses to the idea of an object, which we call cause or effect, is founded on past experience, and on our remembrance of their constant conjunction, the next question is, Whether experience produces the idea by means of understanding or of the imagination; whether we are determin'd by reason to make the transition, or by a certain association and relation of perceptions (T. 88-89, emphasis added).[8]

Hume's argument is that if there were a logical connection between fire and smoke then from our knowledge of fire alone we could infer the existence of smoke or vice versa. But we can not do that because, "There is no object, which implies the existence of the other" (T. 86). In the Enquiry Hume brings out the point more clearly in the following passage:

> Let an object be presented to a man of ever so strong natural reason and abilities; if that object be entirely new to him, he will not be able, by the most accurate examination of its sensible qualities, to discover any of its causes or effects (E. 27).

Hume argues that if cause implies (in the sense of logical or formal implication or entailment) its effect, then causal inference "wou'd amount to knowledge, and wou'd imply the absolute contradiction a nd impossibility of conceiving any thing different" (T. 87). But as all distinct perceptions are separable, "'tis evident that there can be no impossibility of that kind" (T. 87). So it is quite clear that there is no logical relation between fire and smoke on the basis of which we can infer one from the other. How can we be sure that they (constant conjunction of fire and smoke) will operate in the future, since at least we can "conceive a change in the course of nature" (T. 89).

II

Hume's Argument Against the Logical Justification of Causal Inference

Hume is convinced that it is the past experience of constant

conjunction upon which causal inference or future prediction is allegedly founded. But his main inquiry is: whether experience produces the idea of an object we call cause or effect by means of understanding or of the imagination, whether we are determined by reason or by certain principle of association to make the transition. As to the first alternative of the above question Hume argues that if we are determined by reason then our inference would presuppose the truth of the inductive principle that "instances, of which we had no experience, must resemble those of which we have had experience, and that the course of nature continues always uniformly the same" (T. 89, Hume's emphasis). This principle, which is known as the "uniformity of nature", is incapable of deductive proof. This is because its denial does not involve a self contradiction. Hume's argument is that the truth of this uniformity principle is never revealed to us as a matter of logical necessity, since we may conceive the course of nature changing.

In the Enquiry Hume's argument against the demonstrative proof of the uniformity principle is more clear and he puts it in a more simplified form than in the Treatise. He shows that there is no logical justification for reasoning from past constant conjunctions to future ones. "The bread which I formerly eat, nourished me;. . . but does it follow, that other bread must also nourish me at another time. . . ?" (E. 34). So Hume's conclusion is that "there can be no demonstrative arguments to prove" the principle of the uniformity of

nature, since, "we can conceive a change in the course of nature; which sufficiently proves, that such a change is not absolutely impossible" (T. 89).

Let us see whether there is any "probable" or "experimental" justification of causal inference. As to probable or experimental justification, Hume argues that it can not be proved even inductively or probabilistically. Hume gives the following reasons in favour of his view:

1. A fundamental presumption of all inductive inferences is that "instances, of which we have had no experience, resemble those of which we have had experience" (T. 89). It is only by positing such a resemblance, for example, that we are able to infer from the fact of the fire's giving smoke in every instances to its probably giving smoke the next time. But we are not justified in saying that fire gave smoke in the past on the basis of which we made prediction or forecast in the past, hence it should give smoke in the future. If we do so we are using the very assumption, we are trying to prove. As Hume writes.

> . . . probability is founded on the presumption of a resemblance betwixt those objects, of which we have had experience, and those, of which we have had none; and therefore 'tis impossible this presumption can arise from probability. The same principle can not be both the cause and effect of another. . . (T. 90, emphasis added).

Probability or induction rests on the assumption that the future will be similar to the past which is itself a probability. If a past uniformity, viz. the fire having given smoke every time in the past--can be said to make it probable that the uniformity of fire giving smoke will continue in future then we are using the very assumption (the fire will give smoke in the future) that we are trying to prove. So the same "principle" can not be (logically) both cause and effect of another. Hume is using the consequent of this principle as an "axiom".

On the other hand, Hume goes on to show that if we try to justify probable reasoning by probability, we will be involved in an infinite regress. He argues that though we speak of cause and effect as necessarily connected, what we find when we look at two events or objects (supposed to be cause and effect), is that they are constantly conjoined. Now even if we suppose that in our previous perception we discovered some "power" or "necessary connexion" between those objects, still then we are not justified (logically) in our future prediction to presume the same "power". Since, "power lies not in the sensible qualities of the cause" and what appears in other instances is nothing "but the sensible qualities", then why in other instances we presume that the same power still exists, merely upon the appearance of these qualities"? (T. 91). Hume's infinite regress argument appears in the following passage:

> Shou'd it be said, that we have experience, that

> the same power continues united with the same object, and that like objects are endow'd with like powers, I wou'd renew my question, why from this experience we form any conclusion beyond those past instances, of which we have had experience. If you answer this question in the same manner as the preceding, your answer gives still occasion to a new question of the same kind, even in infinitum; which clearly proves, that the foregoing reasoning had no just foundation (T. 91, Hume's emphasis).

Hume introduces the same argument in the Enquiry but with a major change of form of the infinite regress argument which he calls "going in a circle" (E. 36), which is intended to show the impossibility of rationally justifying causal inference. The argument runs as follows:

> But we have not yet attained any tolerable satis- 9
> faction with regard to the question first proposed. Each solution still gives rise to a new question as difficult as the foregoing, and leads us on to further enquiries. When it is asked, What is the nature of all our reasonings concerning matter of fact? the proper answer seems to be, that they are founded on the relation of cause and effect. When again it is asked, What is the foundation of all our reasonings and conclusions concerning that relation? it may be replied in one word, Experience. But if we still carry on our sifting humour, and ask, What is the foundation of all conclusions from experience? this implies a new question, which may be of more difficult solution and explication (E. 32, Hume's emphasis).

The novelty of this argument against the possibility of rationally justifying causal inference, as compared with Hume's argument in the Treatise, is that in the Enquiry he does not only raise the problem of circularity or infinite regress that would undermine such an effort.

Here Hume questions the very theoretical soundness of an attempt to justify causal inference which at the end will bring someone "to some dangerous dilemma" (E. 32).

2. Hume introduces a second argument against the attempt to rationally justify causal inference in the Enquiry. He argues that there is a logical gap between the factual premise stating that a particular object has always been observed in the past to be in constant conjunction with a particular object and the predictive conclusion that objects which appear similar to the first object will always continue to produce the same object. Hume admits that in fact we make our causal inference or future prediction on the basis of past experience of constant conjunction, but his only objection is that if this inference is made "by a chain of reasoning", then it is not logically possible to produce the chain. "The connexion between these propositions is not intuitive" (E. 34). So it needs a medium, a bridge premise. But "What is the medium?... the inference is not intuitive, neither it is demonstrative... To say it is experimental, is begging the question... no enquiry has yet been able to remove any difficulty,..." (E. 37-38).

Hume introduces a further argument against the possibility of rationally justifying causal inference in the context of the idea of necessary connection in the Treatise (162-165), and in the context of "Sceptical Doubts concerning the Operations of the Understanding" (Sec. IV) in the Enquiry. He argues that if the idea of necessary connection, on the basis of which we make causal prediction, is

derived from experience, then one observation should suffice in all cases to establish the presence of causal relation. Then why should we point to the number of instances of constant conjunctions to account for our particular causal prediction? In our first Chapter we have argued that this multiplicity of instances does not alter the relation between the objects we first observed. It is needed for making causal prediction. On the other hand, we have also seen that if we try to justify our inference on the basis of constant conjunction of events, then we should presuppose the principle of the uniformity of nature which again raises a further problem of its own justification. So Hume's argument is that if causal inferences "were formed by reason, it would be as perfect at first, and upon one instance, as after ever so long a course of experience. But the case is far otherwise" (E. 36).

From the foregoing arguments Hume clearly and successfully shows that no logical, rational justification either deductive or experimental or probabilistic could be given for causal inference. The transition from the perceived to the unperceived is not a logical transition like $[(p \supset q) \cdot p] \supset q$. "Reason can never satisfy us that the existence of any one object does ever imply that of another; so that when we pass from the impression of one to the idea or belief of another, we are not determin'd by reason. . . " (T. 97). And the same conclusion appears in the Enquiry "that it is not reasoning which engages us to suppose the past resembling the future, and to expect

similar effects from causes which are, to appearance, similar" (E. 39).

III

Hume's Own Justification

After disposing of the various attempts to justify causal inferences rationally, Hume falls back upon his own psychological, naturalistic account of such inferences. His attitude seems to be that it is useless to look for a logical justification of causal inference. We can ask only how they come to be believed. His answer to this question is that as the objects or events appear again and again in similar relations to one another, they become associated in the imagination. By a natural, mental process, a habit, belief or custom is formed of conceiving of the one (cause or effect) when the other is presented to the senses. When the impression of either of them is presented to the mind, then the association created by past conjunction determines the mind to reproduce the idea of the other. The heart of causal inference lies in this reproduction or transition to the effect.

To illustrate what Hume is expressing here is the view that a class[10] of causes consists of the class of objects called "fire" has been constantly conjoined in the past with the class of objects called "smoke". Take another example, when we say that "all coppers are good conductors of electricity" we do not feel that any

thing other than the ordinary class-membership relationship is needed to enable every copper to possess the property "good conductor of electricity". Let the proposition "all coppers are good conductors of electricity" be denoted by "P". "P" is significant. What do we mean by "P"? "P" is an inductive generalization of several particular instances of copper such as, "This is a copper, and this conducts electricity well", "That is a copper, and that conducts electricity well", and so on. So "P" is a proposition about a class, namely a class consisting of all coppers of which some are obviously unobserved.

Now we can say that "all fires are followed by smoke" means "all fires are something which is followed by smoke. Here the property "being followed by smoke" is a class-property in the same sense that "good conductor of electricity" is. And just as the truth of the proposition that "all coppers are good conductors of electricity" rests on the examination of copper after copper, until enough coppers have been examined to give the generalization a solid foundation, the repeated "being followed by smoke" of fire after fire is sufficient to establish a regular and invariant association between fire and smoke, on the basis of which we make our prediction.

Let us translate our propositions "all coppers are good conductors of electricity", and "all fires are followed by smoke" into quantification logic, such as, "$(\exists x)\Phi x$"[11] (there is an x, such Φx),

that an object x (fire or copper) has the property Φ("being followed by smoke" or "good conductors of electricity"). Here x is a variable, it contains unobserved or unmentioned relation of fire and smoke or copper and good conductor of electricity. Now let us compare the proposition "$(\exists x)\Phi x$" with the proposition "ΦF", there is an object F which has or has not the property designated by "Φ" and it is obviously observed case. If the proposition "$(\exists x)\Phi x$" is true (surely it is true), it is true solely by virtue of some observed occurrences, though in a given case it is not observed. Although it has no immediate verifier like "ΦF" (where F is a verifier, not a variable), still we are justified in making "$(\exists x)\Phi x$". When we repeatedly experience the occurrences of "ΦF", we developed a process of existential generalization to "$(\exists x)\Phi x$". because we have frequently observed F followed by Φ and never otherwise and we feel a mental determination, a firm belief, that whenever there is F there is Φ .

Now the question is, why are we not logically justified in making such a prediction? Consider the original propositions "all fires are followed by smoke" or "$(\exists x)\Phi x$". If we negate this proposition that "all fires are followed by smoke" it is a denial of "$(\exists x)\Phi x$". One question may be raised: why should we negate the proposition? We can negate it because there remains a theoretical possibility that a particular piece of copper could exist which is not a good conductor of electricity or there remains a theoretical possibility that a particular

case of fire could exist which is not followed by smoke. Because here we are concerned with propositions concerning "matters of fact and existence". These propositions are not necessarily true whose denial would involve self contradiction like "three times five is equal to the half of thirty" (E. 40). So far as logic is concerned any thing may produce any thing because there is at least a possibility of the nature changing.

So our denial of "$(\exists x)\Phi x$" is equivalent to "$(x) \sim \Phi x$" (by Quantifier Negation), which is the denial of a universal proposition. Now if we can find a single instance against "$(\exists x)\Phi x$" (which is theoretically possible) we can also disprove the universal proposition "$(x)\Phi x$" that is to say, a single instance is sufficient to disprove a universal proposition. If the above case is true (it is true), then Hume is logically justified in denying any rational justification of inductive or causal inference.

Now coming again to the case of Hume's explanation of causal inferences, we get the following steps, when we analyze a particular case of causal inference.

1. A particular person S perceives some thing as an impression, say an impression of fire (x).
2. S remembers from his past experience that x has always been followed by another event smoke (y).
3. S's continuously observed x followed by y has built

a habit of expectation that y will always follow x and thereby forms an association in his mind of both x and y.

4. The next time that S observes x only or y only he is led to project his feeling outward, to a transition that y or x must follow, which at this moment is only an idea, since S does not perceive one of them directly.

5. So S has a present perception of either x or y and an inferred idea of y or x. This makes the inferred idea more vivid than mere thought and explains why S believes so.

6. And finally S makes the inference that x is the cause of y.

This whole process is not an act of the understanding, but it is the imagination which is operating in introducing S's belief in the present inference. Now although one is free to imagine what he likes, he is not able to believe whatever he imagines. So Hume asks, "wherein, therefore, consists the difference, between such a fiction and belief"? (E. 47). We are free to imagine unlikely objects and implausible events but we believe only those ideas which are called up in accordance with the principle of association.[12] Hume then defines belief as "nothing but a more vivid, lively, forcible, firm, steady conception of

an object, than that the imagination alone is ever able to attain" (E. 49 cf. T. 97 & 629). So when any impression "becomes present to us, it not only transports the mind to such ideas as are related to it, but likewise communicates to them a share of its force and vivacity" (T. 98).

So in case of causal inference it is belief or custom and not reason, habit not evidence, which is at work. Custom and habit operate in and through the law of association and it is upon this association of ideas that the inference rests.[13] The more frequently ideas have been conjoined in the past the more closely they are associated and thus the more confident beliefs yield to its reality. "The inference, therefore, depends solely on the union [association] of ideas" (T. 92)[14] Speaking of this principle of the associations Hume states:

> 'Twill be easy to conceive of what vast consequence these principles must be in the science of human nature, if we consider, that so far as regards the mind, these are the only links that bind the parts of the universe together, or connect us with any person or object exterior to ourselves. For as it is by means of thought only that any thing operates upon our passions, and as these are the only ties of our thoughts, they are really to us the cement of the universe,... (A. 32).

Thus it is not reason on the basis of which we make causal inference, "but custom." Custom "alone determines the mind, in all instances, to suppose the future conformable to the past" (A. 16). "Custom then, is the great guide of life... without the influence of Custom, we

shall be entirely ignorant of any matter of fact beyond what is immediately present to the memory or senses" (E. 44). In our past experience we have always found a coherence: when there is fire there is also smoke, when the door opens, it makes a certain sound, when a letter is sent through the mail system from Bangladesh, it arrives in the hand of the postman at the door and so on. So in the next time when one member of a pair is present, we expect the other, since due to past constant conjunction, we have a firm belief that the future instances will conform to the past instances.

IV

Hume's Use of "Reason"

When Hume says that it is not on the basis of reason that we make causal inference, it sounds as if he is arguing that our causal inferences are never justifiable, that they are fundamentally irrational.[15] But this is not, I think, what Hume means. He has used the term "reason" in two different senses i.e., in the strict sense and in the wider sense. Many of the misunderstandings of which Hume is charged are due to a confusion between these two very different senses in which he has employed the term "reason". In addition to reason strictly so called, there is a faculty which is commonly, in a popular sense, called reason, supposed to be capable of determining moral distinctions and of justifying beliefs in regard to

matters of fact and existence. This is so called "reason" in the extended sense, he reserves for instinctively determined sentiments or beliefs.

In the discussion of causation, Hume repeatedly appeals to reasonings not only of a logical and analytical (a priori) sort, but also to those regarding matters of fact and existence, which he incorporates in his whole epistemology. His use of "reason" in the strict sense with regard to causal inference appears in the following passages: ". . . even after we have experience of the operations of cause and effect, our conclusions from that experience are not founded on reasoning, or any process of the understanding" (E. 32).[16] ". . . if this conclusion from similar causes we expect similar effects were formed by reason, it would be as perfect at first, and upon one instance, as after ever so long a course of experience." (E. 36). Again in the Treatise. Hume says that "even after the observation of the frequent or constant conjunction of objects, we have no reason to draw any inference concerning any object beyond those of which we have had experience:. . ." (T. 130).

When Hume denies the above sense of "reason", he actually denies the a priori conception of "reason", which has been called the "Hume's Deathblow to Deductivism".[17] But outside the context of his attack on the logical justification of causal inference, Hume uses "reason" in a wider sense as in our everyday life we mean

by "reason" to refer to causal inference, as "a true species of reasoning" (T. 97n). Hume also uses "reason" to mean directly "the experience and operation" involving "careful and exact experiments" which constitute the method of his enquiry in the Treatise (XVII-XVIII). Hume even calls reason a faculty that permits inference from the observed to the unobserved (T. 155).

Hume's best known account of "the object of human reason or inquiry" is given at the beginning of Section IV of the Enquiry where he makes a perfect distinction between two types of inquiry i.e., reasoning concerning "relations of ideas" and that of "matters of fact and existence". These two different senses of "reason" have been captured by (a) reason as the application of the principle of non-contradiction which he calls "demonstrative reasoning" and (b) reason as the application of "matters of fact and existence" which he calls "probable reasoning". The main contention of this division is that the logical use of "necessity" is confined to the realm of demonstrative propositions that are arranged in such a way that they can not be changed without changing their ideas. The relation between the sum of the interior angles of a triangle and its two right angles depend solely upon and can only be known by a consideration of the relevant "ideas" and, the relation (of equality) can not be changed without some change in the ideas related, for any attempt to do so would result in a contradiction (E. 25, cf. T. 69).

Hume uses "probable reasoning" with reference to propositions of matters of fact and existence. And propositions of matters of fact are founded on the relation of cause and effect. "All reasonings concerning matter of fact seem to be founded on the relation of Cause and Effect" (E. 26, cf. T. 94). These propositions lack the logical necessity which characterizes any demonstrative inference. The propositions of demonstrative inferences are analytically true and known a priori, and the propositions of matters of fact are contingently true (or false) and can not be known a priori, since the negation of these propositions does not involve self-contradiction. So it seems evident that the notion of logical necessity applies to propositions serving to distinguish a particular type (analytic) from another (synthetic) i.e., to distinguish between necessary and contingent propositions.[18]

Now the question is, are logically necessary truths an integral part of our conceptual system and the constitutive factor of our experience? And if so, can we maintain a rigid distinction between the logically necessary truths of propositions (a priori propositions) and the truths of the propositions of experience? It seems that in addition to a propositional sense of necessity, Hume develops a phenomenological sense of necessity. When he talks of objects and events[19] he does not seem to use "necessity" or "contingent" to refer to them in the same logical sense. His contention is that phenomenal

or sense data propositions are not susceptible of applying the same propositional sense of "necessity". And after making a rigid distinction between necessary and contingent propositions Hume proceeds to consider the sort of mental operation or psychological theorizing involved in these kinds of propositions and tries to show why we can have certain knowledge of the truths of some kinds of propositions but not of others. Let us consider the following arguments:

I
(a) S_1 drank arsenic and he was dead.
(b) S_2 drank arsenic and he was dead.
(c) S_3 drank arsenic and he was dead.
.
.
S_{n-1} drank arsenic and he was dead.

Therefore, whoever drinks arsenic will die (inductive generalization).

II
S_n drinks arsenic (present observed case).
Therefore, S_n will die (inferred case).[20]

In Hume's treatment neither argument (I) nor (II) is a candidate for demonstrative "reasoning" because their premises do not contain necessary truths, nor can we perceive or experience any "causal connexion" between some one's drinking arsenic and his death. Whereas Hume could offer a psychological explanation for the inference drawn in (II).

i.e., from the impression "S_n drinks arsenic" we can infer that "S_n will die". Now if somebody asks Hume to account for the reason of the present belief, Hume could answer that it is now in a certain situation that if any one drinks arsenic in such situation, then he will die, because this belief is supported on the basis of past experience of one's drinking arsenic and his subsequent death. The constant conjunction of drinking arsenic and subsequent death (as in argument I) had been found to hold in all observed cases, that the instance of the first kind never in fact failed to be followed by the instance of the second kind. Now because of the principle of association one can generalize the association between these two events and thereby from the next observed case of drinking arsenic one can naturally and irresistably infer the unobserved death.

Hume assimilates the above inference to psychological necessity or probable reasoning to distinguish it from the necessity of a purely analytic sort and concludes that there is no logical necessity between cause and effect. But it does not follow from the fact that empirical propositions are contingent that the events or objects described are non-necessary. To explicate this view let us appeal to Hume's distinction between demonstration and proof. According to him there are three types of arguments: demonstrations (what Hume calls "knowledge", T. 124), proofs and probability (E. 56). Demonstration or knowledge involves relation of ideas and are as such

independent of experience and are certain. Proofs concern causal arguments and are free from doubt and uncertainty (T. 124). Now our argument (II) certainly fits Hume's characterization of proof because, (1) it is an argument based on cause and effect propositions and (2) it is free from doubt and uncertainty. So using Hume's definition of proof we can say that propositions based on proof lend support to necessity of causal inferences. And it is sufficient to show that some conclusions of "matters of fact" propositions are necessary consequences (following logic) of some factual premises.

Now the question may be raised whether our conclusion in argument (II), as a necessary conclusion from factual premises, is in contradiction with Hume's central thesis that no conclusion of fact can be demonstrated, "the contrary of every matter of fact is still possible, because it can never imply a contradiction" (E. 25). This would be so if we were dealing with arguments whose premises are like "three times five is equal to the half of thirty". [21] But the premises in arguments (I) or (II) do not contain propositions which are necessary truths like the above proposition. But our conclusion in (II) is necessary because it corresponds to Hume's explanation of human reasoning, based on proof. Hume's contention is that these terms "necessary" or "contingent" can not be applied to sense data propositions in their propositional sense. His doctrine of non-applicability of necessity in the analytic sort to phenomena of matters of fact is summed up in the

following dicta: "whatever is may not be", and "No negation of a fact involves a contradiction" (E. 164).

So what Hume intends to show is that a priori reasoning can not establish any matter of fact, i.e., that factual reasoning is not a product of the a priori reasoning. But nowhere does he suggest that the term "reasoning" should be abandoned or that man's life should not be influenced by reasoning or reason properly understood. In the Treatise he argues that "probable reasoning" is the guide of life (T. 103). He happily states that "no truth appears to me more evident, than that beasts are endow'd with thought and reason as well as men" (T. 176).

Now as beasts share this capacity of reasoning with human beings, Hume states that "experimental reasoning itself, which we possess in common with beasts and on which the whole conduct of life depends, is nothing but a species of instinct" (E. 108). But it should be noted here that although human beings and animals share a common nature, there is a basic difference in which they live out their lives. After assigning "reason" to animals Hume provides some answer to a would be questioner:

> Since all reasonings concerning facts or causes is derived merely from custom, it may be asked how it happens, that men so much surpass animals in reasoning, and one men so much surpasses another? Has not the same custom the same influence on all (E. 107n).

Hume then lists nine criteria which differentiate men and animals. Hume further points out that human beings are able to overcome their natural deficiencies and raise themselves to the position of superiority over animals (T. 484-485).

So we need to clarify in what sense we use "reason" to decide as to whether in denying that inferences are based on reason, Hume thereby is denying that such inferences can ever be reasonable. And after a careful study of Hume's two senses of "reason" we find that Hume's "theses are antirationalist not irrationalist".[22] When he denies that our beliefs in causal inferences "arise from reason" what he is denying is not that human beings are rational, but that the traditional a priori concept of rationality can not be applied to the fundamental, everyday beliefs of human beings.

V

Philosophical Theory and Psychological Explanation

There is hardly any dispute about Hume's argument against the rationalists' position regarding causal inference. Most Hume scholars recognize that Hume's arguments against the possibility of logically justifying causal inference (which they call induction) are irrefutable.[23] But they think that Hume only adds a psychological explanation of the process of causal inference with which they are entirely dissatisfied.[24]

Most of them think that Hume is not clear enough about how such an account may be construed as the solution to the epistemological problem of causal inferences with which he is supposed to have been concerned. Hume has not provided a philosophical solution to the problem of causal inference. His entire discourse amounts to no more than a psychological explanation of what allegedly occurs when we are engaged in the epistemological problem of causal inference.

In section IV of the Enquiry, after arguing that all our reasoning concerning "matter of fact" is based on the relation of cause and effect, by means of which alone "we can go beyond the evidence of our memory and senses" (E. 26). Hume tries to show that this relation can not be discovered by a priori reasoning, an appeal to observations and experiments being required. Here Hume makes a highly significant and profound shift in his analysis. Before this shift he has formulated a logical and conceptual distinction between two types of reasoning, concerning "relations of ideas" and that of "matters of fact". Then Hume shifts from logical analysis to psychological explanation of our causal inference which is to be discovered in custom or habit.

Hume has to introduce the psychological analysis of our belief formation, in terms of natural relation to account for causal inference, because in his logical analysis he can not find the most essential element of causal assertion i.e., a necessary connection.

He is quite confident that there is no logical ground for insisting upon necessary connection on the basis of which we can predict future existence. So he gives a psychological explanation of how we come to believe in causal connection.[25] Having noted in our past experience of constant conjunction of similar events we develop a belief that makes us expect for the future a similar train of events with those which have appeared in the past. This expectation is a species of natural instinct. This is what Russell calls "animal inference". The animal he says,

> ...experiences fa. ga, fb. gb, fc. gc....and fd. On occasion of experiencing fd, he believes "there is now a y such that gy", but he is unaware of the causes of his belief. When in the course of evolution, he becomes an inductive logician, he notices the causes and says they are grounds. Since they are not, he might just as reasonably accept "there is now a y, such that gy" as a basic proposition; it is simpler than the inductive principle, and, also more likely to be true. In this reason, therefore, the animal is to be preferred to the logician. This is a vindication of Hume.[26]

Russell's comment on Hume suggests that Hume maintains that causal inference is exclusively a process of the instinct. And it seems plausible to contend that Hume declines to give the ultimate cause of the instinct and rests content with his psychological theory. As he writes:

> We only point out a principle of human nature, which is universally acknowledged, and which is well known by its effects. Perhaps we can

> push our enquiries no further, or pretend to give the cause of this cause; but must rest contented with it as the ultimate principle, which we can assign, of all our conclusions from experience (E. 43).

But in fact Hume pushes his enquiries a little further. In section V of the Enquiry where he defines habit as an instinct, implanted in us by "the wisdom of nature", he takes custom or habit as the most important principle of human nature which produces the wisdom of nature and he has given this principle superior status to the "fallacious inductions of our reasons" (E. 55). Nature herself offers us this instinct which makes it possible to predict her own regularities. The consequence of this instinct is "a kind of pre-established harmony between the course of nature and the succession of our ideas" (E. 54).

Without habit "we should never been able to adjust means to ends..." (E. 55). Through this principle we become adapted to the natural world, by an unconscious adaption similar to the adjustment of our body to muscular motion.

> As nature has taught us the use of our limbs, without giving us the knowledge of the muscles and nerves, by which they are actuated; so has she implanted in us an instinct, which carries forward the thought in a correspondent course to that which she has established among external objects; though we are ignorant of those powers and forces, on which this regular course and succession of objects totally depends (E. 55).

This same notion has been explained when in the Treatise Hume concludes that "beliefs... depend not on will, but arise from certain determined

causes and principles of which we are not master" (T. 624).[27] That is, we can not even choose to be irrational, or as Noxon puts it "Man's adaption to his environment is not an achievement of reason", but must be attributed to a natural instinct.[28] So it becomes evident that our beliefs are necessarily natural, the result of the powerful factor of association whose force can not be altered by any exercise of will.

If the above interpretation is correct, then our knowledge of causal inference is not purely a matter of convention, a matter of arbitrary choice.[29] As P. F. Strawson[30] rightly comments, Hume did not think "that our inductive beliefs were conventional, he pointed out that they were natural". Hume does not think that our general rules, what contemporary philosophers call "basic canons", are arbitrarily chosen. His contention is that at the initial stage of our belief formation, we have no choice. But when he frames general rules for correcting our beliefs, he never says that these rules are forced upon us by nature. We shall see in our "Rule" section that by the aid of these general rules our natural beliefs are formed in a coherent order.

Now coming back to the issue: whether or not Hume intends a psychological rather than a philosophical theory. There is no denying the fact that Hume gives a psychological explanation of how we, in an epistemological state of nature do in fact acquire

our ordinary beliefs about matters of fact and how and why we hold rationally (logically) unjustifiable beliefs. Now whether this psychological explanation is philosophically interesting or not is a matter of convention only where one places the boundaries between philosophy and psychology. If we look at the historical backgrounds, we see that there was no clear cut conception or methodological demarcation between philosophy and psychology in Hume's times.

Finally it should be noted here that in his treatment of causal inference, Hume develops two view points (1) an explanation and (2) a methodology. Hume gives a psychological explanation of how we come to believe in the future existence of unobserved events, and this Hume confinds to natural instinct which Russell calls "animal inference". And then Hume gives a methodology, how this idea is to be justified and he gives his general rules. So Hume's view is both a psychological explanation and a methodological theory which specifies the rules by which we make correct predictions.[31]

VI

General Rules

In our previous sections we have seen that Hume has clearly shown that there is no logical justification for causal inference and that not reason (in the strict sense) but custom, habit or "natural

instinct" is what induces us to make causal inferences. It seems that Hume often writes as if beliefs in causal inferences were created in us passively by the psychological mechanism of the association of ideas from past experience.

Hume is not content to explain why we believe as we do, but wishes also to explain the manner of causal predictions. And in explaining this manner he discovers that the instinctive move from the perceived to the unperceived depending on the past constant conjunction is not an infallible or sufficient method of inference. Because there is every possibility of mistake from a present impression to an idea of any object. It is a common feature that "when we pass from a present impression to the idea of any object, we might possibly have separated the idea from the impression, and have substituted any other idea in its room" (T. 87). So he makes constant references to general rules which guide us in framing correct inference.

Hume contends that by these general rules we may judge our causal inferences, to decide which inferences are warranted and which are unwarranted. These rules may prevent us from believing mere coincidents to be causally connected events (T. 149).

Hume remarks that the human mind is in constant battle with itself (T. 147),[32] in conflict between its instinctive inference to causation and its reflecting of the evidences to avoid accidental and superstitious experiences. In the Appendix to the Treatise Hume

remarks that "reflexion on general rules keeps us from augumenting our belief upon every encrease (sic) of the force and vivacity of our ideas" (T. 632).

In addition to correcting our particular causal inference, the general rules also help us to narrow down the range of cases to which such inferences apply. In his analysis of causation, Hume is quite confident that it is not possible to rationally justify our causal inferences, since we can find no impression or idea (external) as the ground of our idea of necessary connection, in order to justify our particular causal judgment. Even if we invoke the principle of induction or generalization we fall into the error of infinite regress or circularity. But still we make causal inferences. Though causal inferences can not be rationally justified, yet they are unavoidable. This seems to be a dilemma, and Hume is quite aware of this dilemma. His general rules and finally his eight "Rules by which to judge of causes and effects" (T. Book I, Part III, Sec. XV) enable him to offer a justification of a particular causal inference. These rules are as follows:

1. One case of general rules, according to Hume, is when we know that we are acting upon a correct inference i.e., when we act automatically, responding almost by reflex to a situation of immediate danger or reward (T. 103-104). Here Hume offers an example with a man who stops short in his journey upon meeting a

river because of an instinctual awareness of the relation between water and sinking, and sinking and suffocating.

2. Hume provides a further general rule when he explains why it is the case that one instance of conjunction between two events or objects suffices for us to postulate a causal relation between them (T. 104-105). From our varied experience of constant conjunctions, we abstract the general principle "that like objects, plac'd in the like circumstances will always produce like effects" (T. 105). Depending on this principle sometimes we shorten the period of our actual observation of constant conjunction and pronounce such a relation to exist between them on the basis of one observation.

This view that "we may attain the knowledge of a particular cause merely by one experiment" (T. 104) seems to be incompatible with Hume's "official" view that no causal inference can be made from one object to another unless one had experience of the constant conjunction of similar objects. And it seems even paradoxical to suppose that a single experiment--unless it reveals a genuine connection between events of the same kind--can inform us that in all past and all future cases of an event similar to the first, an event similar to the second did or will follow.[33] Even in the rule section Hume refers causation as "that constant conjunction on which the relation of cause and effect totally depends" (T. 173).[35] And he brings out this view in the Enquiry, stating that "after one instance or experiment, where we have

observed a particular event to follow upon another, we are not entitled to form a general rule. . . ", and it is "an unpardonable temerity to judge of the whole course of nature from one single experiment, however accurate or certain" (E. 74).

But Hume is quite aware of this difficulty and adds to the same statement that a single observation is sufficient for the knowledge of a particular causal inference "provided it be made with judgment, and after a careful removal of all foreign and superfluous circumstances" (T. 104). On the next page he clearly declares that "tho' we are supposed to have had only one experiment of a particular effect, yet we have had many millions to convince us of this principle, that like objects plac'd in like circumstances, will always produce like effects" (T. 105).

But Hume's stipulation about careful removal of superfluous circumstances in principle fails to resolve the problem of a single experiment--how could the superfluous circumstances be identified on the basis of one experiment? Even to identify superfluous circumstances we need more than one experiment. And it seems that a subject who makes a causal inference need only be mentally equipped with the principle "like causes, like effects", and need not have previous knowledge of the object itself or of the circumstances in which he infers causal relations. But Hume repeatedly argues that all reasonings concerning matters of fact are based on the relation of cause and effect and the inference therefrom.

But what Hume actually intends to mean is that knowledge of three distinct sorts is required for causal inference in a single experiment.[34] Such an inference can occur only if

(1) the observer is acquainted with the causal irrelevance of certain background condition;

(2) the observer is capable of some identifying "judgment" about the object or event prior to the actual experiment;

(3) the observer is able to reason analogically from the repeated constant conjunction (in other context), within this epistemic framework, from the principle "like causes, like effects".

3. Hume invokes a further general rule to identify a correct causal inference, that what is immediately present to the mind need not be an impression which transfers parts of its liveliness to an idea of its usual attendant (T. 106). Even the process may be its opposite. It may be that I have an idea of an object whose antecedent impression I had forgotten previously. But part of the liveliness is transferred to the impression in whose existence I now believe. Again the question as to where from the qualities of force and vivacity derived this belief, Hume's answer is "from the present idea" (T. 106).

4. A fourth general rule refers to the force and vivacity which sometimes attach "to the idea of an idea" (T. 106). Remembering that we have entertained a certain idea in the past, when we regard it

as true, or well established empirical belief with "more vigour and firmness", when the thought reappear in the present, we account it as a much greater degree of belief than if we had never accepted it as true or well established.

5. In section XIII, Part III, Book I of the Treatise, entitled "Of unphilosophical probability", Hume makes a distinction between two general rules which we may call the vulgar and the wise (T. 146-150). The vulgar frames rules of thumb for the application of causal inference on the basis of insufficient evidence and immature abstraction from experience. He makes inferences on the basis of superfluous resemblance between the present and the one which he remembers where his imagination predominates, and concludes that an effect similar to what occurred in the past will follow. But the wise whose capacity for abstraction from experience is fully developed uses general rules in the sense of a principle not on the basis of unreflective association in the imagination. Hume describes general rules in this context as follows:

> By the general rules we learn to distinguish the accidental circumstances from the efficacious causes; and when we find an effect can be produc'd without the occurrence of any particular circumstance, we conclude that that circumstance makes not a part of the efficacious cause, however frequently conjoin'd with it (T. 149).

Sometimes on the basis of our unreflective instinct or imagination we make some rash generalization or inference to the

unobserved, "But when we take a review of this act of the mind, and compare with the more general and authentic operations of the understanding, we find it to be an irregular nature and destructive to all the most establish'd principles of reasoning, which is the cause of our rejecting it" (T. 150).

In addition to these rules, Hume offers eight rules as necessary conditions for the presence of causal relations which can guide in causal reasoning.

1. Cause and effect must be spatio-temporally contiguous.
2. The cause must be prior to the effect.
3. There is a constant conjunction between cause and effect (this relation Hume calls "essential").
4. The same cause always produces the same effect and the same effect always arises from the same cause. This rule is also appeared in the Dialogue where Philo states that "similar causes prove similar effects, and similar effects similar causes" (D. 147).
5. When different events or objects produce the same effect, there must be a common factor to all of them to which we ascribe the cause.
6. Since like causes always produce like effects, the difference in the effect produced by two resembling objects is due to a different cause.

7. There are such phenomena as a compound cause or compound effect. The concomitant variation between compound phenomena is an indication of the present of a causal relation. The example which Hume gives is that of a certain variation of heat which produces pleasure, and of its increase beyond a certain limit will causing pain.

8. Lastly, Hume holds that an object which exists for a period of time without producing an effect is not to be regarded as the sole cause of an effect which is produced (later), when a new cause is added to the original cause. Because "as like effects necessarily follow from like causes, and in a contiguous time and place, their separation for a moment shows, that these causes are not compleat (sic) ones'" (T. 174-175). This rule is better stated in an earlier passage:

> 'Tis an establish'd maxim. . . that an object, which exists for any time in its full perfection without producing another, is not its sole cause; but is assisted by some other principle, which pushes it from its state of inactivity, and makes it exert that energy, of which it was secretly possest (T. 76).

Now we see that although Hume's general view of causal inference rests on the psychological or instinctive foundation, what

we accept as a correct inference by applying his rules can after all be rationally distinguished from mere guessing or from superstition.

Although maintaining that causal inferences are processes of imagination, in certain situations Hume makes a distinction between imagination and judgment regarding cause and effect and proceeds to give "general rules, by which we ought to regulate our judgment concerning cause and effect. . . " (T. 189). These general rules indicate that the correctness of causal inference is a matter of objective support and it does not depend on custom or "animal inference" or observers who acquire feelings of determination.[36] And in a long foot note Hume makes a distinction between two types of causal inferences: those which can and those which "can not be established without some process of thought, and some reflection on what we have observed, in order to distinguish its circumstances, and trace its consequences" (E. 44n). So it is quite evident that Hume's notion of causal inference is not confined to the commonsense inference which Russell calls "animal inference", but is also concerned with complex cases of "springs and principles which are laid by reason of their minuteness or remoteness" (E. 87), which Hume attributes to philosophers or wise men.

VII

Concluding Remarks

Hume's general position about causal inference is the same, we have seen in our first chapter about the necessary connection between cause and effect. He has neither denied nor doubted that there are necessary connections between cause and effect. But we have pointed out that Hume is not mainly interested in asking and answering the question as to whether there are objective necessary connections, but what does it mean or what grounds do we have for claiming that there are necessary connections. Again he is not mainly concerned with asking and answering the question regarding the justification of our common sense causal inference. Rather, his main concern is, what he tells us, "the manner, in which we reason beyond our immediate impressions, and conclude that such particular causes must have such particular effects,..." (T. 155, Hume's emphasis). To him the main issue is not the logical justification of causal inference, but an explanation of how we actually make it.

Hume has never attacked our common sense belief about causal inference or even the justifiability of our reliance upon the principle of the uniformity of nature. He actually believes in the so called uniformity of nature, that unexamined instances will resemble examined instances. His fourth rule clearly supports this contention.

Hume clearly and conclusively admits that there is causal inference and that this inference involves "the transition from an impression present to the memory or senses to the idea of an object", and also that this inference or transition "is founded on past experience, and on our remembrance of their constant conjunction. . . " (T. 88). He never does doubt nor deny specific causal inference, that water will continue to boil if heated, that the bread we eat will nourish us, that when we strike one billiard ball with another the second will move off in a certain direction, or that the sun will rise tomorrow. He gives no empirical reason why we should think that water will freeze instead of boil tomorrow. But what he has shown is that one can not claim to know (in the propositional sense) that causal inference will continue to hold, since the conjunction of the premises with a denial of conclusion is never self contradictory.

The rationalists' claim which Hume opposes is that there is a logical relation, a relation of logical implication between natural e vents, that the future will resemble the past on the ground that causal inference can be drawn on the force of logical necessity. Hume's challenge is that we never do observe such a logical connection in our causal inference. And Hume is quite justified in showing that even if it is required that we observe such connections to warrant our causal inferences, for future existence, we are never logically justified in making such predictions. Because if reason determines us it would

proceed upon the principle of the uniformity of nature whose validity can not be justified by demonstrative or probable arguments.

Even our experience can not reveal the true character of inference. What experience can reveal is the constant conjunction of two objects or events in the past. But on the basis of our past experience we can not theoretically justify our inference that the future will resemble the past.[37] Hume argues that:

> If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance. (E. 37-38).

What Hume wants to maintain is that there is no logical justification for appealing to constant conjunction as a sufficient ground for an explanation of why an event occurred rather than did not occur.

With respect to reasoning concerning "matters of fact and existence", there can not be any logical justification. The reason Hume gives in favour of his argument is that because ignorant peasants, infants, and even beasts, all are seen to get along remarkably well with their causal reasonings, any attempt to justify inductive inferences either must be plain enough to them, or else "if, after reflection, you produce any intricate or profound argument, you, in a manner, give up the question, and confess that it is not reasoning which engages

us to suppose the past resembling the future" (E. 39). But this argument does not deny that no other justification can be given. Hume can not be saying that because these ignorant peasants and others who can not produce the justification for their predictions, no such justification could be given. He admits that an "intricate and profound argument" is possible, but still this would not amount to reasoning because we do not evidently employ such an argument in our daily lives.

The ignorant peasants do not need to go to a scientist to determine whether this particular plant is dying because of an attack of insects. It is by past experience only that they infer that this plant is going to die as it has been attacked by insects. They remember that every case of insect attack on plants in the past has beenfollowed by the subsequent death of those plants. "Without further ceremony" they call the insect attack "cause" and the subsequent dying of plants "effect" and infer the dying of a new case of insect attack that they come across. The judgment, belief or habitual inference operates before they "have time for reflexion and without once being thought of. . . " (T. 104).

In arguing this way Hume's real intention seems to be to claim that causal inferences are capable of justification, though not always rationally justifiable. And Hume proceeds to give his own naturalistic justification for making such inferences. It is, as he

sees it, a psychological, a particular kind of mental transition from one thought to another. It does not involve any logical or rational activity. So he writes: "one who concludes some body to be near him, when he hears an articulate voice in the dark, reason justly or naturally: tho' that conclusion be deriv'd from nothing but custom" (T. 225), and again in the Enquiry, "Heat and light are collateral effects of fire, and the one effect may justly be inferred from the other" (27). Though these inferences (which are justly inferred) can not be rationally defended, yet, our practical life demands such inferences. We have a blind but powerful instinct that apart from all logical arguments it inclines the mind to belief and this belief has an unconditional claim upon human understanding. We take our belief "for granted without any proof" (A. 15).

When our ideas have been constantly conjoined, they become associated by the mind so that on the presentation of one of them, the mind takes a leap to the attendant of the other. This leap or what Hume calls "feeling of certainty" need not be exclusively a logical operation. Because we can not, by means of logical arguments, explain the ultimate facts of human nature, such as, our belief in the "ultimate" or "secret" operation of causal connections. As Noxon rightly puts it:

> The fundamental laws of nature are inexplicable, ultimate brute fact into which men are granted no insight. If we ask why the moon affects the tides, why planets rotate about the sun, or why a stalled aircraft falls to earth, we are answered by the

> law of gravitational attraction. But if we repeat our "why" and ask why that law operates, we are disappointed. . .[38]

Our beliefs in secret operations are "indispensible", "inevitable", "natural" where no logic can be applied and as such "removed beyond the reach of sceptical doubt".[39] Because nature has not left this to our choice "and has doubtless esteem'd it an affair of too great importance to be trusted to our uncertain reasonings and speculations" (T. 187). "Nature, by an absolute and uncontrollable (sic) necessity has determin'd us to judge as well as to breathe and feel;. . . " (T. 183). Again in the Enquiry Hume states that "All these operations [reasonings and judgments concerning matters of fact] are a species of natural instincts, which no reasoning or process of thought and understanding is able either to produce or to prevent" (46-47).

Hume's chief contention is that our natural beliefs are never the result of logical operations, they are generalized beliefs, that "belief is more properly an act of the sensitive than of the cogitative part of our natures" (T. 183). They are the result of non-logical propensity which Hume calls "custom" or "habit". "For whenever the repetition of any particular act or operation produces a propensity to renew the same act or operation, without being impelled by any reasoning or process of the understanding, we always say, that this propensity is the effect of Custom" (E. 43). Custom carries the mind

from causes to effects or vice versa, whichever one is at the moment being observed.

So we see that Hume's psychological explanation (naturalism) which is a very important part of his account of how our beliefs of causal inferences or reasoning concerning "matters of fact and existence" operates, does not deny nor doubt the justifiability of these inferences. Where he disagrees is that we are logically justified in concluding "that instances, of which we have had no experience, must resemble those, of which we have had experience, and that the course of nature continues always uniformly the same" (T. 89) or "that the future will resemble the past. . . " (E. 37) or that "like causes will always produce like effect" (A. 15). His argument (which is clear enough) is that we are not logically justified in making causal inference. We are not logically justified because it can not be validated by the rules of deductive logic.

On the other hand, all inductive inferences presuppose that the future will resemble the past that the fire will cause smoke in the future as it has in the past. But there is no self contradiction in supposing that in future fire will not cause smoke. Our ground for reasoning that it does is itself inductive and hence can not be the cause of its own cause. And finally Hume has clearly shown some non-deductive ways of arriving at our belief in causal inference. So P. F. Strawson has rightly commented that "If it is said that there

is a problem of induction, and that Hume posed it, it must be added that he solved it". [40]

Now if Hume is called a sceptic (which most commentators are pleased to call him) his sceptical attitude is employed for a specific purpose to reveal the limitations not of our knowledge of matters of fact and existence, but "of the common system of logic". [41] And what Hume tells us in the Abstract is that he writes the Treatise with the specific purpose to remedy the "common system of logic [traditional rationalists' logic] " (A. 7). Even in the A Letter from a Gentleman to his friend in Edinburgh, Hume says that one aim of the Treatise is "to abate the Pride of mere human Reasoners by showing them, that even with regard to Principles which seem the clearest. and which they are necessitated from the strongest Instincts of Nature to embrace, they are not able to attain a full Consistence and absolute Certainty". [42]

The problem Hume feels, is that too many philosophers place "too great a Confidence in mere human Reason, which they regard as the Standard of every Thing", but reason "is not able fully to satisfy itself with regard to its own Operations, and must in some Measure fall into a Kind of implicit Faith, even in the most obvious and familiar principles". [43] What Hume argues is that demonstrative argument is inert, in the sense that it can not influence our causal predictions. What influences our causal prediction are

"probabilities, and those other measures of evidence on which life and action intirely (sic) depend, and which are our guides even in most of our philosophical speculations" (A. 8).

NOTES

1. J. P. Wright, The sceptical realism of David Hume, Manchester U.P. 1983, p. 131.

2. Hume has not raised this question in the Enquiry. Probably he accounts for the belief of the causal maxim in the Treatise and this may be why he omits all mentioning of it in the Enquiry. cf. R. P. Wolf, "Hume's Theory of Mental Activity" in V. C. Chappell ed. Hume, p. 108.

3. Hume is not very much clear in showing how "the same answer" which he gives about particular causal inference serves to answer the first question. However, in sinking the first question into the second one, his intention seems to be that when reasoning by inference is thoroughly investigated, the troublesome causal necessity will at least be disclosed in its real character.

4. Inferences transcend observation, but only in the sense that they only go beyond observed instances, not beyond observable events. cf. J. P. Monteiro, "Hume's Conception of Science", Journal of the History of Philosophy, Vol. 19 (1981), p. 328.

5. Hume himself has not made the explicit distinction between analytic and synthetic proposition. But propositions concerning the two types of philosophical relation in the Treatise, and those of "relations of ideas" and "matters of fact" in the Enquiry capture these two types of propositions. cf. D. G. C. Macnabb, David Hume (Archon Books, 1966), p. 46. W. A. Suchting, "Hume and Necessary Truth" in Dialogue, Vol. 5 (1966), pp. 56-57.

6. In modern Logic this non-empirical inference is called formal implication.

7. C. W. Kegley & J. A. Kegley, Introduction to Logic (Charles E. Merrill Publishing Co. 1978), p. 335.

8. Hume is here concerned with what is in the contemporary sense known as the problem of the justification of inference or inductive

inference, with reasoning from past experience to future ones. But Hume has not used the term "inductive inference", instead he uses "inference". According to Hume, it is "By means of that relation [relation of cause and effect] alone we can go beyond the evidence of our memory and senses" (E. 26). Hume uses the expression like "factual", "experimental", "experiential" or "causal" to designate his mode of inference. However, in our discussion we may use "causal inference", "inductive inference" or even "induction" interchangeably without making any distinction between them as Farhang Zabeeh has made in Hume, p. 161.

9. The first question, Hume proposed is: "...what is the nature of that evidence which assures us of any real existence and matter of fact, beyond the present testimony of our senses, or the records of our memory" (E. 26).

10. Of course Hume has denied the reality of class. One of his fundamental doctrines is that only particulars exist. However, we may call it a finite class meaning the finite collection of all the members it has in it.

11. The problem of causal induction or causal generalization is translated into "existential generalization". cf. I.M. Copi, Symbolic Logic, 5th edn. (Macmillan Co. 1979), p. 73.

12. J. Noxon (Hume's Philosophical Development, p. 158) rightly states that Hume here stresses the pragmatic difference between fictions and beliefs; belief in ideas "gives them more weight and influence... and renders them the governing principle of our action" (E. 49-50), or, "If we believe, that fire worms or water refreshes, 'tis only because it costs us too much pains to think otherwise" (T. 270).

13. N.K. Smith, The Philosophy of David Hume, pp. 375-76.

14. When Hume says that our inferences are entirely dependent on the associative links between ideas, he refers to the causal connection. Now one question may be raised why causation should be regarded as the main associative link? As a principle of association cause and effect are neither superior nor inferior to resemblance and contiguity, then why should Hume give superior status to the cause-effect relation. Hume himself considers this question (T. 107-110). He holds that although resemblance and contiguity have an impact upon the mind equal to cause and

effect has, the former do not generate belief to the same extent as the latter does. On the other hand, a stronger feature of necessity enters into the relation of cause and effect than into the other two. "There is no manner", Hume says, "of necessity for the mind to feign any resembling and contiguous objects" (T. 109). So it is by the principle of necessity our beliefs get predictive power to infer from the present perception to the vivid and lively idea.

15. A.J. Ayer & R. Winch ed. British Empirical Philosophers (Routledge & Kegan Paul, London, 1952) p. 26.

16. In another context (in the conclusion of Book I of the Treatise) Hume uses "understanding" in his own peculiar sense which means "the general and more establish'd properties of the imagination" (T. 267).

17. This is the title of the article by D.S. Miller in The Journal of Philosophy, Vol. 46 (1949).

18. I owe to my supervisor Professor James Noxon to put this matter this way.

19. It is evident that Hume uses "An object" of "A cause is an object" etc. in all his definitions of "cause" in the Treatise and Enquiry.

20. This "arsenic" example appears in R.E.B. Shanab's article "Hume on Necessity" in Indian Philosophical Quarterly (1974) p. 247.

21. Ayer (Hume, p. 59) rightly states that the element of logical necessity does not apply to matters of fact at all.

22. Beauchamp, T.L. & Mappes, T.A. "Is Hume Really a Sceptic About Induction" in American Philosophical Quarterly, Vol. 12 (1975) p. 122. cf. B. Stroud, Hume (Routledge & Kegan Paul, London, 1977), p. 14.

23. M.W. Gross, "Whitehead's Answer to Hume", JP, Vol 38 (1941) p. 95. A.J. Ayer, Language Truth and Logic (Dover, 1952) pp. 54-55. K.R. Popper, Conjecture and Refutations (Routledge & Kegan Paul, 1974), pp. 42-46.

24. K.R. Popper says that "I found Hume's refutation of inductive inference clear and conclusive. But I felt completely dissatisfied with his psychological explanation of induction in terms of custom or habit" op. cit. p. 42. cf. A.J. Ayer & R. Winch op. cit. p. 26, J. Passmore, Hume's Intentions, pp. 18 & 77.

25. It is not the case that Hume is substituting psychological analysis for logical analysis (Passmore, op. cit. p. 83). In this point both J. Noxon (Hume's Philosophical Development, pp. 135-156) and N. Capaldi (David Hume, p. 123) agree that the real intention of Hume's psychological analysis is to supplement logical analysis of causation.

26. B. Russell, An Inquiry into Meaning and Truth (Penguin Books, London, 1969) p. 230.

27. When Hume says that belief does not depend on the will but only on causes and principles of which we are not master, he lives no room to control our beliefs. Passmore ("Hume and the Ethics of Belief" in David Hume: Bicentenary Papers, ed. G. P. Morice, Texas, 1977, p. 86-92) comments that Hume does not consistently think of belief as an automatic reaction over which we have no sense of control. But Hume need not think that all our beliefs are entirely out of our control even though it is automatic. As Norton says that it is always possible to bring reflection to bear on the process and result in belief that automatically arises as an end product (David Hume, Princeton U. P. 1982, p. 237n).

28. J. Noxon, op. cit. p. 159, N. Capaldi, op. cit., p. 125.

29. W. C. Salmon in his paper "Should We Attempt to Justify Induction", in Philosophical Studies, Vol VIII (1957) p. 39, holds that causal inference is a matter of convention.

30. "On Justifying Induction", Philosophical Studies, Vol. IX (1958), p. 21.

31. J. Noxon rightly comments that "Although Hume's doctrine is certainly explanatory, it is not exclusively so". "Hume's Concern With Religion", The Southwestern Journal of Philosophy, Vol 7 (No. 2, 1976), p. 63.

32. The same statement he states in moral judgment that there is a constant conflict between immediate sympathy and "general establish's maxim" (T. 293-297).

33. C. J. Ducasse, "Critique of Hume's Conception of Causality" (JP, 1966), p. 144.

34. Beauchamp & Rosenberg, Hume and the Problem of Causation, pp. 114-115.

35. However, at the bottom of the same page Hume eliminates the term "totally" and instead uses the term "chiefly" (T. 173).

36. Beauchamp & Rosenberg, Hume and the Problem of Causation, p. 53.

37. Hume does not deny that inferences are primarily based on past experience of constant conjunctions. But to bind together all these past experiences he needs custom or habit which is explained by the principle of association. "Were there nothing to bind them together, the inference would be entirely precarious" (E. 27).

38. "Hume's Concern With Religion", p. 69.

39. N. K. Smith, "The Naturalism of Hume (I)", in Mind Vol. 54 (1905), p. 152.

40. "On Justifying Induction", PS (1958), p. 21.

41. R. W. Cannon, "Hume's Naturalism" in D. F. Norton & others ed. McGill Hume Studies (Austin Hill, San Diego, 1979), p. 129.

42. David Hume, A Letter from a Gentleman to his friend in Edinburgh (1745), ed. E. C. Mossner & J. V. Price (1987), p. 19.

43. Ibid., p. 21.

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