

**HUME'S THEORY OF SCIENTIFIC JUDGEMENT**

To: CATHERINE MARIE ABEL, M.A.

HUME'S THEORY OF SCIENTIFIC JUDGEMENT

By

MAX M. THOMAS, M.A.

A Thesis

Submitted to the School of Graduate Studies

in Partial Fulfilment of the Requirements

for the Degree

Doctor of Philosophy

McMaster University

May, 1984

DOCTOR OF PHILOSOPHY (1984)  
(Philosophy)

McMASTER UNIVERSITY  
Hamilton, Ontario

TITLE: Hume's Theory of Scientific Judgement

AUTHOR: Max M. Thomas, B.G.S. (University of Kansas)  
M.A. (Brock University)

SUPERVISOR: James H. Noxon

NUMBER OF PAGES: viii, 214.



## ABSTRACT

Sceptical passages in Hume's writings tend to lead readers to assume that he opposes theories of evidence and methods for judging the truth and falsehood of our knowledge claims. But interpretations such as this overlook passages where Hume insists that we have methods of judging the truth of our claims about a priori relations of ideas and matters of fact and real existence. My intention is to make sense of these passages, taking them literally, and thereby avoiding both the sceptical and sceptically based naturalistic interpretations. I do not oppose the view that Hume is sceptical about metaphysical claims, such as our knowledge of the existence of impression-causing objects, but I argue that he is not sceptical of scientific claims in the sense that we have no reasonable basis for judging their truth or falsehood. The point is made by formulating Hume's theory of scientific judgement.

The focus of this interpretation is on Hume's conception of philosophical relations, which provides the basis for predication and judgement. Predication arises by the comparison of ideas; a priori judgement is the "agreement or disagreement" of an idea with other ideas, while empirical judgement is the correspondence of an idea with an existing object (impression).

The bulk of the dissertation formulates the scope and content of each of the seven philosophical relations as they are divided into those

judged a priori, those judged by an immediate sense impression, and those judged by empirical reasoning in terms of cause and effect. In each case we find that Hume is neither sceptical of our methods for judging truth, nor is any method grounded in a presuppositional "natural" belief.

## ACKNOWLEDGEMENTS

Hume's distinction between the understanding and the passions became clearest to me during the writing of this dissertation. I have drawn heavily upon those who have supplied me with understanding and emotional support. Now it is my turn to repay them in some small way.

In terms of understanding, I was assisted by my doctoral committee: James Noxon, Sami Najm, and Douglas Odegard (University of Guelph). I am particularly grateful to those who took time to discuss various ideas with me: Samuel Ajzenstat, John Bristol, and George Nathan (Brock University). I also wish to thank James Noxon and William Slater for making it financially possible for me to attend meetings of the Hume Society so that I might have the opportunity to test some of my ideas against that august body of scholars. Special thanks go to Vera Koledin for her speedy and accurate typing of the final manuscript.

In terms of the passions, I am most appreciative of my family for their continuous emotional support. This includes my parents, Max Sr. and Carol, as well as Bruce, Pete, and Nat. I am indebted mostly to Catherine who kept the faith in me especially when I could no longer summon it for myself.

TABLE OF CONTENTS

	Page
INTRODUCTION .....	1
<b>CHAPTER ONE: Hume's Logic</b> .....	7
I. Interpretations of Hume's Theory .....	9
II. Logic and Understanding .....	18
III. Philosophical and Natural Relations .....	23
Notes to Chapter One .....	35
<b>CHAPTER TWO: Judgement and Belief in Knowledge of "Real" Existence</b> .....	39
I. Impressions and "Real" Existence .....	42
II. Beliefs and Existence .....	56
III. Judgement and Existential Belief .....	66
Notes to Chapter Two .....	71
<b>CHAPTER THREE: <u>A Priori</u> Judgements</b> .....	73
I. Judgements and Philosophical Relations .....	75
II. Necessity and Contingency .....	82
III. Intuitive Judgements .....	92
IV. Demonstrative Judgements .....	101
V. Applications of <u>A priori</u> Judgements .....	114
Notes to Chapter Three .....	120
<b>CHAPTER FOUR: Perceptual Judgements</b> .....	123
I. Space and Time .....	125
II. Identity .....	133
III. Applications of Perceptual Judgements .....	138
Notes to Chapter Four .....	145

<b>CHAPTER FIVE: Causal Judgements</b> .....	147
I. Contiguity, Succession, and Necessary Connection .....	149
II. Scepticism and Causal Judgement .....	166
III. Proofs and Probabilities .....	177
IV. Probability and Chance .....	184
V. The Idea of Future Existence .....	194
Notes to Chapter Five .....	204
 <b>CONCLUSION</b> .....	 206
Notes to the Conclusion .....	210
 <b>BIBLIOGRAPHY</b> .....	 211

#### ABBREVIATIONS USED

Abbreviations throughout the text are standard for Hume scholarship and refer to standard editions of Hume's works. They are as follows:

- T                    A Treatise Of Human Nature, 2nd edition, edited by P.H. Nidditch and L.A. Selby-Bigge. Oxford: Clarendon Press, 1978.
- E<sub>1</sub>   &   E<sub>2</sub>            Enquiries Concerning the Human Understanding and Concerning the Principles of Morals, 3rd edition, edited by P.H. Nidditch and L.A. Selby-Bigge. Oxford: Clarendon Press, 1975. (Subscripts refer to the Enquiry Concerning Human Understanding, and to the Enquiry Concerning the Principles of Morals, respectively.)
- A                    An Abstract of A Book lately Published Entitled A Treatise of Human Nature & c. My references to this work are found on pages 641-662 of the second edition of the Treatise noted above.
- D                    Dialogues Concerning Natural Religion, edited by Norman Kemp Smith. Indianapolis: Bobbs-Merrill, 1947.

## INTRODUCTION

A theory about what a particular philosopher is trying to convey begins to form in a reader's mind when certain passages strike him as having more weight than others. While reading Hume I began to suspect that he emphasized various discussions about methods for judging the truth and falsehood of knowledge claims to a greater extent than is usually noticed by his readers. As examples of this I would point to his criteria for judging the truth and falsehood of a priori and empirical claims (T. 448, 458), his observation that judgements alone have a truth value (T. 415-6), and his claim that "understanding exerts itself after two different ways, as it judges from demonstration or probability" (T. 413). If the faculty of the understanding judges a priori demonstrations and empirical probabilities, and if by "judgement" Hume means "what has a reference to" truth (T. 415), then we should expect that Book I of the Treatise, entitled "Of the Understanding", and An Enquiry Concerning Human Understanding contain a theory of our methods for judging the truth and falsehood of knowledge claims. My thesis is that Hume has such a theory; my proof comes in the formulation of it.

I call this Hume's theory of scientific judgement for three reasons. First, the term "scientific" serves to distinguish Hume's epistemological theory from his value theory. "Human nature" is distinguished into the "affections and understanding" (T. 493). Whereas the latter has to do with reason and the discovery of truth and falsehood (T. 458), the former has to do with matters of sentiment or taste:

Thus the distinct boundaries and offices of reason and of taste are easily ascertained. The former conveys the knowledge of truth and falsehood: the latter gives the sentiment of beauty and deformity, vice and virtue (E<sub>2</sub> 294).

So in discussing Hume's theory of judgement as it concerns truth and falsehood, we are limited to the epistemological or scientific inquiry. Secondly, Hume's greatest interest lies in discovering methods for judging empirical claims, specifically those regarding our knowledge of causes and effects. Although he has a theory of a priori judgement, he agrees with Leibniz that theories of empirical reasoning have been sorely neglected, and he dedicates himself to the task of remedying this "defect" in previous systems of judgement (A. 647). Thus my emphasis on Hume's theory as it concerns scientific or empirical methods of inquiry reflects his concern with that subject. Thirdly, Hume tends to deny the possibility of our judging certain metaphysical claims, such as that propounding the existence of a permanent, perception-causing world. Yet, as I shall argue, his scepticism with regard to this metaphysical issue does not impinge upon the investigations found within the empirical sciences.

It is widely recognized that Hume supports the common man's position over that of the metaphysicians; he tells us, for example, that "true philosophy approaches nearer to the sentiments of the vulgar, than to those of a mistaken knowledge" (T. 222-3), and that "philosophical decisions are nothing but the reflections of common life, methodized and corrected" (E<sub>1</sub> 162). However, it is not generally recognized that in supporting common understanding, Hume tacitly supports scientific reasoning. This is proven in the comment that,

In vain would the sceptic make a distinction between science and common life, or between one science and another. The arguments employed in all, if just, are of a



similar nature, and contain the same force and evidence (D. 137).

My interpretation, with its emphasis on Hume's theory for judging truth and falsehood, differs from received opinion in so far as the traditional interpretations lean heavily upon the more sceptical passages in Hume's writings. My thesis is to cultivate and develop those discussions where Hume might not be taken to be a sceptic. This is opposed to those who view him either as a complete Pyrrhonian with regard to scientific knowledge, or those who view him as the propounder of a theory of knowledge grounded upon presuppositional or "natural beliefs". Again, I emphasize the scepticism with regard to scientific knowledge, because, with a few exceptions, Hume's readers grant that he is not sceptical about a priori judgements, such as might be found in the law of contradiction or mathematics. My attack on these positions is indirect in the sense that I do not spend much time discussing these views and picking them apart. Rather my resources have been devoted to producing an interpretation contrary to those generally held. In the first chapter, "Hume's Logic", I provide a brief review of the standard interpretations of Hume's epistemological program. I suggest, with a couple of the more recent commentaries, that there is reasonable evidence for thinking that Hume propounds a theory for judging the truth and falsehood of our scientific claims. The basis for his theory of judgement is found in the discussion of "philosophical relations" (T. I.I.v.), which, I suggest, provides the logical foundation for the theory.

Hume's theory of judgement is composed of two parts. The first is the act of judgement itself wherein we determine the truth or falsehood of an idea (what we think something is) by comparing that idea with the

object of judgement (what the object really is). A judgement (idea) is true if it conforms or agrees with the object of judgement; it is false if it does not conform or if it disagrees with the object of judgement. The second part of the theory accounts for the nature and formation of the idea which becomes a judgement. Hume explains that we comprehend something or acquire an idea of it by comparing one idea with others. For example, I know what loudness is because I have acquired ideas of softness and silence by which I can compare and come to understand the first idea. If I had experience of loudness alone, that is, if every sound were of the same (loud) volume, I could not know what loudness is because I would have nothing to compare it with. Hume identifies seven categories of comparison; these are called "philosophical relations". Consequently, the basis for our knowing something is first established by comparing an idea of it with other ideas. Once I understand the nature of something, I can judge what objects are of that kind, that is, I can determine whether that idea truly or falsely conforms with the object in question. Although the formation of an idea of judgement is logically prior to the determination of its truth or falsehood as it is applied to an object of judgement, that is, we must understand what we are judging before we can actually judge its truth or falsehood, I have found it easier to treat Hume's discussion of the process of judgement before discussing his treatment of concept formation and predication. Thus, Hume's account of judging and its relationship to his criteria for determining truth and falsehood are examined in the second chapter.

In chapter two "Judgement and Belief in Knowledge of 'Real' Existence", we will find further support for the view, introduced in the first chapter, that Hume has a theory for judging truth and falsehood.

More specifically, this chapter deals with Hume's account of empirical judgement. I shall explain Hume's distinction between a belief about a particular state of affair and the judgement that such a state of affair exists or is true. I shall also provide Hume's argument showing that existence claims must be proven empirically. This chapter will not only provide the basis for understanding the structure of judgement and the object of judgement in Hume's theory, it will also provide the foundation for his account of the methods for judging perceptual and causal claims. But, as I explained earlier, judgement, per se, is only half of the theory. The other half involves the formation and comprehension of the ideas being judged. This is explained in greater detail early in the third chapter, "A priori Judgements".

It is helpful to have Hume's account of the philosophical relations in the chapter on a priori judgement because judgements, for Hume, always involve a prior comparison of ideas. In fact each of the philosophical relations carries with it a distinct method for judging the truth or falsehood of the relation as it exists as a relation of ideas or as a relation of objects. More specifically, a priori judgement is about what Hume calls the "real" relations (T. 438). These categories of comparison include resemblance, degrees of quality, contrariety (contradictions), and proportions of quantity and number (mathematics), and each will be examined in turn. The concluding section demonstrates a particular application of Hume's theory of a priori judgement as it fits into the broader aspects of his philosophy. Despite the importance of a priori judgement for Hume's theory, it also plays a significant role in his account of causal judgement. This will be discussed from time to time to prepare the reader for the examination of causal judgement in the final

chapter.

Since judgement always involves a prior comparison of ideas we can understand Hume's account of "Perceptual Judgements", chapter four, only by considering the philosophical relations (comparisons) of space and time, and identity. This chapter will also conclude with an examination of the use Hume makes of perceptual judgements, specifically those concerning identity. Again, as with a priori judgements, perceptual judgements, specifically those concerning space and time, play a role in the account of causal judgement. This will be introduced in its proper place.

The fifth chapter, "Causal Judgements", provides Hume's account of how he may judge the truth and falsehood of our beliefs about the relations between objects known as causes and effects. Again, Hume's principal interest, and the source of his fame, arise from his discussion of causation, so this chapter might be deemed the most important of the whole work. Herein we will find the greatest evidence of Hume's support for methods of judging the truth and falsehood of our scientific claims.

I conclude the dissertation with a summary of its contents. I emphasize the respects in which this study presents a new approach to Hume's philosophy.

## CHAPTER ONE

### Hume's Logic

One of the principal problems in Hume scholarship has been to determine the logical basis for his theory of knowledge. I believe that this basis is found in his analysis of the philosophical relations of ideas located at Treatise I.I.v. There is no doubt that these relations play an integral role in Hume's discussions of both epistemological and metaphysical issues.

Hume's discussion of the philosophical relations is disappointingly brief. It is restricted to slightly over two pages in the Treatise. There is no explicit discussion of these relations in the first Enquiry. However, even a cursory reading of the section entitled "Of relations" demonstrates their importance to the whole of Hume's epistemology. The relations of resemblance, degrees of quality, contrariety, and proportions of quantity and number provide the basis for his theory of a priori knowledge, including knowledge derived from mathematics and the law of contradiction (T. 69-70). The relation of identity is essential for understanding the arguments against the possibility of our knowing external objects (T. 200-202) and the simplicity of mind (T. I.IV.vi.). The relations of space and time figure prominently in our knowledge of causes and effects, and the analysis of causal relations is recognized widely to be Hume's most vital epistemological contribution. Despite the significance of these relations, few of his readers have examined their role in Hume's program. My thesis is that the philosophical relations

are the logical<sup>1</sup> elements that provide the basis for Hume's theory of judgement. The theory is designed to provide a method for determining which beliefs or claims to knowledge are true and which are false.

Some commentators suggest that Hume confuses psychological and logical investigations in such a way that any effort on his part to formulate a viable theory of judgement must inevitably fail. To avoid this difficulty some of Hume's defenders suggest that he does not attempt to provide a method for judging truth and falsehood. Instead, they argue, he is interested only in providing a psychological theory of belief designed to supplant a traditional epistemology. Others have argued that Hume does in fact distinguish psychology and logic in order to provide a viable theory of knowledge. However, since he does not employ twentieth century terms for that distinction, there are difficulties in determining precisely how he may have intended it to be made. All three of these possible interpretations may be cast aside if it can be shown that Hume in fact tacitly distinguishes between psychological and epistemological investigations, and that he finds within the latter a basis for judging truth and falsehood. The support for this view will come in three stages.

The first problem is to clarify the difficulties in attributing to Hume a theory of judgement as they have evolved in the literature. This is found in the first section (I), "Interpretations of Hume's Theory". These difficulties are partially resolved in the presentation of prima facie evidence indicating that Hume propounded a method for judging the truth and falsehood of knowledge claims. The evidence is provided and discussed in the second section (II), "Logic and Understanding". Further evidence that Hume formulates a theory of judgement is found in his distinction between philosophical and natural relations, in which we find

his tacit distinction between logic and psychology. If the logical basis for Hume's theory is found in the philosophical relations, as I argue, then the interpretation needs to be fortified by showing that these relations remain an integral feature of the epistemological program set out in the later written Enquiry Concerning Human Understanding. Both of these issues are discussed in the third section (III), "Philosophical and Natural Relations".

#### I. Interpretations of Hume's Theory

A certain dialectical progress can be traced in the evolution of Hume scholarship. This may be presented in three distinct stages. Early interpretations cast him in the role of a complete Pyrrhonist, emphasizing the sceptical arguments found in his writings. This view criticises the sceptical Hume for being unable to provide viable solutions to philosophical problems. A counter interpretation, produced shortly after the turn of the century,<sup>2</sup> admits Hume's evident scepticism but denies that this typifies his final message. This interpretation emphasizes Hume's clear rejection of sceptical conclusions, admitting his evident support of the fact that certain beliefs are held by all men. This is posed as a solution to the consequences urged by Pyrrhonism. This interpretation argues that although Hume answers scepticism, his solution seems to sacrifice any reasonable basis upon which one belief may be accepted or rejected over another competing belief. Recently, however, Hume's commentators have suggested an **alternative reading which indicates that Hume may** have a viable method for judging beliefs retaining features of both the scepticism and the naturalism. The best way of understanding the problems associated with Hume's theory of knowledge is to see how they have come

about within the historical context.

Early views see Hume as an excessive sceptic, denying any possibility for the justification of knowledge. Thomas Reid, for example, says,

It seems to me a particular strain of humour in this author [Hume], to set out in his introduction, by promising with a grave face, no less than a complete system of the sciences, upon a foundation entirely new, to wit, that of human nature; when the intention of the whole work is to shew, that there is neither human nature nor science in the world.<sup>3</sup>

This comment refers to Hume's well-known sceptical attacks on metaphysical arguments for the existence of an external, mind-independent world, a Cartesian simple and identical mental substance, and the existence of causal powers necessarily connecting distinct objects. Reid opposes this brand of scepticism simply by pointing out that it cannot be maintained in the common affairs of men. He argues that,

Sensible men, who never will be skeptics in matters of common life, are apt to treat with sovereign contempt every thing that hath been said, or is to be said, upon this subject.<sup>4</sup>

Oddly, more recent interpretations of Hume not only dispute the Pyrrhonist interpretation submitted by Reid and others,<sup>5</sup> but they discover that Hume makes a similar attack on excessive scepticism.

Norman Kemp Smith, the originator of the naturalistic alternative to a sceptical reading, suggests an interpretation that emphasizes a positive teaching despite Hume's Pyrrhonist arguments. His view is that Hume does not offer a philosophical refutation of scepticism, but rather a solution that avoids the consequences arising from Pyrrhonist arguments. Although scepticism is correct in pointing out the inability of dogmatic philosophies to justify particular beliefs, it fails, according to this



interpretation, to reconcile the fact of common conviction with the negative teaching. Kemp Smith's view is largely based on Hume's insistence that no amount of sceptical argument can hinder the common man's belief in particular claims about the world. He argues that Hume's criticism of scepticism is aimed at its inability to account for, or circumvent, a system of beliefs naturally held by all men. He explains that,

According to all previous philosophies--the character and status of belief having never, Hume holds, been so much as even considered, prior to his own discussion of it--any such convictions must rest either on the senses or on reason or on the two in co-operation; and it is by criticism of this assumption that Hume proceeds to formulate his own alternative position, that they rest on the imagination as reinforced by 'natural' belief.<sup>6</sup>

But, according to Kemp Smith, Hume never fully relinquishes Pyrrhonism, he merely readjusts its focus. We are told that,

His argument is thus in three stages: (1) his criticism of the claims made on behalf of the senses, (2) his criticism of the claims put forward on behalf of reason, and (3) the exposition and defence of his own positive teaching. In (1) and (2) he joins forces with the sceptics. In (3) he parts company with them. . . .<sup>7</sup>

On this reading Hume provides a psychological fact instead of a philosophical argument against scepticism. In support of this interpretation

John Passmore writes:

And what is commonly done, we philosophers shall also do, not because we want to, or because we ought to, but just because this is how we are made. The 'answer' to scepticism is not a philosophical argument but a psychological fact.<sup>8</sup>

Thus, the Pyrrhonian challenge is met with the facts of common experience which are contrary to the sceptic's insistence that all belief must remain in interminable doubt followed by inaction. This view of Hume has huge support.

Richard Popkin believes that, for Hume, scepticism successfully undermines the possibility of justifying knowledge claims. The only means of avoiding the pitfalls of scepticism is to side-step the issue of justification and appeal to a theory of cognition that simply is compatible with common experience. Popkin explains that,

The epistemological analysis of human knowledge leads to a complete Pyrrhonian scepticism. Yet Hume held . . . that this analysis fails when applied to common sense beliefs, and fails to undermine our convictions in them, since they are not really rational beliefs.<sup>9</sup>

The issue of justification is avoidable because these beliefs, which are questioned by the sceptic and adhered to by the common man, are not in themselves justifiable owing to the basic structure of their status as beliefs. Beliefs are not vulnerable to traditional sceptical attacks simply because they are nonrational and unjustifiable. This is because they are more akin to passions or instincts than to judgements and, accordingly, have no truth value. This view emphasizes the feeling or instinctual feature which Hume insists is an essential part of any belief. Barry Stroud, for example, explains that,

Even in the apparently most intellectual or cognitive spheres of human life, even in our empirical judgements about the world and in the process of pure ratiocination itself, feeling is shown to be the dominant force.<sup>10</sup>

Again, Kemp Smith suggests that Hume's emphasis of the feeling aspect of all beliefs lays the groundwork for his rejection of sceptical consequences. In this manner Hume circumvents the scepticism either explicitly or implicitly found in his predecessors;

. . . the conclusion to which we are brought is that what is central in his teaching is not Locke's or Berkeley's 'ideal' theory and the negative consequences . . . but the doctrine that the determining

influence in human, as in other forms of animal life,  
is feeling, not reason or understanding, i.e. not  
evidence whether a priori or empirical . . . .<sup>11</sup>

Thus, Hume's division of human nature into the understanding and the passions, or reason and emotion, makes way for the view that beliefs are a class of passions and that the downfall of scepticism comes in the realization that reason is subordinated to passion. Although Hume's answer to scepticism in terms of the nonrationality of belief is seen as a significant contribution, some of his readers suggest that this view of belief has grave consequences for his positive theory of knowledge.

Although advocates of the naturalistic interpretation support Hume's answer to scepticism, they are generally dissatisfied with his ability to provide a viable theory of knowledge. The subordination of reason to feeling, deemed essential to the rejection of scepticism, seems to prohibit any reasonable basis upon which one belief may be accepted or rejected over another. According to the early naturalistic interpretations knowledge, for Hume, is grounded in a set of fundamental "natural" beliefs. Without these beliefs there could be no knowledge. The problem is that these beliefs are not rationally justifiable, only psychologically explainable. Consequently, the reason for accepting the truth of any particular belief is psychological, not logical. Therefore, all knowledge is ultimately reduced to psychology. This is problematic because psychology explains why something is believed but does not tell us how we are justified in accepting the truth of that belief. For example, I might be psychologically justified, so to speak, in accepting a belief because someone in authority has told me of its certainty, but epistemologically, belief based on authority does not guarantee the truth of the belief. Hume's attempt to provide "general rules" (T. I.III.xv.) for

judging the truth of a belief is seen as an unwitting effort to reduce logic to psychology. Kemp Smith warns of "Hume's tendency to substitute psychological for logical analysis",<sup>12</sup> while Passmore suggests that "Hume's psychological positivism breaks down" in the ill-fated "reduction of philosophy to psychology".<sup>13</sup> Antony Flew argues that,

. . . Hume really does want to insist on reducing all questions about the [reasonableness or] unreasonableness of beliefs about matters of fact and real existence to questions merely about the psychological mechanisms which produce these beliefs, he does indeed leave himself no room to make any evaluative distinction between the reasonable beliefs entertained by the wise and learned and the bigotries and superstitions with which others delude themselves.<sup>14</sup>

According to these views of Hume, "natural" beliefs serve both to answer scepticism and to form the basis for a theory of knowledge. Hume's solution to scepticism is the fact of natural belief, but his attempt to produce a theory of knowledge based on this psychological phenomenon is doomed to failure.

However, if Hume distinguishes psychological from logical investigations, then he does not have to be seen as grounding logic in psychology. James Noxon, for example, argues that Hume's logical pronouncements demonstrating our inability to know real necessary connections between causally related objects is quite distinct from his psychological explanations showing how this false view of causality arises, or the psychological mechanisms actually employed in a causal judgement. Noxon explains that,

Hume the philosophical analyst and Hume the 'experimental' psychologist are not really very compatible throughout most of Book I of the Treatise. It is true that they sometimes collaborate, the analyst detecting an error (the imputation of necessary connection to causally related events, for instance), the psychologist explaining it (in this case by the

natural disposition of men to project features and qualities of their inner experience on to the external world). But each has his own work to do and goes about it independently of the other, the analyst relying upon the copy principle, the psychologist upon the principle of association.<sup>15</sup>

Nicholas Capaldi also insists that Hume distinguishes logical justification from psychological explanation. Whereas traditional theories of knowledge required justification on the model of a priori demonstrations, Hume realizes that there is no self-evident justification for scientific causal inferences. His alternative, according to Capaldi, is simply to offer an explanation for the psychological mechanisms that permit such inferences of the mind. Capaldi suggests that Hume's

. . . conclusion is that the logical analysis of causal inference would never lead us to make inferences unless there were some mental psychological mechanism which was operative. It is not the legitimacy of the inference which is at issue but the question of how we make it.<sup>16</sup>

These authors resolve the problem of psychologism, which is imputed to Hume by their predecessors, by distinguishing between Hume's negative (sceptical) but logically grounded investigations and his positive (psychological), scientifically grounded investigations. In this manner the logical is not based upon the psychological; they are different kinds of investigations each grounding different kinds of claims. However, a problem still remains.

If Hume rejects the possibility of justification while at the same time providing psychological explanations for our beliefs, then he has no philosophical method for accounting for the truth of these explanations. In order to propound psychological claims, there must be a method for determining the truth of one claim and the falsehood of another. The problem is not overcome by grounding psychological claims in higher

psychological principles, since we would still be justified in asking how those higher principles are known to be true. Thus, a defender of Hume must either admit that there is no basis for accepting one psychological claim over another, or he must find within Hume's writings some logical basis for a positive theory of judging scientific claims.

David Norton argues that although Hume suggests that beliefs are unavoidable, he does not infer that they are necessarily unreasonable as well. The problem as seen by Norton lies in the thesis that Hume subordinates reason to feeling. The unavoidability of belief is a psychological claim to be verified by empirical, scientific methods. Although this feature of Hume's philosophy may be termed "naturalistic", in the eighteenth century sense of "scientific", it does not entail the thesis that knowledge is in some way dependent on feeling. Norton writes:

Hume does, for example, attempt to explain belief within the methodological framework which we call naturalistic, and the explanation that results is one that eschews reliance on supernatural or transcendental causes in favor of appeals to the principles of human nature. I deny, however, that Hume holds the theory of belief that has been ascribed to him by Kemp Smith, and his followers, namely, the theory that belief is not only natural, but also essentially irrational.<sup>17</sup>

A similar view is advanced by Thomas Beauchamp and Alexander Rosenberg. They argue that the naturalistic interpretation is correct in so far as it demonstrates Hume's rejection of Pyrrhonism, especially with regard to causal knowledge. Yet, they also reject the position held by Kemp Smith and Stroud that Hume subordinates reason to feeling. Beauchamp and Rosenberg point out that:

The position Hume everywhere advocates is that our ideas and beliefs are the products of our natural constitution. The position he nowhere takes (at least consistently or in detail) is Kemp Smith's

interpretation that reason is simply an instinctual faculty.<sup>18</sup>

The significance of their contribution to this debate lies in the claim that, contra Kemp Smith and others, Hume has a theory of evidence that permits the judgement of beliefs in terms of their truth and falsehood.<sup>19</sup> Such a theory would provide the basis for Hume's theory of scientific judgement. Beauchamp and Rosenberg insist that,

. . . the constitution of our nature may determine our beliefs, but truth is not determined thereby, and beliefs may always be rationally corrected; our beliefs are true if and only if they correspond to the way the world is; no belief is true because we believe it. That alone is the Humean philosophy of belief and truth. It is consistent with naturalism and determinism, but it is a correspondence theory not exhausted by them.<sup>20</sup>

These latter views have two advantages. First, they sustain the distinction between logical and psychological investigations in Hume's system, and provide a basis for judging the truth and falsehood of the latter. They also retain the essential features of the naturalistic interpretation as a criticism of Pyrrhonism.

Pyrrhonist views (Reid) find Hume rejecting any possibility for knowledge. Early Naturalistic interpretations (Kemp Smith, Passmore) argue that Hume rejects Pyrrhonist conclusions in the subordination of reason to feeling, but in so doing he is ultimately forced to ground knowledge in psychology. Modern Naturalistic interpretations (Noxon, Capaldi) distinguish Hume's logical and psychological investigations to show him avoiding psychologism, but leave him no logical basis for judging the truth or falsehood of psychological claims. More recent justificationist views (Beauchamp and Rosenberg, Norton) suggest that Hume rejects the consequences of Pyrrhonism, but in so doing is not also

forced to make justified belief impossible or irrational, nor based on unjustified psychological principles. A justificationist interpretation holds the best hope for Hume, if it can be substantiated. It permits him, on one hand, to reject the excesses of scepticism, while, on the other hand, to sustain a method for judging the truth and falsehood of psychological claims. Indeed, if Hume rejects Pyrrhonism by virtue of facts of the human condition, then it is reasonable to assume he has some logical basis for judging which facts are true and which are false. The intention of this study is to formulate Hume's theory of scientific judgement.

## II. Logic and Understanding

If Hume has a theory for judging the truth and falsehood of beliefs, then there must be textual evidence indicating this intention. I shall establish the prima facie grounds for attributing a theory of judgement to him. This exegetical exercise is an effort to refute the view that Hume's positive contribution to epistemology is limited to a psychological analysis of belief, as found in the claim that,

. . . the focus of attention in Book I [of the Treatise] is belief: what it is, and why we come to have the beliefs we do. . . . An investigation of truth, then, might be ruled irrelevant to this sort of inquiry.<sup>21</sup>

Certainly, there is no doubt that he is interested in examining the nature of belief and how beliefs are generated. Yet it would be odd to think that an inquiry into the methods of judgement, which are designed to establish the conditions for knowing truth and falsehood are "irrelevant" to these goals. In fact it is difficult to imagine how Hume expected to convince us of the accuracy of his psychological investigations without providing some prior method for determining the truth of



his psychological claims.

There are clear indications that Hume is interested in providing a method for judging the truth and falsehood of knowledge claims. His irritation with previous attempts at this is found in the introduction to the Treatise.

There is nothing which is not the subject of debate, and in which men of learning are not of contrary opinions. The most trivial question escapes not our controversy, and in the most momentous we are not able to give any certain decision (T. xiv., cf. E<sub>1</sub> 6).

This frustration with previous systems of philosophy can be traced back to an early autobiographical letter that was surely written during the composition of the Treatise. In this letter Hume not only confesses his disappointment with other systems, but also suggests that philosophical problems might be solved within his method of establishing truth.

Every one, who is acquainted either with the Philosophers or Critics, Knows that there is nothing yet establisht in either of these two Sciences, & that they contain little more than endless Disputes, even in the most fundamental Articles. Upon Examination of these, I found a certain Boldness of Temper, growing in me, which was not enclin'd to submit to any Authority in these Subjects, but led me to seek out some new Medium, by which Truth might be establisht.<sup>22</sup>

This interest in finding a method for determining truth lasts throughout Hume's lifetime. In the posthumously published Dialogues Concerning Natural Religion he again points out that "nothing but doubt, uncertainty, and contradiction, have as yet, been the result of our most accurate researches" (D. 128). These passages indicate an interest on his part to provide a reasonable method for interpreting evidence and judging the validity of arguments, and thereby arriving at true conclusions to settle the "endless Disputes" that troubled him. There is strong evidence

indicating that this method of judging truth and falsehood is found in the Treatise (Book I) and the first Enquiry.

Book I of the Treatise is entitled "Of the Understanding"; the first Enquiry is similarly called An Enquiry Concerning Human Understanding. Partial proof for the claim that Hume is interested in establishing a method for judging truth is found in the meaning of "understanding". The clearest evidence of that meaning is found in the Treatise.

Hume is quite clear on the function of the understanding. It is the faculty that judges demonstrative and empirical truths.

The understanding exerts itself after two different ways, as it judges from demonstration or probability; as it regards the abstract relations of ideas, or those relations of objects, of which experience only gives us information (T. 413).

Again, "the operations of the understanding divide themselves into two kinds, the comparing of ideas, and the inferring of matter of fact"

(T. 463). These operations of judgement are reflected in the two kinds of truth Hume recognizes, that is, the a priori relations of ideas and the empirical matters of fact and existence (T. 448, 458; cf. E<sub>1</sub> 25).

Understanding and reason are identified in their mutual opposition to the passions or feelings.<sup>23</sup> Reason includes "our demonstrative and probable reasonings" (T. 118n.), as does the understanding (T. 371n.). Whereas

reason "conveys knowledge of truth and falsehood", the opposing faculty is concerned with feelings of "the sentiment of beauty and deformity,

vice and virtue" (E<sub>2</sub> 294; emphasis added). Again, reason and the understanding are functionally the same in so far as each "judges either of

matter of fact or of relations" (E<sub>2</sub> 287; cf. "understanding" at T. 413);

"Reason is the discovery of truth or falsehood" (T. 458). These passages indicate that understanding and reason are the faculty concerned with

judgements about the truth and falsehood of a priori and empirical knowledge claims, which is the subject of both Book I of the Treatise and the first Enquiry.

Occasionally Hume refers to his work on the understanding as the "logic". For example, in the Abstract, after explaining the principles set out in Book I of the Treatise he claims to have "finished what regards logic, and has laid the foundation of the other part in his account of the passions" (A. 646). The investigations of the understanding are identified with what we should expect to come from a logic. In the introduction to the Treatise Hume urges us to become,

. . . thoroughly acquainted with the extent and force of human understanding, and . . . explain the nature of the ideas we employ, and of the operations in our reasonings (T. xv.).

In the following paragraph we discover that this is to do logic since,

The sole end of logic is to explain the principles and operations of our reasoning faculty, and the nature of our ideas . . . (T. xv., A. 646).

Thus, Hume identifies the investigations of Book I, which are concerned with the nature of ideas and our use of them in reasoning, with logic. Understanding is equated with logic; it is also identified with the faculty of reason, which is in turn the discovery of methods for judging truth and falsehood.

There is a clear demarcation of Hume's logical and psychological investigations in the Treatise. That work is divided into two "books" called "Of the Understanding" and "Of the Passions", which contain the logical and psychological investigations respectively. An edition (1777) of the Essays and Treatises on Several Subjects (volume II) divides these investigations in the form of An Enquiry Concerning Human Understanding

followed by A Dissertation on the Passions. This general outline, however does not prove that an investigation of the understanding is devoid of psychological investigations.

Although there is no evidence that Hume grounded knowledge of truth in psychological principles, he does not believe that epistemological and psychological investigations can be divorced entirely. Despite the fact that understanding is the judging of a priori and empirical claims, the truth of which is determined by an investigation of the relationships between ideas and their objects (T. 448), that study requires not only an analysis of "ideas" but also "of the operations we perform in our reasonings" (T. xv.). The latter appears to be more psychological than logical. In order to explain how Hume's investigation of the understanding is performed without his confusing psychological and logical investigations we must examine the role of mind in his theory of knowledge.

Certainly a theory of knowledge must recognize the role of mental faculties. The senses, for example, are a necessary condition for the possibility of empirical knowledge. It would indeed be absurd to say that we have knowledge of an object that, by hypothesis, is in no way available to mind. Thus, there must be an isomorphism between mental faculties and the objects of knowledge. Hume recognizes this. In arguing the limitations of knowledge he says,

This narrow limitation, indeed, of our enquiries, is, in every respect, so reasonable, that it suffices to make the slightest examination into the natural powers of the human mind and to compare them with their objects, in order to recommend it to us. We shall then find what are the proper subjects of science and enquiry (E<sub>1</sub> 163).<sup>24</sup>

Although epistemology must consider the capabilities of mind, this does not mean that truth is grounded in psychological foundations. The fact that empirical knowledge presupposes the ability of the mind to be aware of sense perceptions does not answer the question concerning how we might know empirical truths. Justification of empirical claims comes from the logical principle upholding a correspondence theory of truth, not simply by virtue of the fact that we have sense perceptions. Truth, in this sense, refers to the conformity or "agreement" of an idea with the object of knowledge (T. 458, 448). Accordingly, the belief is not justified because of a psychological principle, such as "sense perceptions are available to mind", but rather because of the comparison of an idea with an empirical object. Neither psychological nor metaphysical theories of mind are necessary to support this theory of knowing.

Still further support for Hume's distinction between psychological and logical principles would be helpful in substantiating the view that he explicitly sees and uses such a distinction. This, I believe, is found in the distinction Hume makes between philosophical and natural relations of ideas.

### III. Philosophical and Natural Relations

A distinction between psychological and logical investigations is found in Hume's division between natural and philosophical relations of ideas. Natural relations are the foundation for his explanations of the inner workings of the mind, while philosophical relations are the foundation for his theory of knowledge wherein truth might be discovered. To introduce the distinction we might say that natural relations of ideas would be those studied by the method employed in the natural sciences,

or more specifically, in psychology. They are "natural" because they occur in the same fashion as any physical event might occur in the world. Conversely, philosophical relations are the object of study by philosophers, or more specifically by logicians or theorists of knowledge.

Hume explains that sometimes ideas are connected together in the mind. The existence of a mental connection signifies a natural relation. However, at other times ideas which are connected together are compared. The mind notes resemblances and differences between the ideas in a comparison. The existence of an intentional comparison signifies a philosophical relation. Whereas "relation" in a common or scientific context signifies a connection of ideas, "relation" in a logical context signifies a comparison of ideas.

The word RELATION is commonly used in two senses considerably different from each other. Either for that quality, by which two ideas are connected together in the imagination, and the one naturally introduces the other . . . or for that particular circumstance, in which, even upon the arbitrary union of two ideas in the fancy, we may think proper to compare them. In common language the former is always the sense, in which we use the word, relation; and 'tis only in philosophy, that we extend it to mean any particular subject of comparison, without a connecting principle (T. 13-4).

This description of the distinction, however, is only as good as our understanding of Hume's use of "connections" and "comparisons".

A connection of ideas is like a connection of natural objects. Two things are connected when one follows another in sequence or when they are united together. For example, this page is connected to its binding; similarly, the idea of a page might bring with it the idea of a book or binding because we frequently find pages bound together in book form. This describes a natural relation. If ideas are connected because

of the spatial and temporal proximity within which we find such objects, then the ideas are connected by the relation of contiguity. This is the case with the foregoing example of a page and a book. A natural relation simply describes the basis upon which ideas are connected together. Although I might choose to produce a connection of ideas, such as in a psychoanalytic experiment of free association, specific ideas or connections between ideas need not be intended; again, in the same manner that connections between natural objects are unintentional.

A comparison of ideas, unlike a connection, is always an intentional act. Two ideas or objects are compared when the mind remarks upon resembling and differing features shared by the ideas being compared. Take, for example, the ideas of a page and a binding, which happen to be connected together at this moment. A comparison eliciting the resemblances and differences between these ideas involves an act of mind beyond the original connection. In this comparison I note that the book is heavier than the page, describing the different degrees of a resembling quality (weight). I also note that the page is in the book, describing a comparison in terms of spatial location. The relations described here are not connections, but comparisons. These are philosophical relations, the tools of Hume's logic, because with comparisons come judgements. The comparisons in terms of weight and spatial location produce the judgements "a book is heavier than a page" and "this page is in that book". The truth or falsehood of these judgements is determined by the correspondence of an idea with the object of judgement. But no judgement is made in the mere connection of ideas.

The distinction between these two kinds of relations is somewhat confusing because "relation" means different things to the common man

as opposed to the philosopher. Hume provides an example of the differences:

Thus distance will be allowed by philosophers to be a true relation, because we acquire an idea of it by the comparing of objects: But in a common way we say, that nothing can be more distant than such or such things from each other, nothing can have less relation; as if distance and relation were incompatible (T. 14).

To the common way of thinking, distance and relation are incompatible because there is no connection between distant objects. Distance is contrary to connection. But in a philosophical way of thinking, distance signifies a mode of comparison, i.e. distance as it is a relation of spatial comparison and judgement. Two objects are comparable by virtue of their spatial quality, and in this instance, we compare and judge them to be far apart. Now we may begin to see how Hume's distinction between natural and philosophical relations is a distinction between psychological and logical principles.

Natural relations, like the connections of physical objects, describe the mechanism of minds. Ideas and passions (T. 283) are connected or united by psychological principles common to all men (E<sub>1</sub> 23). These psychological principles are analogous to the laws of physics which describe the behavior of "natural" or physical objects (T. 12-3).<sup>25</sup> Whereas physics produces laws of the behavior of physical objects, psychology produces the laws of the behavior of mental objects. In fact, Hume thinks that the natural relations are the foundation of psychology. He calls them the "original qualities of human nature" (T. 13). Despite the importance of these relations for Humean psychology, they are easily enough distinguished from his logical investigations.

Although connected ideas may be compared, comparisons, per se,



are "without a connecting principle" (T. 14). In other words, comparisons may be psychologically dependent on connections, but they are not logically dependent on the natural relations. Whereas connections produce beliefs, in terms of a transfer of vivacity from an impression to an idea (T. 98), beliefs are judged only by a comparison. Let us take, as an example, my belief that the ashtray is on the desk. The (psychological) explanation of my belief or enlivened idea is the connection and transfer of the vivacity in the impression (ashtray being on the desk) to the idea of the ashtray being on the desk. The judgement that the "ashtray is on the desk" is produced by the comparison of the ashtray with the desk. Without the principles of connection Hume would have no basis for the psychological explanation of the occurrence of beliefs; without the principles of comparison he would have no basis for the philosophical justification of those beliefs. The relations work hand-in-hand for Hume. Natural relations are the mechanisms of thought, while philosophical relations are the principles of judgement. In this distinction we find a basis for dividing Hume's psychology from his epistemology, without the problem of psychologism. Psychologism is avoided because the basis for judgement, namely the philosophical relations, are not logically dependent on the psychological principles of connection.

Thus far my interpretation depends upon two points. First, I have suggested that Hume distinguishes psychological and logical principles in terms of the natural and the philosophical relations. Secondly, I have suggested that the philosophical relations are the basis for judgement in Hume's system. Both of these points are substantiated by what is said in the Treatise. Yet neither the distinction

between natural and philosophical relations, nor philosophical relations are mentioned as such in the first Enquiry. If my view is to be sustained, I must therefore produce an argument demonstrating that the distinction and the role of comparison qua philosophical relations, are at least tacitly represented in the first Enquiry.

In the editor's introduction to the Enquiries, Selby-Bigge notes that,

Thus the list of philosophic relations and the distinction between philosophic and natural relations are omitted, and do not appear at all in the Enquiry.<sup>26</sup>

Speculation as to why Hume seems to have omitted the philosophical relations is largely nonexistent. Neither Antony Flew nor James Noxon, both of whom are interested in the differences between the Treatise and the Enquiries, provides any explanation for the absence of these relations from that later work.<sup>27</sup> Kemp Smith suggests that Hume's mention of these relations in the Treatise is "extremely casual".<sup>28</sup> However, a general feeling among commentators seems to be that Hume was not altogether sure of his discussion of them in the first place, as evidenced by their absence in the Enquiry, and that the mature work is really so much the better for it. This view is summed up in W.B. Elkin's comment that discussion of the relations is deleted from the first Enquiry "partly, because it is not essential to his main purpose",<sup>29</sup> and by doing so "the author avoided many vexatious embarrassments".<sup>30</sup> Although it must be admitted without question that the phrase "philosophical relation" and the list of relations found in the Treatise (T. 14-5) are indeed not to be found in the Enquiries, this does not mean that the function of comparison is also absent.

Flew recognizes that at least one of the philosophical relations, as distinguished from the natural relations, is carried over to the first Enquiry;

Selby-Bigge in his 'Introduction' to the Inquiries states that 'the distinction between causation as a philosophical and as a natural relation is altogether dropped'. This . . . is not correct.<sup>31</sup>

At least vague references are given to some of the others as well.

Contrariety, or the logical law of contradiction, is mentioned in the Enquiry (E<sub>1</sub> 26, 164, E<sub>2</sub> 288).<sup>32</sup> Resemblance, being not only a philosophical relation in its own right, but also essential for all comparisons is found in an amended form in the definitions of causes and necessary connections in the Enquiry. Hume's mysterious reference to the "resemblance implied in this relation" (T. 15) of cause and effect is explained in the Treatise when the definition of cause as a philosophical relation, or "as a comparison of two ideas" is finally disclosed. The crucial feature of resemblance is found when Hume explains that,

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; emphasis added).

Resemblance in necessary connection is translated, later in the Treatise, in terms of "the constant union and conjunction of like objects" (T. 409; emphasis added). The philosophical relation of resemblance, found in the Treatise, and "likeness" in the definition of necessary connection in that same book, are correspondingly translated in terms of "similarity" and "likeness" in the first Enquiry (E<sub>1</sub> 77, 97). Thus, although the term "resemblance" is left out of the definitions of cause and necessary connection in the first Enquiry, the notion of comparison on that basis

still exists, but this time in terms of "similarity" and "likeness". We find the relations of space and time in the definitions of cause in both books as well. In the Treatise a cause is "precedent and contiguous to another" object (T. 170). In the Enquiry these spatial and temporal relations are translated in terms of the cause as an object which is "followed by another" (E<sub>1</sub> 76). Whereas the philosophical relations of resemblance, contrariety, space and time, and cause and effect are found in the Enquiry, the relations of identity and degrees of quality are not. However, the seventh relation, proportions of quantity and number, like causation, receives a great deal of attention. What becomes known as the "relations of ideas" in the Enquiries, which are called the "abstract relations of ideas" (T. 413) and "proportions of ideas" (T. 448) in the Treatise are the mathematical sciences of geometry "or the science of quantity" (E<sub>1</sub> 158), algebra and arithmetic (E<sub>1</sub> 25).

Thus far we have found that although several of the philosophical relations are mentioned in the Enquiry only two are discussed at some length. These are the relations of cause and effect, which give us knowledge of matters of fact, and the relations of quantity and number, which give us mathematical knowledge in terms of relations of ideas. The question, then, is not why Hume ignored the philosophical relations in the latter work, but rather why he chose to discuss only these two in detail. This question is particularly vexing because in the final paragraph of the first Enquiry Hume seems tacitly to exclude the possibility of our acquiring knowledge from the remaining five relations found in the Treatise. It appears that knowledge obtained from the relations of identity and degrees of quality, and perhaps even resemblance, contrariety, and space and time, might be cast "to the flames"

along with those volumes of "divinity or school metaphysics" (E<sub>1</sub> 165).

This apparent shift in policy from the Treatise to the first Enquiry can be explained as a mere shift in emphasis by means of a frequently overlooked distinction between kinds of philosophical relations. This is a distinction between those relations judged by the mental action of "reasoning", which include causation and proportions of quantity and number, and those judged immediately by "intuitions" or "perceptions", which include resemblance, contrariety, degrees of quality, space and time, and identity. The distinction is important for two reasons. First, it will explain the basis for Hume's having discarded any extended discussion of the last five relations. Secondly, it will show that Hume's interest in the Enquiry is restricted to those judgements derived from reasoned causal and mathematical relations.

It is important to note that the distinction between relations judged by a reasoning process and relations judged immediately by intuition and perception cuts across the distinction between a priori and empirically verified relations. It is initially based on what sensory data are necessary for judging relations. Hume explains that,

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. This comparison we may make, either when both the objects are present to the senses, or when neither of them is present, or when only one (T. 73).

Neither object need be present to the senses when considering the a priori relations. Since these "constant" relations are a priori (T. 69), truths provided by judgements derived from them are not dependent on sensory data. At least one object must be present to the senses or memory in our reasonings from cause and effect (T. 97). However, both objects

must be present to the senses to provide the information necessary for judging spatial-temporal location, and identity. For example, one object cannot be judged to be next to another unless both objects are present to the senses. Qualifying the claim that "all kinds of reasoning consist in nothing but a comparison", Hume points out that not all comparisons may be properly called reasoning.

When both the objects are present to the senses along with the relation, we call this perception rather than reasoning; nor is there in this case any exercise of the thought, or any action, properly speaking, but a mere passive admission of the impressions thro' the organs of sensation. . . . we ought not to receive as reasoning any of the observations we may make concerning identity, and the relations of time and place; since in none of them the mind can go beyond what is immediately present to the senses . . . (T. 73).

Like these perceptual relations, "intuitively" judged relations of resemblance, contrariety, and degrees of quality are not dependent on any "exercise of thought" beyond the simple comparison. Only a glance, so to speak, at the ideas being compared is necessary to judge them.

Hume explains that,

. . . these relations are discoverable at first sight, and fall more properly under the province of intuition than demonstration. . . . decisions about them are always pronounced at first sight without any enquiry or reasoning (T. 70).

Intuitively known relations are opposed to mathematical relations, which require "a chain of reasoning" (T. 71). Thus the philosophical relations are distinguished into those that are discerned by reasoning and those that are discerned by an immediate reflection on the ideas (intuitions) or the objects of the senses (perceptions). This distinction is useful for understanding why Hume neglected some of the relations in the first Enquiry, and how his interests in that book are restricted.

The first Enquiry is devoted only to an investigation of those relations known by a reasoned process of mind. It is restricted to: "the objects of human reason or enquiry which may be naturally divided into two kinds, to wit, Relations of Ideas, and Matters of Fact" (E<sub>1</sub> 25). Of course, the relations of ideas, as objects of reason or enquiry, are "the sciences of Geometry, Algebra, and Arithmetic" (E<sub>1</sub> 25), while matters of fact, also as objects of reason or enquiry, are restricted to those "reasonings" that are "found on the relations of Cause and Effect" (E<sub>1</sub> 26). Since Hume begins the Enquiry by telling us that his interest in that book is limited to knowledge obtained by reasoning, it is not surprising that he should end it with the dramatic proposal that,

If we take in our hand any volume; of divinity or school metaphysics, for instance; let us ask, Does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it then to the flames; for it can contain nothing but sophistry and illusion (E<sub>1</sub> 165).

Hume's references to "reason" and "reasoning" indicate that he is not really very interested in those judgements derived from the relations not dependent on that action of thought. Furthermore, his lack of interest in the immediately judged relations explains why we do not find an extended discussion of the issues of space and time, external existence, and personal identity, which are so prominent in the Treatise.

The foregoing argument demonstrates that although "philosophical relations", per se, are not mentioned in the first Enquiry, Hume's conception of comparative relations is retained. This is particularly evident in regard to our reasonings derived from causal and mathematical relations. This, in turn, substantiates my claim that Hume's distinction

between logical and psychological principles may be found intact throughout his work in terms of the division between philosophical and natural relations. Moreover, it supports the claim that Hume has a basis for a theory of judgement which is not grounded in psychology. However, before that basis can be expanded (as it will be in the third chapter), we must turn to an examination of the relationship Hume sees between judgement and truth, especially as it concerns our knowledge of existence.



## Notes to Chapter One

1. My use of "logic" and its derivatives accords with that found in seventeenth and eighteenth texts on the subject, except in those obvious instances where I refer to a logical possibility meaning one that is not contradictory in an a priori sense. Typically, classical uses of "logic" refer to the science of knowing truth, which includes both empirical and a priori methods. This use is close to the contemporary term "epistemology". Antoine Arnauld, for example, tells us that "Logic is the art of directing reason to a knowledge of things . . ." in The Art of Thinking, trans. James Dickoff and Patricia James (Indianapolis: Bobbs-Merrill, 1964), p. 29. In the Institutio Logica, trans. Howard Jones (Assen, The Netherlands: Van Gorcum, 1981) Pierre Gassendi explains that "the mind provides for itself the art of logic, by which it can give proper direction to its particular task and functions, and by rendering them free from error attain the mark at which it aims, that is, truth itself", p. 80. In the Logick: or, The right use of reason in the enquiry after truth, 8th edition (London: T. Longman, 1745) Issac Watts says that "LOGIC is the art of using Reason well in our inquiries after truth . . .", p. 1. The following pages will show that Hume's use of that word is the same, that is, it refers to that science by which truth is discovered.
2. This is in reference to Norman Kemp Smith's original article "The Naturalism of Hume", Mind, 14 (1905), pp. 149-73 and 335-47. Most of what appeared in that paper is found in his later work The Philosophy of David Hume: A Critical Study of its Origins and Central Doctrines (1941; rpt. New York: Macmillan, 1966) in chapters four through six. Interestingly, Kemp Smith traces his interpretation of Hume to William Wallace's Prolegomena to the Study of Hegel's Philosophy (2nd. edition); see Kemp Smith's book, p. 80).
3. Thomas Reid, An Inquiry into the Human Mind, ed. Timothy Duggan (Chicago: The University of Chicago Press, 1970), p. 14.
4. Ibid., p. 19.
5. Kemp Smith finds a similar interpretation in the writings of James Beattie, T.H. Green, and Leslie Stephen. See The Philosophy of David Hume, pp. 3-8 and 79-85.
6. Kemp Smith, p. 449.

7. Ibid.
8. John Passmore, Hume's Intentions, 3rd edition (London: Duckworth, 1980), p. 149.
9. Richard H. Popkin, "David Hume: His Pyrrhonism and His Critique of Pyrrhonism", in Hume: A Collection of Critical Essays, ed. V.C. Chappell (Garden City, New York: Doubleday, 1966), p. 71.
10. Barry Stroud, Hume (London: Routledge and Kegan Paul, 1977), pp. 10-11.
11. Kemp Smith, p. 11; cf. 46, 85-6.
12. Ibid., p. 561.
13. Passmore, p. 83.
14. Antony Flew, Hume's Philosophy of Belief: A Study of His First Inquiry (London: Routledge and Kegan Paul, 1961), p. 121; cf. 96, 98, 171.
15. James Noxon, Hume's Philosophical Development: A Study of His Methods (Oxford: Clarendon Press, 1973), p. 132.
16. Nicholas Capaldi, David Hume: The Newtonian Philosopher (Boston: Twayne Publishers, 1975), p. 116.
17. David Fate Norton, David Hume: Common-Sense Moralism, Sceptical Metaphysician (Princeton: Princeton University Press, 1982), p. 16.
18. Thomas Beauchamp and Alexander Rosenberg, Hume and the Problem of Causation (New York: Oxford University Press, 1981), p. 64.
19. Ibid., p. 61.
20. Ibid., p. 66.
21. Lilly-Marlene Russow, "The Concept of Truth in Hume's Treatise", Southern Journal of Philosophy, 19 (1981), p. 224.
22. David Hume, The Letters of David Hume, ed. J.Y.T. Greig (Oxford: Clarendon Press, 1932), vol. 1, p. 13.
23. Hume divides human nature into "the affections and the understanding" (T. 493), which is why he thinks that Books I and II of the Treatise "make a compleat chain of reasoning by themselves" (T. xii.). Thus, whatever element of human nature is of one must be of the other. In this, understanding or reason is opposed to passion or feeling (T. 415, 457).

24. The examination of mental faculties for determining necessary conditions for the possibility of knowledge is a theme that runs throughout seventeenth and eighteenth century logics. We have seen where Gassendi thinks that logic "can give proper direction to its [the mind's] particular task and functions" (see note 1). Arnauld says that logic initially "consists in man's reflecting on the mind's four principal operations--conceiving, judging, reasoning, and ordering" in The Art of Thinking (p. 29). The best example of the point I am making about Hume is found in Condillac's Essay Concerning the Origin of Human Knowledge (1746). Condillac explains that mind must be examined to a certain extent, but this does not involve a psychological theory or metaphysical presupposition about mind. He says that "Our first object, which we should never lose from sight, is the study of the human mind--not to discover its nature, but to learn to know its operations, to observe how they are combined and how we ought to use them in order to acquire all the intelligence of which we are capable. It is necessary to go back to the origin of our ideas, to work out their generation, to follow them to the limits which nature has prescribed for them, and by these means to establish the extent and limits of our knowledge and renew all of human understanding"; quoted from Preliminary Discourse to the Encyclopedia of Diderot, by Jean Le Rond d'Alembert, trans. Richard N. Schwab and Walter E. Rex (Indianapolis: Bobbs-Merrill, 1963), p. 5. (The emphasis is mine.)
25. Flew tells us that "Philosophical relations hold between things, loose and separate. Natural relations obtain between ideas, cemented by the principles of association. Natural refers to human nature: philosophical should be associated with natural philosophy" (p. 120). But this would mean a distinction between the methods of the psychological and the physical sciences, which, it seems, would in turn require a distinction between psychological and physical causes. This is something Hume does not allow (T. 171). This will become clearer when we discover, in the fifth chapter, that Hume thinks that causally related objects are ontologically heterogeneous. Furthermore, Flew's manner of distinguishing between these kinds of relations fails to explain the distinctions between things connected and things compared--an essential element in Hume's distinction (T. 13-4).
26. See Selby-Bigge's "Introduction" to the Enquiries, p. xii.
27. See Flew, pp. 9-17, and Noxon, pp. 18, 163.
28. Kemp Smith, p. 253.
29. W.B. Elkin, Hume: The Relation of the Treatise of Human Nature--Book I, to the Inquiry Concerning Human Understanding (New York: no publisher given, 1904), p. 81.
30. Ibid., p. 82.

31. Flew, p. 124. As far as I can tell, Flew never argues for this view. I suspect that he bases this claim on the fact that Hume provides definitions of a cause both in terms of natural and philosophical relations in the Treatise (T. 170), and there are similar, apparently corresponding definitions in the first Enquiry (E<sub>1</sub> 76-7).
32. Hume uses the term "contrariety" in other places in the Enquiries (E<sub>1</sub> 24n., 87, 112). Sometimes the term is used clearly in the sense of a philosophical relation designating a formal contradiction (E<sub>1</sub> 26, 164, E<sub>2</sub> 288), while other times it is identified with a contrast (E<sub>1</sub> 24n., 58). I suspect that the latter refers to "a difference", which, in the Treatise, is not a contradiction but rather "as a negation of relation" (T. 15). My evidence for this opinion rests on the frequency with which Hume says in the first Enquiry that causal objects sometimes admit of contrariety (E<sub>1</sub> 87, 112), but, of course, Hume's view of causality depends on the premise that causal objects are never contradictory, that is, in an a priori sense "Any thing may produce any thing" (T. 173; cf. 15, E<sub>1</sub> 164). (Hume's distinction between contrariety, as the philosophical relation that embodies the law of contradiction, and difference, as the absence of a relation, will be discussed in the third chapter.)

## CHAPTER TWO

### Judgement and Belief in Knowledge of "Real" Existence

I suggested that there is evidence for thinking that Hume had a theory for judging the truth and falsehood of our beliefs. This view is strengthened by virtue of the fact that he supplied us with a criterion for judging truth. Truth, for Hume, is divided into two kinds: one governing our knowledge of a priori judgements, and the other governing our knowledge of empirical judgements or those concerning existence.

Truth is of two kinds, consisting either in the discovery of the proportions of ideas, considered as such, or in the conformity of our ideas of objects to their real existence (T. 448).

Reason is the discovery of truth or falsehood. Truth or falsehood consists in an agreement or disagreement either to the real relations of ideas, or to real existence and matter of fact (T. 458).

Hume was content with the standard formulations of a priori judgement in terms of relations of ideas, which are to be found in contemporary books on logic. But he was quite dissatisfied with their accounts of empirical knowledge and particularly in regard to knowledge derived from the relation of cause and effect (A. 647). Consequently, we find that his logic book is principally concerned with the nature of existential judgement, which is determined according to the second kind of truth--that regarding "real existence and matter of fact".

Hume's readers tend to find him sceptical with regard to knowledge of real existence. The arguments found in the section "Of scepticism with regard to the senses" (T. I.IV.ii.) suggest to some that Hume's

division between mentally available objects (impressions and ideas) and mentally unavailable objects (external existence) is a distinction between illusion and real existence. Since he argues that external existence is unknowable, owing to the fact that it is, by hypothesis, never available to the mind, which presumably implies that we can never know real existence. If this is a correct interpretation, then we must wonder why he bothered to provide us with a criterion for judging real existence. Lilly-Marlene Russow, for example, argues that Hume's references to real existence in the passages on truth are entirely gratuitous given his scepticism with regard to external existence.<sup>1</sup> My approach to Hume's discussion of existential knowledge follows a different path.

Typically a commentator on Hume's theory of existential knowledge accepts his premise that existential beliefs must be judged empirically, and concentrates on the problem of knowing real existence as it is identified with external existence. But Hume never explicitly identifies external existence with real existence. Upon realizing this we can detach ourselves from traditional prejudices and rethink Hume's position on existential knowledge from a naive standpoint. In this approach we can accept the criterion for judging the truth of claims about matters of fact and real existence at face value. Since Hume seems to think that we can have knowledge of real existence, given his announcement of the criterion for judging such things, we can investigate that criterion in light of his general theories of judgement and belief rather than try to explain away the seemingly anomalous passages. The problem, as it is usually seen, with regard to Hume's theory of knowing real existence is found to be innocuous in the (forthcoming) argument that he identifies sense impressions with real existence. This argument is

given in the first section (I), "Impressions and 'Real' Existence". In this view Hume's foremost interest in existential knowledge is shifted from the problem of how we can know something that is never available to the mind to the problem of explaining why existential knowledge must be judged empirically. Thus the problem is not how do we know "real" existence, the answer to which is simply to attend to our senses, but rather how are we justified in thinking that existential knowledge is determined empirically. Hume's argument for the latter, to be discussed in the second section (II), "Beliefs and Existence", justifies his criterion for judging existential truths by correspondence.

Hume's theory of empirical truth is clearly of the kind known today as truth by correspondence. Briefly, his primary argument for this as a criterion for judging existential truth is that our idea of existence is meaningless except as the idea of an object might be found in an impression of the senses. This argument not only accounts for our idea of existence but also provides a psychological explanation for the origin of existential belief. But we quickly discover that the salient feature of an existential belief, namely, its feeling of vivacity and intensity, is not a ground for judging the truth of that belief. Since existential truth is determined by the conformity of an idea to an object of real existence (an impression), we find that within Hume's account all beliefs are attended by an idea (judgement) by which existential beliefs might be justified. Hume's account of belief serves to justify his contention that existential beliefs must be judged empirically, but beliefs, qua a feeling that something exists, cannot justify the claim that it actually does exist. The justification, as we will see in the third section (III), "Judgement and Existential Belief", for a belief

comes in the correspondence of the attending idea (judgement) with the existing object (an impression). This will provide us with the general structure of Hume's theory of existential knowledge. It will tell us how Hume thinks we get knowledge of real existence, and why we are justified in thinking that existential judgements must be determined empirically.

#### I. Impressions and "Real" Existence

The following argument will determine whether by "real" existence Hume refers to the impressions of the sense or objects external to mind (external existence). But before the argument proceeds we should have some working definition for "real existence". This will help us to identify the object to which it refers.

Actual objects or those things that really exist are usually thought to be publicly available and lasting. We commonly assume that these are the objects of everyday experience, such as this table or that chair. But, for Hume, impressions of the senses do not last. They are "interrupted, and perishing, and different at every different return" (T. 211, 194). Upon realizing that impressions do not last we assume that they are caused by objects that do. But Hume argues that we can never know whether or not such impression causing objects last because they are never directly available for our inspection (T. 189). Thus, real existence for Hume does not include the quality of permanence because there is no such known object in his system. By elimination, then, "real" existence must mean that which is publicly available or objective. Certainly if by "real" existence Hume means that which is lasting, and we have no knowledge of such an object, then he would be sceptical of



any knowledge claims about real existence. But, again, if this is so, then we must ask why he would present a sceptical argument about real existence in the first book of the Treatise (T. I.IV.ii.), yet grant us a criterion for knowing real existence in the second and third books (T. 448, 458), and again in the Enquiries (E<sub>1</sub> 25, 35, E<sub>2</sub> 294).

The distinction between real existence as permanent existence and real existence as objective (publicly available) existence fits well with the discussion in Treatise I.IV.ii. In that section, Hume is concerned with proofs attempting to show the permanence of the knowable world. But, as I shall argue, this issue is distinct from that regarding the possibility of objective (public) knowledge of the perceivable world. Hume rarely mentions the latter, except to point out that there are standards for judging the objectivity of empirical knowledge claims (E<sub>2</sub> 228). Sceptical arguments opposing this claim are considered to be "trite" and unimportant (E<sub>1</sub> 151). Thus, it is my contention that Hume assumes that real existents are impressions. But this interpretation must be argued for.

Scientific knowledge is based on the common assumption that all minds are directly aware of a publicly available world. The common objects of experience provide the basis for our knowing the difference between what is objective and what is subjective. This distinction, in turn, seems to provide the basis for determining what is real from what is illusory. Although commentators have recognized Hume's efforts to provide a philosophical basis for scientific inquiry, they have found great difficulties in marking a clear path between mind and the objective world in his system. Hume's readers tend to assume that "impressions" must be private and those objects which are "external" to the mind must

be public. This interpretation lays the groundwork for a scepticism regarding objective knowledge owing to Hume's clear rejection of the possibility of our knowing external objects. If impressions are identified as the objects of private experience and external objects are identified as the objects of public experience, and if knowledge of external objects is impossible, then Hume is left with a scepticism regarding objective knowledge of real existence that interferes with his efforts to provide a philosophical foundation for science. The difficulty I find with this interpretation is that Hume never explicitly identifies impressions with private experience, although this interpretation arises honestly from Hume's insistence that impressions are objects of the mind. It is, I think, the inference from impressions as being mental objects to the view that mental objects are private that needs to be re-examined if Hume is to be freed from the resulting scepticism about objective knowledge.

The distinction between private and public experience is commonly spoken of in terms of the "mental" and "physical" realms, or simply as "mind" and "world". It is not unusual for us to say that "this is not real, it's all in your mind", as an expression of the distinctions between illusion and real existence, between private and public experience. Consequently, when Hume says,

All the perceptions of the human mind resolve themselves into two distinct kinds, which I shall call IMPRESSIONS and IDEAS (T. I),

it is not surprising to find his readers taking this to mean that since both impressions and ideas are "mental" objects, then both must be aspects of private experience. This is, of course, the basis on which Flew suspects that,

Impressions are defined as constituting with ideas the class of 'perceptions of the mind'. While wine must be (logically) public, the impressions of wine like the idea of wine must be (logically) private.<sup>2</sup>

Subsequent to this is the attempt to find something objective or real in Hume's system, and the only kind of object remaining, which is neither impression nor idea, is the external existence discussed later in Treatise I.IV.ii. This is the basis upon which John Bricke forms the distinction between "mental" objects (impressions and ideas) and "physical" (external) objects, and concludes that for Hume "one has direct access only to one's own perceptions".<sup>3</sup> The identification of public objects with external existence is also made by Jonathan Bennett. In the chapter entitled "Hume on Objectivity" Bennett suggests that "Hume's section 'Of Scepticism with Regard to the Senses' is his principal discussion of objectivity-concepts".<sup>4</sup> Yet none of these authors supports his claim with a passage demonstrating that Hume identifies impressions with the private domain and external objects with the public domain, which might serve as the premiss upon which his scepticism with regard to objective knowledge of real existence is supposedly founded.

The problem of objective knowledge in Hume's system might be resolved to some extent if impressions were regarded as the objects of sensory experience in the way the common man identifies perceptions with the common objects of experience (T. 202). The argument for such an interpretation must concentrate on Hume's definition of a "mental" object, which might provide some meaning of that term that is devoid of its usual subjectivist connotations. Since Hume never explicitly tells us what a mental object or "perception" is, we must understand that notion in an indirect manner.<sup>5</sup> My suggestion is that Hume's conception

of a mental object may be understood negatively, that is, in terms of its converse, which is a non-mental or "external" object. I shall argue that Hume defines an external object as something that is not available to mind, per se, and that its converse, a mental object (impression or idea), is nothing more than something that is available to mind, specifically to any mind. If this is all that we are permitted to say of Hume's mental objects, then those commentators who identify impressions as private objects and external objects as public objects are guilty of imputing to Hume a narrower conception of mental object than what can be inferred legitimately from the texts. Furthermore, if a mental object is nothing more than what is available to the mind or experienceable, then Hume's scepticism with regard to objective knowledge cannot arise from the unavailability of public objects. In order to understand what Hume means when he speaks of objects that are either "internal" or "external" to the mind we must examine his manner of distinguishing the two, which is found in the section "Of scepticism with regard to the senses".

Although usually sympathetic to the common view of things, Hume finds that the common position on external existence is contradictory. The common man assumes that his perceptions are identical with the objects he perceives; they are spoken of "indifferently",

. . . understanding by both of them what any common man means by a hat, or shoe, or stone, or any other impression, convey'd to him by his senses (T. 202).

But this is not all. The common man also assumes that these perceptions continue to exist after they are no longer perceived. Hume declares that this view, "that our perceptions are our only objects, and continue to exist even when they are not perceiv'd" is "false" (T. 213). It is

important to realize that although the conjunction of these two propositions is false, either of the conjuncts taken separately may be true. There is no contradiction in the view that the objects of our perception are separate or that they continue to exist after we stop perceiving them (T. 634). But this requires a distinction between perceptions and objects that is denied in the first conjunct. On the other hand, there is no particular difficulty with assuming that perceptions are identical with the objects of experience provided that we do not infer that they continue after we have stopped perceiving them (T. 206). This suggests to Hume that the problem with the common man's view may be resolved only by distinguishing between perceptions and objects external to the mind.

Hume suggests that a distinction between kinds of objects can be drawn if two objects can be conceived independently of each other;

Whatever is clearly conceiv'd may exist; and what ever is clearly conceiv'd, after any manner, may exist after the same manner . . . Again, everything, which is different is distinguishable, and every thing which is distinguishable is separable by the imagination (T. 233).

Thus, if two things can be conceived to exist independently of each other, then they logically could exist independently. Now if impressions and external objects are to be distinguished, then the distinction must be initially based on an imaginable difference between the two. The common way of making distinctions of this sort is by pointing out different qualities between the two kinds of objects being considered. For example, suppose that a distinction is to be made between two jars; if the two jars have contrary qualities, such as different colors or shapes, then the distinction can be made on qualitative grounds, e.g. one jar is orange and another is blue, or one jar is round while another is

oval. However, if the two jars share the same qualities, e.g. both are blue and oval, then a distinction cannot be made on qualitative grounds, since here there are no differences and some other means must be chosen for making the distinction.

Returning to the original problem, the difficulty of distinguishing impressions from objects arises from Hume's realization that the distinction cannot be made on qualitative grounds. There are two reasons for this. First, if impressions and objects are imagined to possess the same qualities, then there can be no qualitative differences between the two on which to ground the distinction. Secondly, if impressions and objects are imagined to have differing qualities, then we cannot imagine what kinds of qualities the objects might have, since all ideas of the imagination must originate in impressions. The reason for this is distinctly Humean. Since ideas, or whatever may be conceived in the imagination, originate in their simplest form in impressions, the mind is limited to those conceptions of simple things, i.e. kinds of qualities, that are ultimately derived from the senses. Although the mind is perfectly capable of organizing the simple ideas given in sense experience into previously unknown complex ideas (T. 10), it is almost entirely unable to create previously unexperienced ideas.<sup>6</sup> Consequently, the conception or "idea" of external objects is limited to the material given in impressions, or in Hume's words,

. . . 'tis impossible our idea of a perception, and that of an object or external existence can ever represent what are specifically different from each other (T. 241; cf. 68).

This conclusion leads Hume to point out that whatever qualitative differences might exist between impressions and external objects, the mind

cannot conceive what those differences might be. Furthermore, the mind is forced to imagine that objects are qualitatively identical with impressions, and that the rejection of this conception prohibits any other possible idea of the qualitative nature of external objects. In the first Enquiry Hume warns us that the idea of an external object without some qualities, notably those found in impressions, provides no basis for the idea at all.

Bereave matter of all its intelligible qualities, both primary and secondary, you in a manner annihilate it, and leave only a certain unknown, inexplicable something, as the cause of our perceptions . . . ,

a suggestion Hume finds "so imperfect, that no sceptic will think it worth while to contend against it" (E<sub>1</sub> 155). Thus, impressions and external objects must be imagined to have the same kinds of qualities, and some other ground for the distinction must be found.

Since a qualitative or "specific difference" between impressions and external objects is inconceivable, Hume considers alternative grounds for drawing distinction between the two, namely, on the basis of differing relations. This proposal is similar to the method used to distinguish two qualitatively identical jars in the example above. Although two jars with identical qualities cannot be distinguished on this basis, they can be distinguished on the basis of differing relations, such as differing spatial relations. Due to the inconceivability of qualitative differences between impressions and external objects, Hume suggests that,

Generally speaking we do not suppose them specifically different; but only attribute to them different relations, connexions and durations (T. 68).

Consequently, the only possible idea of an external object is that it is qualitatively identical with its correspondent impression, but it is conceived to have differing causal and temporal relations. In other words, the cause of the object is imagined to be different from the cause of the impression (in fact we assume that the object causes the impression), and the object is imagined to last longer than the impression of it. This means of conceiving the distinction suggests that an external object is,

. . . independent of our perception, and to be something external to our mind, which perceives it. Our presence bestows not being on it: our absence does not annihilate it (E<sub>1</sub> 152).

By distinguishing impressions and external objects in terms of differing relations the disputes mentioned above concerning the possible nature of perceptual and external existence are settled. The conclusion that kinds of qualities cannot be divided between the realm of mind and external world is satisfied by the hypothesis that the same kinds of qualities exist in both, and by distinguishing the two on the basis of relational differences. In this manner, the common man gets the externality and independence of objects, and the philosopher has a reasonable basis for distinguishing impressions and external objects. However, as with any compromise, this solution fails in an important respect.

The new "philosophical system", as Hume calls it, fails in so far as it is not provable on its own merits. Although there is a satisfactory distinction between the mental and the external worlds, Hume points out that this system of "double existences", i.e. impermanent impressions that are caused by permanent external objects, is a "fiction" or hypothesis (T. 209, 215). In other words, this system provides a tidy solution



to the problem of distinguishing perceptions and external objects, but it is merely a logical (imagined) possibility that is empirically unjustifiable. The flaw originates in the relational distinction. Since the distinction supposes that objects last longer than and cause impressions, and since the mind is aware only of impressions, there is no mechanism for proving the existence of enduring, impression-causing objects. Since, for Hume, existence claims must be proven empirically, and impressions can never provide evidence of existences beyond them (T. 189), Hume's philosophical "system" of double existences must remain an hypothesis.

Hume's manner of distinguishing impressions and external objects provides the basis for understanding his conception of each. Although believed to exist by a kind of "natural instinct" (E<sub>1</sub> 155), lasting external objects cannot be known to exist because they are completely unavailable to the mind, i.e. they are extra-mental. Hence, external objects are defined as being completely separate from and the cause of all that is perceivable. The converse of this definition describes a mental object. Consequently, a mental object must be defined simply as something that is available to the mind, i.e. as a perceivable. In the Abstract Hume defines a "perception" as "whatever can be present to the mind, whether we employ our senses, or are actuated with passion, or exercise our thought and reflection" (A. 647; emphasis added). Neither of these definitions needs to include the notion of private or public availability, which means that Hume need not be saddled with the restrictive view that,

. . . it is impossible to explain what is meant either by idea or impression, or the terms applied to characterize particular ideas and impressions,

without immediately or ultimately presupposing both the existence and our knowledge of a public world of physical [external] objects.<sup>7</sup>

The broader view that impressions and ideas are defined as "mental" because they are experienceable eliminates the need to impose the precarious notion of an external existence to provide Hume with a public object. In fact careful reading of the texts shows that Hume generally speaks of impressions and ideas as the objects of "mind", in a generic sense, and not of individuals' minds. In this sense, Hume may be seen as anticipating Frege's warning that,

Neither logic nor mathematics has the task of investigating minds and the contents of consciousness whose bearer is a single person. Perhaps their task could be represented as the investigation of the mind, of the mind not of minds.<sup>8</sup>

Frege's comment indicates the need for the epistemologist (logician) to investigate the relationships between mind and the objects of knowledge, a task that is reflected in Hume's insistence that,

As to those impressions, which arise from the senses, their ultimate cause is, in my opinion, perfectly inexplicable by human reason . . . Nor is such a question any way material to our present purpose. We may draw inferences from the coherence of our perceptions, whether they be true or false; whether they represent nature justly, or be mere illusions of the senses (T. 84).

If this view is correct, then Hume's impressions are those objects of knowledge that present themselves to the senses of any mind. Those interpretations that identify impressions with private experience simply impute a characteristic to them that is unwarranted, and most likely unintended. However, particular problems with the justification of objective knowledge are not resolvable by the thesis that impressions are the public objects of experience.

The view that Hume distinguishes the objects of private experience from the objects of public experience in terms of impressions and external objects is alluring because it provides an easy basis for distinguishing illusion from reality. However, since impressions are not identified with private experience, then there must be some other basis for a seems/is distinction in Hume's system. This distinction will provide the basis for judging what is objectively real and what is not.

How, then, according to Hume, do we judge the truth and falsehood of knowledge claims about real existence? Real existence is that given in an impression of the senses and a judgement about real existence is determined according to what is given in impressions. In Hume's words, "what exists in the nature of things is the standard of our judgement" (E<sub>2</sub> 171). Again, reason "conveys the knowledge of truth and falsehood" in so far as it "discovers objects as they really stand in nature (E<sub>2</sub> 294). Although the senses provide the basis for judging the truth of claims about real existence, Hume does not suggest that we must blindly submit to their authority without the intervention of reason based on the past experience of these objects:

All objects seem to diminish by their distance:  
But tho' the appearance of objects to our senses  
be the original standard, by which we judge of  
them, yet we do not say, that they actually diminish  
by the distance; but correcting the appearance  
by reflexion, arrive at a more constant and  
establish'd judgment concerning them (T. 603).

He is well aware that public availability alone cannot guarantee the objective reality or truth of any judgement. A magician's audience, for example, need not assume that the performer can raise up an unsupported body simply because that is what appears to happen at first sight. The distinction between illusion and real existence cannot be based on a

distinction between what is subjectively and objectively experienceable. Rather the difference between a subjective and an objective experience is knowable only in terms of what is illusory and what is real. This, in turn, is known by our past and present experience of the behavior (coherence) of objects. This interpretation is supported by Hume's censure of those "trite" sceptical arguments which suggest that empirical judgments are doubtful because of the variations found in appearances.

These sceptical topics, indeed, are only sufficient to prove, that the senses alone are not implicitly to be depended on; but that we must correct their evidence by reason, and by considerations, derived from the nature of the medium, the distance of the object, and the disposition of the organ, in order to render them, within their sphere, the proper criteria of truth and falsehood (E<sub>1</sub> 151).

Hume's point is that the senses by themselves fail to provide an adequate standard for determining what is objectively real. The proper standard for such judgements is obtained from the observation of the coherence of objects, which is also the origin of the belief in external, permanent existence (T. 195). I know that oars do not bend when placed in water and then unbend upon their removal because of my previous experience with these objects. Objective knowledge, then, is not possible in Hume's system by employing a single perception as the standard for determining whether the observed behavior of an object is correct or not, since the behavior is knowable only in terms of our past experience of the object in question. Hume suggests that,

. . . without such a correction of appearances, both in internal and external sentiment, men could never think or talk steadily on any subject; while their fluctuating situations produce a continual variation on objects, and throw them into such different and contrary lights and positions (E<sub>2</sub> 228).

However, this method of obtaining an objective judgement, like all causal reasoning, is, of course, always open to reconsideration upon sufficient evidence that our previous judgement was inconclusive. Consequently, Hume's scepticism with regard to objective knowledge or our knowledge of real existence is not based on the unavailability of a public object for inspection, but rather on the difficulties inherent in our reasonings from cause and effect.

If this interpretation is correct, then the "matters of fact and real existence" Hume speaks of are given in impressions. Impressions are the objects of common experience which are used to judge existential beliefs. This seems to be Hume's point in saying that,

In a word, if we proceed not upon some fact, present to the memory or senses, our reasonings would be merely hypothetical; and however the particular links might be connected with each other, the whole chain of inferences would have nothing to support it, nor could we ever, by its means, arrive at the knowledge of any real existence. If I ask why you believe any particular matter of fact, which you relate, you must tell me some reason; and this reason will be some other fact, connected with it (E<sub>1</sub> 46).

In this matter a belief is true if the judgement inherent in it conforms to the object of experience (an impression) and it is false if the judgement fails to conform to that object (T. 448, 458).

My arguments are designed to show that Hume's interest in existential knowledge is not whether or not we can know real existence, this is unproblematic because real existence is given in impressions of the senses. If he is not concerned with this question, then what is his true interest regarding existential knowledge? Hume is principally concerned to justify his criterion for judging existential beliefs by what is given in impressions. In other words, he wants to answer the question "Why are

existential beliefs judged empirically, rather than by some other means?" Hume's answer is provided in the following section.

## II. Beliefs and Existence

The foregoing argument shows that, for Hume, knowledge of real existence is unproblematic, owing to his identification of real existence with sense impressions, and the fact that impressions are available to the mind. Hume, of course, does not argue that impressions and real existence are the same--the argument above merely shows that he proceeds from that assumption.

Hume's real concern about existential knowledge is shown by virtue of the fact that he argues that knowledge of existence comes from what is given in experience, that is, existential knowledge must be judged empirically. This argument supports his criterion for truth by correspondence. It is an argument that few, if any, of his readers regard as being important.

If the knowable world is divided into impressions and ideas, then, asks Hume, from which of these do we get knowledge of existence? The choices are mutually exclusive, so Hume is free to argue that if knowledge of existence is not given in the idea of an object, then it must be given in an impression. The first part of the conditional is true, he argues, because the idea of the existence of an object is always given in the idea of an object. Since all ideas of objects carry with them the idea of existence, then we have no method for determining which imagined objects really exist and which do not. Hume discovers that the idea of existence attending the idea of any object is the idea that the object could exist, not that it actually does exist. His point is that

the idea of real existence is not given in the idea of an object. Hence, anything we might conceive could exist, but there is no mark of real existence given in the content of any idea by which real existence could be decided. Since the idea of real existence has no meaning in terms of the content of any idea, Hume turns his attention to an examination of our belief that something exists.

He notices that the belief that some object exists is an idea of an object that carries with it the feeling that the object exists. Since the feeling is not to be found in the realm of ideas, he concludes that it must have some other source. The feeling that something exists comes from an impression of the senses. This is proven in our experience of impressions which carry with them a force and vivacity not found in the mere conception or idea of an object. Thus, our belief in the existence of an object comes from an impression. Moreover, the idea that something exists is meaningful only in so far as we assume that the idea has a referent in experience.

The force of Hume's position comes in the argument that the idea of existence is inseparable from the idea of an object. If the idea of existence is not separable from the idea of that object, then the idea of an object is no different from the idea of that object as existing (T. 66). At this stage of the argument he is trying to establish the meaning of "real existence". His conclusion is that the idea of actual or real existence is meaningful only if we suppose that the idea of an object has a referent in experience. For example, when I say that my desk exists I mean, in Humean parlance, that my idea of the desk existing refers to my desk as an object of experience. Since this is what we mean by "real existence", judging the truth of an existential claim must

be in terms of experience. David Pears questions the first part of Hume's argument, that is, that the idea of existence is inseparable from the idea of an object. Pears' criticism contains three mistakes, which I shall outline briefly. First, he misunderstands that when Hume says that the idea of existence is inseparable from the idea of an object, he means that the idea of an object carries with it the idea that the object could exist, not that it actually does. Secondly, Pears thinks that Hume's argument for the inseparability of the idea of existence is limited to the observation that no separate impression of existence is given in experience. But this is an empirical argument showing that there is no known impression of existence which is insufficient for Hume's claim that there never could be one. Thirdly, Pears fails to notice the importance of Hume's argument for the inseparability of the idea of existence for his proof that real existence is meaningful, and therefore justifiable only by reference to impressions. He accepts Hume's conclusion that existential knowledge must be determined by experience, but he fails to argue for that conclusion. Now let us turn to the particulars of Pears' argument.

Pears contends that if the idea of existence attended the idea of every object, then we would be unable to produce the conception of an object that did not exist, such as a unicorn. He suggests that if the thesis that the idea of existence is separable from the idea of an object were true, then an idea of (positive) existence would be the idea of an object conjoined to the idea of existence. The idea of negative existence would be the idea of an object sans the idea of existence. This argument begins with Pears' point that Hume arrives at the thesis that the idea of existence is inseparable from the idea of an object by



arguing that the idea of existence is not provided in a distinct impression. But says Pears,

. . . this is not enough to establish his point. For, though existence is not a separate impression--i.e. not a property that things in the world are seen to possess--it might still be a separate idea. Indeed, if it were not, it is hard to see how anyone could have a negative existential thought, for example, the thought that God does not exist (whether he believed it or not). But Hume does not think of this.<sup>10</sup>

Pears agrees with Hume on two crucial points. First, he agrees that "existence is not a separate impression", and secondly, both conclude that existential judgements are justified by experience. However, Pears disagrees with Hume's mediating argument that the idea of existence is inseparable from the idea of an object. I call this a "mediating" argument because it supports the claim that existential beliefs must be justified by something external to the realm of ideas, namely, impressions, and the claim that the idea of existence could not arise from a distinct impression. Although Pears agrees with these two points, he disagrees with the mediating argument. Pears disagrees on the ground that if every idea of an object carried with it the idea of its own existence, then there could be no way of accounting for our conception of the non-existence of that object. This abstruse argument rests on a fundamental misunderstanding of Hume's point that the idea of existence is inseparable from the idea of an object.

The purpose of Hume's argument is to show that "We have no abstract idea of existence, distinguishable and separable from the idea of particular objects" (T. 623). Since there is no distinct idea, Hume concludes that the idea of an object includes the idea of its existence.

But the idea of an existing object is purely imaginary, and consequently, this idea represents only the possible existence of that object. This argument is nothing more than a restatement of the metaphysical principle that whatever is imaginable is possible:

'Tis an establish'd maxim in metaphysics, That whatever the mind clearly conceives includes the idea of possible existence, or in other words, that nothing we imagine is absolutely impossible (T. 32).

Hume's point is that the conception of an object as existing is our idea of how that object would exist if it did. He says that,

When we simply conceive an object, we conceive it in all its parts. We conceive it as it might exist, tho' we do not believe it to exist. Our belief of it would discover no new qualities. We may paint out the entire object in imagination without believing it. We may set it, in a manner, before our eyes, with every circumstance of time and place. 'Tis the very object conceived as it might exist; and when we believe it, we can do no more (A. 653; cf. E<sub>1</sub> 47).

When Hume says that the idea of existence is inseparable from the idea of an object he means nothing more than when I imagine an object I necessarily conceive it as if it existed. Thus, Pears' criticism concerning Hume's ability to account for the conception of negative existence misses the mark. He fails to realize that the idea of existence given in the idea of an object provides only an imaginary existing object, which is not what is sought in a conception of non-existence. He confuses Hume's notion of the idea of an (imagined) object existing with the actual existence of the object. Our conception of an object that does not exist refers to the object, not the idea of an object. In other words, the phrase "suppose unicorns do not exist" refers to the object (unicorns), not to the idea of unicorns--we are not saying "suppose the idea of unicorns does not exist". But Pears not only

misunderstands what Hume means in saying that the idea of existence is inseparable from the idea of an object, he also misrepresents Hume's argument for this position.

Pears thinks that Hume's argument against the separability of the idea of existence is limited to the claim that no distinct impression of existence has been observed, and therefore, the idea of existence has not arisen from such an impression. He says,

It is easy to see why he takes this view. For the original impression, to which the idea of the weather-vane [for example] corresponds, was not accompanied by a separate impression of existence.

However, this is not enough to establish his point.<sup>11</sup> But Hume does not argue that no impression of real existence has been yet found. Rather that there could not be any such separate impression. If Pears' interpretation of the argument were correct, Hume would be guilty of overstating his claim. As Pears suggests, the argument would not be "enough to establish his point". The overstatement comes in the inference from the empirical claim that no such idea has been observed to the logical claim that no such idea is possible. Hume's argument is far stronger than this.

The only way of proving that the impression of existence cannot exist separately from the impression of an object is to prove that the ideas are inseparable. In other words, the absolute inseparability of the impressions is proven only in the inseparability of ideas. If the ideas are separable, then it is logically possible that the impressions are separable as well, and that the idea of existence could have arisen from a distinct impression. Hence, the proof that the idea of existence cannot arise from a distinct impression is found in the proof that the

impression of existence and the impression of the object are indistinguishable (inseparable), but the proof of this claim is found only in the indistinguishability (inseparability) of the ideas. Pears' hope that the idea of existence does not arise from a distinct impression must falter in his granting that the idea is distinct, or he must admit that his claim is based on the tenuous empirical evidence that no impression of existence has been experienced. His assumption that "though existence is not a separable impression . . . it might still be a separate idea" permits the logical possibility that the idea of existence could have arisen from a distinct impression--a possibility that both he and Hume reject. The proof of this argument comes in the maxim that whatever is imaginable is possible (T. 36). If we could imagine a distinct idea of existence, as Pears claims we can, then we would have to admit the possibility that such a thing could actually exist. This would mean that there could be a distinct impression of existence.

In learning what Hume's argument is not and what it does not mean, we see what it is. We believe that certain objects exist. Although every idea of an object carries with it the possible existence of that object, there is no distinguishable or separable mark of actual existence to be found in the content of the idea. If there were, then we could find that quality in every impression that produced the idea of an actually existing object. Hume explains that,

Whoever opposes this, must necessarily point out that distinct impression, from which the idea of entity [existence] is deriv'd, and must prove, that this impression is inseparable from every perception we believe to be existent. This we may without hesitation conclude to be impossible (T. 67).

He concludes that,

The idea of existence, then, is the very same with the idea of what we conceive to be existent. To reflect on any thing simply, and to reflect on it as existent, are nothing different from each other. That idea, when conjoin'd with the idea of any object makes no addition to it. Whatever we conceive, we conceive to be existent. Any idea we please to form is the idea of being; and the idea of a being is any idea we please to form (T. 66-7).

Pears' third mistake, as I suggested earlier, lies in failing to realize that Hume's argument for the inseparability of the idea of existence proves that the idea of real existence is not to be found in the content of the idea. But if our idea of real existence is not to be found in the content of the idea of an object, then whence does it originate? To answer this question Hume urges us to turn our attention away from the content of our ideas and examine those ideas wherein we believe that the object represented in the idea actually exists. Here is where the payoff comes.

The belief that something exists, Hume says, can arise either from a separate idea of existence or from an impression.

Either the belief is some new idea, such as that of reality or existence, which we join to the simple conception of an object, or it is merely a particular feeling or sentiment (T. 623).

The suggestion that an existential belief is a separable idea of existence attached to the idea of an object is rejected in the arguments above. Still Hume provides, for extra measure, a second argument opposing this thesis. If the belief that something exists consists in the addition of a separable idea of existence, then the mind could separate the idea of existence from such a belief and reattach it to the conception of any idea it chose. This means that our belief in what exists

and what does not would be nothing more than a matter of choice rather than a matter of evidence and proof. Hume explains that,

The mind has the command over all its ideas, and can separate, unite, mix, and vary them, as it pleases; so that if belief consisted merely in a new idea, annex'd to the conception, it wou'd be in a man's power to believe what he pleas'd (T. 623-4),

which is plainly "contrary to what we find by daily experience" (E<sub>1</sub> 48).

If existential beliefs are not separable ideas of existence, then,

We may, therefore, conclude, that belief consists in a certain feeling or sentiment; in something, that depends not on the will, but must arise from certain determinate causes and principles, of which we are not masters. When we are convinc'd of any matter of fact, we do nothing but conceive it, along with a certain feeling, different from what attends the mere reveries of the imagination. And when we express our incredulity concerning any fact, we mean, that the arguments for the fact produce not that feeling (T. 624, E<sub>1</sub> 48).

Consequently, the belief that something exists is a feeling that the object is real. In technical terms, it is the idea of an object attached to a feeling that it exists. Hume warns that if existential beliefs did not have the attending feeling, then there would be no basis for the distinction between the idea of possible existence given in the mere conception of an object and the idea that it does exist given in the feeling that it does.

Did not belief consist in a sentiment different from our mere conception, whatever objects were presented by the wildest imagination, wou'd be on an equal footing with the most establish'd truths founded on history and experience. There is nothing but the feeling, or sentiment, to distinguish the one from the other (T. 624, E<sub>1</sub> 48-9).

It is important to note that although the belief that something exists arises from a separate impression, which Hume calls an impression of

reflection (T. 275), the feeling attending the existential belief is not separable for the same reason that the idea of existence is not (T. 625). The next thing is to determine whence this feeling arises.

The imagination alone is incapable of producing this belief (E<sub>1</sub> 49). If it could, then, again, we would be unable to distinguish between especially vivid ideas and real beliefs of existence. Of course, after a period of time individuals' minds might confuse the origin of a belief-feeling and come to believe that something exists which does not. But Hume's investigation is from the initial standpoint of belief creation. In other words, he is claiming that in the beginning the imagination could not have produced the feeling found in our existential beliefs. That feeling, he says, could only have arisen from an impression of the senses.

Thus it appears, that the belief or assent, which always attends the memory or senses, is nothing but the vivacity of those perceptions they present; and that this alone distinguishes them from the imagination. To believe is in this case to feel an immediate impression of the senses, or a repetition of that impression in the memory (T. 86).

This is proven empirically in the transfer of the feeling or vivacity from an impression of the senses of an existential belief (T. 119, E<sub>1</sub> 48). The belief that something exists may be defined as "A LIVELY IDEA RELATED TO OR ASSOCIATED WITH A PRESENT IMPRESSION" (T. 96). Consequently, when we say that we believe something exists, we mean that the idea of that object has a referent in experience, that is, it has a corresponding sense impression. Hume's argument is important because it tells us that our idea of real existence has no meaning in terms of ideas alone. The argument gets us from the realm of ideas to the realm of impressions, which is external to the former. Consequently, if what

we mean by real existence is that an idea has a referent in experience, then we are justified in thinking that existential beliefs must be judged by experience.

Thus far we know that our belief in existence arises from an impression of the senses, and that our idea of real existence makes sense only if we expect to find the object of our idea in experience, that is, sensory impressions. But this does not tell us precisely how we might determine the truth of an existential belief. Something is not true just because we believe it. Even in common life we are not convinced of the truth of something simply because we believe it or feel that it is real. This would be to accept a psychological explanation rather than a philosophical justification for truth. So we must turn to Hume's account of how we know an existential claim to be true.

### III. Judgement and Existential Belief

We know that, for Hume, the idea of real existence means that an object can be found in impressions of the senses. In fact existential beliefs arise from impressions. But the belief or feeling that something exists is not sufficient for telling us that it really does exist. Truth and falsehood of existential claims are determined by the "agreement or disagreement" of an idea with an object of experience (T. 458). And, as design would have it, beliefs happen to be composed of both a feeling and an idea that something exists. Thus the truth of a belief regarding existence is judged by the conformity of the idea in a belief with an impression from experience. On the face of it, this formulation of the general structure for Hume's theory of existential judgement might appear satisfactory; yet, not all of his commentators are so easily convinced.



Since the views to be considered all make different, albeit related, points, I shall defend my interpretation against each in turn.

W.H. Walsh suggests that Hume attempts to "explicate truth in terms of feeling".<sup>12</sup> This view arises from a fairly traditional approach that depends entirely on Hume's psychological account of the origin of existential beliefs, that is, the feeling that something exists. Although Walsh recognizes both the feeling and ideational aspects of Hume's account of belief, he still supposes that Hume intended to trace the truth of any belief through the feeling component. He says that,

For Hume it is a necessary condition of true belief that the person who has the belief shall be seriously convinced that what he believes is real: to that extent vivacity is a component of truth.<sup>13</sup>

Walsh criticises this approach by pointing out the difficulties in distinguishing false but extremely vivid beliefs from true ones. Walsh's interpretation lands Hume in psychologism wherein truth is determined by the feeling one has about a particular knowledge claim. Although it is correct to say that Hume requires the recognition of a truth for any justified belief, Walsh is too hasty in suggesting that the feeling one has about an existence claim is in any way a "component" for determining the truth of that claim.

Hume holds that anything that has a truth value must also have a "representative quality". In order for something to be able to "agree or disagree" it must have some other object to which it might correspond. This is similar to the semantic theory of truth held by Hobbes and Locke. They tell us that things cannot be true or false, only statements about things.<sup>14</sup> Hume's theory removes references to language yet retains the propositional form, in terms of ideas, which is found in statements about

things. Ideas, then, have the propositional form which make them truth valuatve. Whereas impressions are archtypical and not representative of anything, ideas are propositional referring to impressions of the senses, or emotions (depending, of course, on whether the knowledge claim is about objects or passions). For example, a semantic theory holds that whereas the statement "the table exists" refers to a possible or actual table, the table existing refers to nothing. Hume says the same thing about feelings;

A passion is an original existence, or, if you will, modification of existence, and contains not any representative quality, which renders it a copy of any other existence or modification. When I am angry, I am actually possest with the passion, and in that emotion have no more a reference to any other object, than when I am thirsty or sick, or more than five foot high (T. 415).

Thus our feelings have no truth value, and therefore cannot be true or false:

Whatever, therefore, is not susceptible of this agreement or disagreement is incapable of being true or false, and can never be an object of our reason. Now 'tis evident our passions, volitions, and actions, are not susceptible of any such agreement or disagreement; being original facts and realities, compleat in themselves, and implying no reference to other passions, volitions, and actions. 'Tis impossible, therefore, they can be pronounced either true or false, and be either contrary or conformable to reason (T. 458).

On this account Walsh's view that, for Hume, feeling must be a component of truth is in error. Thus the truth of any belief cannot be traced through nor discovered in the feeling attending our beliefs.

The argument that feelings have no truth value is emphasized in Ronald Beanblossom's account of Humean scepticism. Beanblossom focuses on Hume's conception of belief, qua a feeling or sentiment, arguing that

since feelings are not justifiable, beliefs are not justifiable.

Therefore, belief is a matter of sentiment or feeling. Feelings are, of course, neither true nor false. Hume's arguments which are designed to show our beliefs are unjustified or contrary to reason are not offered as a final defense of scepticism; rather, their purpose is to convince us that believing is a matter of sentiment. After the nature of belief is revealed, to wit, that beliefs are feelings, the sceptical conclusion is drawn.<sup>15</sup>

Beanblossom's view is not dissimilar from the naturalistic interpretation, which argues that, for Hume, beliefs are essentially nonrational.

Hume tells us on several occasions that beliefs are a kind of sentiment or feeling (T. 101, 624, E<sub>1</sub> 48, 49), but we are misled if we think that beliefs are feelings and nothing else. A belief is a "lively idea" (T. 96). Without the idea beliefs would be completely indistinguishable from passions or emotions, which do not carry the mental picture, if you will, of an object. Although it is correct to say that beliefs, qua feelings or sentiments, have no truth value, it is equally true that beliefs, qua ideas of objects, do. It is in terms of the ideational aspect of beliefs that we are able to judge their truth or falsehood.

Russow suggests this line of argument in opposition to Beanblossom's view that Hume's scepticism arises from the thesis that beliefs are feelings and feelings have no truth value. She says that,

It would be correct to say that passions are neither true nor false, but there is no evidence for a similar view of the enlivened ideas which are beliefs.

Thus, Hume's scepticism cannot be attributed to any incompatibility between his concept of belief and that of truth.<sup>16</sup>

But she does not conclude that Hume is not sceptical of existential knowledge. Rather she holds that his scepticism arises from the inherent

unknowability of real existence, which arises from her identification of real existence and external existence in Hume's system. The inadequacy of that interpretation was discussed earlier in this chapter, which brings us full circle, wherein I suggested that there is, for Hume, a method for justifying our beliefs about real existence that does not require that truth is founded on psychological principles. Truth regarding our beliefs about existence is judged by the correspondence of an idea found within a belief to an object of experience. If the idea agrees with the object, then it is true. If the idea disagrees with the object, then it is false. But the truth or falsehood of a belief can never be determined by its feeling of force and vivacity, only in terms of the content of its idea.

Now that we know how the truth of a belief can be determined, we may turn to the kinds of judgement Hume finds in scientific reasoning. There are three kinds of judgement: a priori judgements, including those that provide us with knowledge of mathematical relations, perceptual judgements about the spatial-temporal locations and the identity of objects, and judgements about the relations between objects upon which most of our scientific knowledge rests. The ensuing examination of each of these will provide us with a complete view of Hume's theory of scientific judgement.

## Notes to Chapter Two

1. Russow, "The Concept of Truth in Hume's Treatise", pp. 220-1.
2. Flew, Hume's Philosophy of Belief, p. 46.
3. John Bricke, Hume's Philosophy of Mind (Princeton: Princeton University Press, 1980), p. 39.
4. Jonathan Bennett, Locke, Berkeley, Hume: Central Themes (Oxford: The Clarendon Press, 1971), p. 313.
5. I shall use the terms "mental object" synonymously with Hume's term "perception", meaning by either nothing more than an object of mind.
6. The one exception to this is the famous missing shade of blue counter-example which is discussed and dismissed as unimportant at T. 5-6 and E<sub>1</sub> 20-1.
7. Flew, p. 48.
8. Gottlob Frege, "The Thought: A Logical Inquiry" in Essays on Frege, ed. E. Klemke, (Urbana: University of Illinois Press, 1968), p. 531.
9. If by "impressions" Hume means "objects", then, we might ask, why does he refrain from using the latter term in place of the former? The reason is because "object", for Hume, tends to refer to anything that can exist independently of anything else. In this sense, ideas are also objects. "Impression" is something of a technical term for Hume used to make the distinction between kinds of mental objects. Hume explains that this distinction is not so evident in the term "idea" used by Berkeley and Locke (E<sub>1</sub> 22n.).
10. David Pears, "Hume's Empiricism and Modern Empiricism", in David Hume: A Symposium, ed. D. Pears, (London: Macmillan, 1963), pp. 17-8. Some of Pears' difficulties may be traced to the fact that he tends to misquote Hume. Much of what Pears says depends on Hume's notion of a simple. Confusion arises when Hume says "To reflect on any thing simply . . ." (T. 66) and Pears thinks that Hume says "To reflect on anything simple . . ." (p. 17).
11. Pears, p. 17.

12. W.H. Walsh, "Hume's Concept of Truth", in Reason and Reality, ed. G. Vesey (London: Macmillan, 1972), p. 112.
13. Ibid.; emphasis added.
14. Thomas Hobbes tells us that "For True and False are attributes of speech, not of Things" in Leviathan, (Oxford: Clarendon Press, 1909), p. 27. Although Locke recognizes a kind of truth "of thought" he tends to emphasize it as a semantically valuable concept. More importantly, for Hume, Locke points out that either kind of truth has a propositional structure: "So that Truth properly belongs only to Propositions: whereof there are two sorts, viz. Mental and Verbal; as there are two sorts of Signs commonly made use of, Viz. Ideas and Words." See An Essay Concerning Human Understanding, ed. P.H. Nidditch, (Oxford: Clarendon Press, 1975), IV.v.2.
15. Ronald E. Beanblossom, "A New Foundation for Humean Scepticism", Philosophical Studies, 29 (1976), p. 208.
16. Russow, p. 225.

## CHAPTER THREE

### A priori Judgements

Few deny that Hume's epistemology either provides or is capable of providing the means for knowing a priori.<sup>1</sup> Generally speaking, both the sceptical and the naturalistic interpretations are concerned to show only his scepticism with regard to empirical knowledge of causes and effects, external existence, and personal identity. They seem to be content to leave him with a priori laws such as those governing the law of contradiction and mathematics. So the purpose of this chapter is not to show that Hume believed we could have a priori knowledge, but rather to show how he thought we can judge the truth and falsehood of a priori claims. But before Hume's theory of a priori judgement can be discussed there are a couple of preliminary issues that should be examined.

We know that Hume provides criteria for judging the truth and falsehood of both a priori and empirical claims (T. 448, 458). We also know that an empirical belief presents us with a feeling that something is real or existent, and that the idea of belief is judged by the "agreement or disagreement" of the idea with an existing object (impression). Conversely, Hume tells us that an a priori belief is not identified by a feeling, but rather in our inability to imagine its contrary (T. 95). For example, I believe that two plus three equals five because I cannot imagine any other outcome. As with beliefs about existence, the explanation for a priori belief is based on psychological principles, which alone does not provide us with a logical basis for asserting the truth

of an a priori claim. Hume says that an a priori truth is justified in "the discovery of the proportions of ideas, consider'd as such" (T. 448). Thus, whereas an empirical claim is judged by an examination of impressions which are extra-ideal, the method for judging a priori claims is by examining the ideas themselves. But this alone does not tell us very much. We want to know how we are justified in asserting the truth or falsehood of an a priori claim. Hume explains that we know the truth or falsehood of an a priori judgement in the agreement or disagreement of "the real relations of ideas" (T. 458). As we will see, "real" relations of ideas are a class of philosophical relations. But before real, or a priori judged, relations (resemblance, degrees of quality, contrariety, and proportions of quantity and number) can be discussed we must come to a better understanding of the role and nature of the philosophical relations in Hume's theory of judgement. This is the first of the preliminary discussions, found in the first section (I), "Judgements and Philosophical Relations". The second preliminary discussion, found in the second section (II), "Necessity and Contingency", will provide a distinction between those relations judged by a priori means and those judged empirically. This will narrow the field so that we may understand the particulars of Hume's theory of a priori judgement.

Hume distinguishes four kinds of necessary relations: those used to judge resemblance, degrees of quality, contrariety, and proportions of quantity and number. The first three of these are distinguished from the last in the immediacy with which they are judged. These three relations are examined in the third section (III), "Intuitive Judgements". Mathematical knowledge, according to Hume, is derived from a mediately reasoned process of mind in terms of the relation "proportions



of quantity and number". These relations are discussed in the fourth section (IV), "Demonstrative Judgements". The role of a priori judgement in Hume's theory of causal knowledge cannot be overrated. Since he is primarily interested in those judgements based on the relation of cause and effect, opportunities will be taken to show how each of the necessary relations plays some role in our causal judgement. However, a priori judgement plays an important role in its own right. This is shown in Hume's a priori arguments against the doctrine of infinite divisibility, found in the last section (V), "Applications of A priori Judgements". Further support for my view that Hume has a theory of judgement may be seen within the broader contexts of Hume's philosophy.

#### I. Judgements and Philosophical Relations

In the first chapter I argued that Hume's distinction between the natural and the philosophical relations is the basis for his division between psychological and logical principles. I also suggested that the philosophical relations are the basis for Hume's theory of scientific judgement. In the second chapter I provided Hume's argument justifying a correspondence theory of truth in regard to existential claims. Our understanding of the nature of judgement in Hume's theory is advanced by an examination of the role played by the philosophical relations as they operate in judgement. This will serve to combine the logical principles, introduced in the first chapter, with the nature of judgement as an idea with a truth value, discussed in the second chapter. Since the four real relations of ideas are a class of the philosophical relations, the following discussion will set the stage for an examination

of a priori judgement in the later sections (III-V).

We know that a judgement, for Hume, is an idea that can be determined to be true or false. It is identified with an attendant feeling of reality, for existential beliefs, or the inability to imagine the denial of a (true) idea, for a priori beliefs. Hume is keen to draw a distinction between a "mere conception" and the idea or judgement, as it is part of a belief. The distinction is one between an idea, per se, and an idea that is judgeable. On several occasions we are told that a judgement is identified by the "feeling" or "manner of conception" found in a believed idea but absent in a mere conception. Hume explains that,

. . . in philosophy we can go no further, than assert, that it [a belief] is something felt by the mind, which distinguishes the ideas of the judgement from the fictions of the imagination (T. 629, E<sub>1</sub> 48; cf. T. 96-7n.).<sup>2</sup>

Thus, the feeling attending a belief distinguishes a judgement/idea from an idea that is not judged but merely conceived. But the idea of judgement is both logically and psychologically prior to the judgement or belief itself. In other words, I conceive of something before I judge the truth or falsehood of that conception. Furthermore, before a judgement can take place, it is necessary that something be said about or predicated of an a priori relation of ideas or an existing object. The distinction between conception and belief that Hume makes looks like a psychological analogue to the semantic distinction between predication and assertion.<sup>3</sup> There is some support for this interpretation of the distinction between conception and belief/judgement; I shall advance that view by arguing that Hume's discussion of the philosophical relations contains his account of predication (conception) as a prerequisite for judgement.

Judgement includes not only the affirming or denying of a proposition but also the act of conceiving that proposition which is to be judged. In all judgements something is said, or predicated, of the object in question. For example, the proposition "the chair is next to the table" predicates something of the chair, whereas the proposition "it is true that the chair is next to the table" represents the act of assent or belief found in judgement. John Bricke notices that Hume's distinction between conception and judgement or belief<sup>4</sup> is the psychological analogue of predication and assertion. Bricke points out that,

Hume does not, in general, deny the role of predication; indeed he appears to hold that predication is an element in non-existential thoughts and judgements. He is, however, almost wholly silent about its character. He makes incidental remarks, referring, for example, to the 'form or order in which we survey' the objects of our thinking (T. 97n.), to the 'order of . . . the parts' (T. 628) of an idea which we believe or to which we subscribe, and to the 'order of our ideas' (T. 629).<sup>5</sup>

The strongest evidence Bricke marshalls for his claim appears in a footnote (T. 96-7n.) where Hume refutes the traditional view that conception and judgement are distinguishable in terms of the number of simple ideas employed in either. Hume argues that any series or number of ideas connected together remains nothing more than a conception, which need not involve the act of judgement. He says that the feeling (belief) attending an idea is alone requisite for the distinction between a mere conception and the judgement of that conception (T. 96-7n.). Bricke suggests that,

. . . the main point of the footnote, which is appended to Hume's positive account of belief or judgment is to display the inadequacies of what Hume takes to be the traditional theory of judgment, and thus to display the need for a theory

of judgment such as that which Hume develops in the body of the text. The focus is on the question what makes a judgment a judgment.<sup>6</sup>

Indeed, Bricke correctly identifies the target and purpose behind Hume's footnote.

The attack is directed at "all logicians". Arnauld, for example, divides his logic into four parts: conception, judgement, reason, and method, "one part for each of the four operations of mind".<sup>7</sup> Conceiving is the simple survey of an idea, judging occurs when two ideas or conceptions are joined, while reasoning involves the combinations of judgements or multiples of conceptions.<sup>8</sup> We find Arnauld discussing predication in the section devoted to judgement,<sup>9</sup> thereby seeming, in Hume's mind, to conflate the distinction between predication (what ought to be conception) and assertion (judgement). Hume argues that predication or conception can involve any number or combination of ideas, and that judgement is something distinct from the mere combinations of ideas. This is, of course, the basis for Hume's grounding existential judgements in experience, outside of the realm of mere ideas. An idea is identifiable as a judgement, and distinguishable from a conception, only when it possesses the characteristics of belief:

Whether we consider a single object, or several; whether we dwell on these objects, or run from them to others; and in whatever form or order we survey them, the act of mind exceeds not a simple conception; and the only remarkable difference, which occurs on this occasion, is, when we join belief to the conception, and are perswaded of the truth of what we conceive (T. 97n.).

Thus, for Hume, there is a qualitative difference between what we say or predicate of something and our judgement regarding the validity of that is said. That difference is in the feeling of reality (vivacity)

"comparison" (T. 73). Take, for example, the comparison "weaker than", derived from the philosophical relation known as degrees of a quality. Although we might be able to image the relata in the relation "a child is weaker than an adult", we cannot image the basis of that comparison, that is, the relation itself. This is evident in our reasoning:

. . . we may avoid talking nonsense on these subjects, and may perceive any repugnance among the ideas, as well as if we had full comprehension of them. Thus if instead of saying, that in war the weaker have always recourse to negotiation, we shou'd say, that they have always recourse to conquest, the custom, which we have acquir'd of attributing certain relations to ideas, still follows the words, and makes us immediately perceive the absurdity of that proposition; in the same manner as one particular idea may serve us in reasoning concerning other ideas, however different from it in several circumstances (T. 23).

This is even more evident in the four a priori judged relations of resemblance, contrariety, degrees of quality, and proportions of quantity and number, which cannot be imaged because necessity is not a pictureable quality of ideas. The view that all ideas are images cannot be attributed to Hume on the basis of occasional references to ideas that are (T. 1, 6, 20). Hume's admission of the philosophical relations should be sufficient to silence the imagistic interpretation, which provides us a way for examining his account of predication, wherein the true value of these relations is found.

Each of the philosophical relations is a "subject of comparison"; ideas of these relations are obtained "by the comparing of objects" (T. 14). For Hume, comparison is a prerequisite for judgement. He points out that "Every thing in this world is judged of by comparison" (T. 323). Philosophical relations, then, account for "the variation of our judgments concerning objects, according to the proportion they bear

to those with which we compare them" (T. 593). This, however, is not the comparison of an idea to an object, by which we determine the truth of an existential judgement. Rather it is the comparison that arises before the act of judging. Whereas I judge something to be sweet by tasting it, I comprehend the nature of "sweetness" by comparing that taste to others which are not sweet. It is true that the definitions of simple ideas are fixed by reference to the impressions that produced them (E<sub>1</sub> 62). But I cannot figure out what sweetness is, or know how to predicate sweetness of an object, except by comparing that idea to others. This means that something can be comprehended only in terms of how it compares with something else; if an object were utterly unique it would have no common feature with any other object by which it might be known. Thus, my conception of sweetness, to use the same example, arises from comparison, which is also the basis upon which I predicate the sweetness of any object. Once predication comes about this idea is tested for truth or falsehood. Thus, predication is accounted for in the philosophical relations.

Hume obligingly provides us with seven categories of comparison. Each of the seven kinds of philosophical relations is a principle of comparison, providing for the possibility of understanding and judgement. For example, spatial relations are the basis upon which the distance of objects is predicated and then judged. The categories of space and time "are the sources of an infinite number of comparisons, such as distant, contiguous, above, below, after, &c." (T. 14). In all he admits of an inclusive list of seven sources of comparison: resemblance, identity, space and time, quantity and number, degrees of quality, contrariety, and cause and effect. (Each of these will be examined in detail

throughout this study.)

My interpretation of Hume's theory of judgements depends on the relationship between the philosophical relations and his conception of judgement. Each relation is judged differently from the others because each compares different aspects of things. For example, we must admit that the relation "the book is on the desk" (space) is judged differently from the relation "two plus three equals five" (proportions of number), since the first designates a contingency between the objects while the second indicates a necessity. There are variations of the method used for judging even within the categories of contingent and necessary relations. For example, spatial or temporal locations are quite different from the empirically known "necessary connection" implied in causal relations. Thus, each kind of relation predicates something different of the things being compared and, as a result, each carries with it a distinct method for judging the truth and falsehood of what has been predicated of something.

Before each of the relations can be examined, and especially those "real" or necessary relations of present concern, we must investigate Hume's basis for the distinction between necessary and contingent relations.

## II. Necessity and Contingency

Hume explains that some relations depend on the ideas being compared, while others do not. A relation is dependent on its relata in the sense that as long as the ideas remain the same, the relation is invariable. However, in some cases a relation may change even though there is no alteration in the ideas. In Hume's words,

These relations may be divided into two classes; into such as depend entirely on the ideas, which we compare together, and such as may be chang'd without any change in the ideas.

He gives us examples of these classes of relations:

'Tis from the idea of a triangle, that we discover the relation of equality, which its three angles bear to two right ones; and this relation is invariable, as long as our idea remains the same. On the contrary, the relations of contiguity and distance betwixt two objects may be chang'd merely by an alteration of their place, without any change on the objects themselves or on their ideas; and the place depends on a hundred different accidents, which cannot be foreseen by the mind (T. 69).

Clearly, the relation of quantity will not alter in the proposition "the sum of the interior angles of a triangle are equal to two right angles" if by "triangle" we mean an Euclidean three-sided, closed, plane figure. The relation holds as long as the idea of a triangle remains the same; if, by "triangle", we mean a non-Euclidean figure, then the relation will not hold. In the second case we find that the relations between ideas may alter even though the ideas do not. For example, in the proposition "the book is on the desk" the ideas of the book and the desk could remain the same while the relation between them alters. The book could be next to, or under the desk without altering our ideas of the objects being compared. The first kind of relation is invariable, as long as the relata remain the same, that is, it necessarily links the ideas being compared. The second kind of relation is variable, even if the relata remain the same, that is, it contingently links the ideas being compared. Again, in the first case, we know the relations between the relata because they are given in the ideas themselves, without reference to experience. In the second case, the relations cannot be



known by reference to the ideas alone, since these relations "depend on a hundred different accidents, which cannot be foreseen by the mind", they must be judged by experience. The latter is demonstrated in the example of a contingent relation given above. In order to know if "the book is on the desk" we cannot simply examine the ideas of book and desk, as we can to determine the relation between triangles and right angles, but rather we must examine the book and the desk.

Here we begin to learn of Hume's distinction between a priori and empirical judgements. A necessary relation is a comparison dependent upon the ideas alone. It is judged to be true or false merely in the examination of those ideas "consider'd as such", that is, it is judged independently of experience, or a priori. On the other hand, a contingent relation is a comparison which is not dependent on the ideas, but rather on the objects given as impressions. It is judged to be true or false in the "conformity" of the idea of the relation to the objects of experience or empirically. This sketches the basis for Hume's distinction between a priori judged necessary relations and empirically judged contingent relations, but it does not tell us how to identify these kinds of relations, nor what makes them necessary or contingent. An examination of these two issues will clarify the nature of necessary and contingent relations, and the methods for judging each. It will also set the stage for understanding Hume's argument that causal judgements must be determined empirically.

Hume argues that a relation is determined to be contingent or necessary depending on how the relata are distinguished. If the relata are separable in so far as one thing may exist independently of the

other, then any relation between them must be contingent. A book, for example, could exist without a desk. The two are independent, which means that any relation that might exist between them is contingent. This is why the relation may alter even though there is no variation in the relata themselves. Clearly, if one object might exist without the other, any relation between them is entirely gratuitous. On Hume's behalf we might call such a distinction or separation a "real distinction".<sup>11</sup> Conversely, if the relata are inseparable in so far as neither might exist without the other, then the relation between them is necessary. A color, for example, cannot exist without a shape. The two are dependent because the relation links them necessarily. Hume explains that the relata in this kind of relation are inseparable. He says that although the relata are inseparable they may be identified or individuated by a "distinction of reason" (T. 24). Hume provides us with a psychological test for determining whether things are individuated by a real distinction or by a distinction of reason.

If all ideas carry with them the idea of possible existence, then anything we could imagine to exist might exist in the manner of that conception (T. 36). According to this maxim, if the ideas in a relation could be imagined to exist independently then they are individuated by a real distinction. Since a real distinction indicates that only contingent relations could exist between these things, then any relation between them must be judged empirically. On the other hand, if the ideas in a relation cannot be imagined independently then they are individuated by a distinction of reason. Since a distinction of reason indicates that necessary relations could exist between these

things, then any relation between them must be judged a priori. The test of imagined separability derives its force from the maxim that whatever can be imagined might exist. As Hume explains,

Whatever is clearly conceiv'd may exist; and whatever is clearly conceiv'd, after any manner, may exist after the same manner,

from which he draws the principle that,

. . . every thing which is different, is distinguishable, and every thing which is distinguishable, is separable by the imagination (T. 233).

Although this test is helpful for determining which relations are contingent and which are necessary, and this, in turn, identifies empirical and a priori judgements, we must learn why Hume places so much faith in the imagination for determining this important rule of logic. We must determine the logical basis by which the imagination is able to determine what things are contingently or necessarily related. This is discovered in the essential differences Hume finds between contingent and necessary relations.

A certain amount of caution must be used in explaining the relationship of the psychological test of imagined separability, and Hume's logical ground for the distinction between contingent and necessary relations. Imagined separability does not explain the nature of contingency and necessity, it merely indicates whether a relation is one or the other. The test is not expected to overcome individual psychological dysfunctions and Hume recognizes that some may have difficulty in correctly applying the test given the strong influence of custom and habit to connect separable objects (E<sub>1</sub> 28-9). It merely provides a general rule for determining contingency and necessity in the

comparisons we make and judge.

The logical basis for the distinction between necessary and contingent relations is found in the "sameness" or "real difference" between the ideas in any relation. The relata of a necessary relation are inseparable because they are of the same kind of thing. The relata in a contingent relation are separable simply because they are different kinds of things. Hume tells us that the distinction of reason found between color and shape identifies those things as necessarily related because "they are in effect the same and undistinguishable" (T. 25). Sometimes a distinction of reason is referred to as a "distinction of ideas without any real difference" (T. 67). If there is no real difference between the ideas, then they must be the same.<sup>12</sup> If they are the same, then they are related necessarily and must be judged a priori. Thus the imagination is capable of separating ideas because they are of different kinds. As Hume points out,

In order to know whether any objects, which are conjoin'd in impression, be separable in idea, we need only consider, if they be different from each other; in which case, 'tis plain they may be consider'd apart (T. 36).

If the relata are different, then they can be separated by the imagination in terms of those qualities which make them different. This indicates a real distinction of objects.

A real distinction indicates the autonomy of the relata. In this distinction the imagination is able to separate the objects in that relation, thereby proving that they are different kinds of things. Strictly speaking, a "difference", for Hume, is the "negation of relation" (T. 15). A "real difference" does not indicate the absence of

any kind of a relation, simply the absence of a real relation. Thus, a real relation or a real connection between things means that there is no real difference between them. Conversely, a real difference indicates that there is no real connection between objects. In order to remove possible confusion in regard to Hume's doctrine of distinctions it is helpful to describe the relata in terms of necessarily related (inseparable) "features of objects" and contingently related (separable) "objects".<sup>13</sup> Properly speaking, we should not classify color and shape as objects, per se, since they really are of the same kind of object. Accordingly, we may summarize Hume's distinction between necessary and contingent relations in terms of the comparisons of the features of objects and the comparisons of objects.

According to Hume any two things compared are either of one kind or they are not. If they are of one kind then the relations between them are necessary, and if not then the relations between them are contingent. At first sight this seems to be an odd way of distinguishing necessarily and contingently related things. After all, in common life we are tempted to say that color and shape are different kinds of things. We might even be inclined to think that one could be imagined without the other. I can reflect on what colors I favor without regarding shapes, and I can describe the shape of something without mentioning its color. There is a similar worry. Hume tells us that the relation of resemblance is necessary and is, therefore, judged a priori (T. 69), as an example. But we might say, this lipstick and that fire truck resemble and yet they are patently different kinds of things. Furthermore, these objects need not resemble necessarily. The

fire truck could have just as easily have been green as red. How is it, then, that Hume calls what appear to be different things the same?

Hume recognizes that sometimes we speak of the inseparable features of an object as if they were different kinds of independent objects. In this I can speak of my favorite color without reference to shape. Yet, he says, this capability does not indicate the separability of those features. Features of objects are recognized by resemblances they share with other features of objects. I individuate color and shape (by a distinction of reason) by noticing two objects with similar shapes and different colors or objects with similar colors and different shapes:

When we wou'd consider only the figure of the globe of white marble, we form in reality an idea both of the figure and colour, but tacitly carry our eye to its resemblance with the globe of black marble: And in the same manner, when we wou'd consider its colour only, we turn our view to its resemblance with the cube of white marble (T. 25).

Although this makes us susceptible to an error in thinking that color and shape are contingently related, that is, we might find a color with no shape, Hume explains that there are no real differences between the two by which the mind might pry them apart in imagination. Our ability to concentrate on one without concentrating on the other is not the same as imagining them as separate or distinct objects:

A person, who desires us to consider the figure of a globe of white marble without thinking on its colour, desires an impossibility; but his meaning is, that we shou'd consider the colour and figure together, but still keep in our eye the resemblance to the globe of black marble, or that to any other globe of whatever colour or substance (T. 25).

The identification of color and shape might be explained in the following

manner. We could not distinguish or identify a shape from its background unless the shape had a color different from the background. Even if we imagined a shape made from a transparent substance, the color of the background would show through with the outlined shape distinguishing that figure from its background. Other examples of the features of objects that are distinguished by reason alone include the length of an object from its breadth (T. 43), and the action or motion from the moving object (T. 245). As Hume explains, "Where-ever the imagination perceives a difference among ideas, it can easily produce a separation" (T. 10; emphasis added), and where there are no real differences it cannot. If there are no real differences it is because the features, distinguished by reason and known a priori, are of the same kind.

Again, confusions result when Hume tells us that resemblance is a necessary relation between features of a kind. In a common way we say that this lipstick and that firetruck resemble; yet they do not resemble necessarily, nor is this lipstick the same kind of thing as that firetruck. Hume would ask us in what way do these things resemble and we would reply that both resemble in respect of color, that is, they are the same color. This, he would reply, is the object of resemblance found between the lipstick and the firetruck. And in respect of color, this red and that red are the same kind of color. It is true that the lipstick and the firetruck are both contingently red, neither is red necessarily, but it is also true that any two red things necessarily resemble because both are the same color. So it is misleading to speak of resembling objects, per se, since what we mean to say is that the objects have resembling features.

Thus far we know that, for Hume, necessary and contingent relations between things are identified by the test of imagined separability. The imagination is unable to separate necessarily related features of objects because these features are of the same kind, while it is able to separate contingently related objects because they admit of real differences, that is, they are of different kinds. Examples are given above of necessarily related inseparable features of objects. Hume's best known example of contingently related separable objects is that of causes and effects. He proves that no causal object is necessarily related in an a priori sense by showing that the one object (the cause) is of a different kind from the other (the effect). Since causal objects are contingently related, they must be judged empirically.

To prove the above claim Hume turns to the test of imagined separability, supported by the maxim that whatever is imaginable is possible. He explains that in any causal relation between objects:

The mind can always conceive any effect to follow from any cause, and indeed any event to follow upon another: whatever we conceive is possible, at least in a metaphysical sense; but wherever a demonstration takes place, the contrary is impossible, and implies a contradiction (A. 650, T. 86-7, E<sub>1</sub> 29-30).

Since the outcome of any possible causal relation can be imagined to be different, then any such imagined outcome could occur in the manner it was imagined. Using the test of imagined separability we determine that the relations between causal objects are not necessary, that is, they are in no way dependent on the ideas of the objects related. For example, the idea of a match being struck does not entail match ignition (even if other necessary conditions are met, such as a sufficient amount



of oxygen, inflammable material, and the like). I can imagine that instead of igniting, the match might turn into a lump of ice or shriek out in pain. Hume's point is that the concept of an object, whether it be a cause or an effect, cannot tell us what its cause or effect might be. No amount of a priori reflection on the concepts of objects can tell us about the contingent relations that may exist between such objects.

Now if any interpretation of Hume's logical distinction between necessary and contingent relations is correct we should find him telling us that the reason causal relations between objects are contingent is because causes and effects are different kinds of object. In fact this is precisely what Hume says on the matter. He explains that "the effect is totally different from its cause" (E<sub>1</sub> 29), and "every effect is a distinct event from its cause" (E<sub>1</sub> 30). Thus, whereas color and shape are necessarily related and must be judged a priori because they are the same kind of thing, causal objects are contingently related and must be judged empirically because they are different kinds of things. Having explained Hume's account of the nature and manner of identifying a priori judged necessary relations and empirically judged contingent relations, we can turn to the particulars of his theory of a priori judgement.

### III. Intuitive Judgements

There are four relations that provide the basis for all a priori judgement: resemblance, degrees of quality, contrariety, and proportions of quantity and Number (T. 70). These are the relations in which the features of objects are distinguished by reason, not separable by the

imagination, that is, "such as depend entirely on the ideas, which we compare together" (T. 69). Hume distinguishes this class of necessary relations into those judged immediately by intuition and those judged mediately by demonstration. Whereas resemblance, degrees of quality, and contrariety are judged intuitively, mathematical knowledge obtained from the relations of proportions of quantity and number are judged demonstratively.

The distinction between intuitions and demonstrations has both exegetical and epistemological consequences for understanding Hume's theory of scientific judgement. Late in the first chapter I argued that the distinction between immediately and mediately judged relations explains Hume's shift in emphasis from the Treatise to the later written Enquiries. In the former he is concerned with both immediately (necessary intuitions and contingent perceptual judgements) and mediately judged relations, while the later book is primarily concerned with our mediate or "reasoned" judgements concerning mathematics and causality.

This distinction is also important for Hume's theory of judgement. We can better understand the processes involved in judging the philosophical relations by comparing and contrasting the means by which they are determined to be true or false. We know that the relations are distinguished into those that are necessary and are judged a priori, and those that are contingent and are judged empirically. The terms "necessary" and "contingent" describe the kinds of relations. The terms "a priori" and "empirical" describe the method of judgement, that is, whether a relation is judged by an examination of ideas or impressions. In other words, "a priori" and "empirical" tell us where to

look for the evidence that a judgement is true or false. But the distinction between immediately and mediately judged relations cuts across the distinction between a priori and empirically judged relations. This means that each of these distinctions tells us something different about our judgements.

The intuitively judged relations (resemblance, degrees of quality, and contrariety) are like the perceptually judged relations (identity and spatial or temporal location) in that both are judged by the immediate evidence at hand. Hume says that intuitions "are discoverable at first sight . . . without any enquiry or reasoning" (T. 70). Similarly, perceptual judgements never "go beyond what is immediately present to the senses" (T. 73). In neither case, then, is there "any exercise of the thought" (T. 73) beyond the comparison of the ideas or impressions at hand. Conversely, the demonstratively judged relations (proportions of quantity and number) are like those judgements derived from the relation of cause and effect in that both require a reasoned process of mind. That is, the evidence for judging the truth or falsehood of these relations is found in a collection of ideas (for demonstrations) or impressions (for cause and effect). Albert Casullo describes the distinction between immediately judged intuitions and perceptions and mediately judged demonstrations and reasonings from cause and effect:

The distinction is made between propositions knowable directly and propositions knowable only indirectly. A proposition is knowable directly if it can be known to be true without appealing to the truth of any other propositions we know. A proposition is knowable indirectly if it can be known to be true only by appealing to other propositions of which we have knowledge.<sup>14</sup>

Whereas the distinction between a priori and empirical designates where we are to look for the evidence of a judgement, the distinction between immediate and mediate judgements indicates the form the evidence will take. A judgement will be determined either by a direct examination of the ideas in a relation (intuitively) or by a direct examination of the impressions in a relation (perceptually). On the other hand, a judgement might be determined by an indirect examination of the ideas in a relation (demonstratively) or by an indirect examination of the impressions in a relation (causally).

The foregoing argument provides further evidence for my view that Hume provides a theory for judging the truth and falsehood of our knowledge claims. The distinction between immediately and mediately judged relations not only indicates the form evidence must take for judgement, but also the process by which the mind arrives at a judgement. This view may be further supported by an examination of those necessary relations judged immediately or by intuition. I am referring, of course, to the relations of resemblance, degrees of quality and contrariety.

Resemblance, Hume says, is the most important of all the philosophical relations:

. . . this is a relation, without which no philosophical relation can exist; since no objects will admit of comparison, but what have some degree of resemblance (T. 14).

Thus, all of the comparative relations are dependent on resembling features of objects, and since resemblance is an intuitively judged relation all of the philosophical relations require an element of a priori judgement. For example, spatial locations may be judged only

if the objects resemble in respect of their being extended. Being extended is an inseparable feature of spatial objects. Despite the certainty with which an object is spatial, the contingency in our perceptual judgements of spatial locations is realized in the application of those judgements. I know a priori that this desk and that cup admit of spatial relations in so far as each is extended but this alone does not tell me in what particular relation they stand to each other. The comparisons of spatial relations between objects are judged empirically because the objects are independent of each other, that is, they are separable by the imagination, despite the resembling features they share.

Objections to Hume's account of resemblance center in the difficulty with seeing how simple objects might resemble. It is fairly easy to identify resembling features of complex objects. An apple and a rose share resembling colors, but the objects are distinguishable in other respects. Of course, for resemblance to occur, as with any comparison, similar objects must have contrasting features as well, else they would be identical and not merely resembling.<sup>15</sup> John Passmore and R.I. Aaron argue that this prevents the possibility of resemblances between simples, since simples have no parts by which a similarity might be identified.<sup>16</sup> Simples, we are led to believe, are either completely different or they are entirely indistinguishable.

Hume does define simples as those things that "admit of no distinction or separation" (T. 2), which is to say that none of their features is distinguishable into real parts independent of the whole. But Hume also admits that simples can occur both as impressions and ideas. Here is where the objection is parried. The impressions of

dark red and light red are simple objects. The resemblances between them are not found in separable qualities, and cannot be since the objects are simple. Resemblance between these two things is found in the idea of their both being red. So these simple objects resemble in respect to a commonly shared simple idea. Again, for example, all simples resemble in respect of their simpleness, even though "simpleness" is not a separable quality of the objects. Hume points out that,

'Tis evident, that even different simple ideas may have a similarity or resemblance to each other; nor is it necessary, that the point or circumstance of resemblance shou'd be distinct or separable from that in which they differ. Blue and green are different simple ideas, but are more resembling than blue and scarlet; tho' their perfect simplicity excludes all possibility of separation or distinction. 'Tis the same case with particular sounds, and tastes and smells. These admit of infinite resemblances upon the general appearance and comparison, without having any common circumstance the same (T. 637).

Thus simples resemble in terms of their similar features, which permits the comparison without a real separation of the features being required.

This is in keeping with the above interpretation of distinctions of reason. These distinctions are always between features of the same kind of thing, that is to say, distinctions of reason individuate the features of simples. This applies equally to simple objects as well as simple ideas. The connection between wine and the taste of wine is contingent. This is a complex object, wherein the parts are separable. I can imagine drinking tasteless wine, and I can imagine the taste of a wine without imagining its color, temperature, or liquidity. But the taste, per se, is a simple. I cannot, for example, imagine the taste of wine without it being sweet or dry, reminiscent of vinegar or not,

as having a full bouquet or lacking entirely in that respect. These are the inseparable features of a wine's flavor which can be compared and found resembling or not with other wines. Herein we find resembling yet inseparable features of simples. All of these comparisons are possible by means of a distinction of reason which permits the identification of kinds. Further proof that simples are comparable is found in an examination of the second necessary relation known as degrees of quality.

Objects with like qualities may be compared in respect to the diverse degrees of those shared qualities., For example,

. . . of two objects, which are both heavy, the one may be either of greater or less weight than the other. Two colours, that are of the same kind, may yet be of different shades, and in that respect admit of comparison (T. 15).

This relation finds its resemblance in terms of a common quality among objects, and its diversity among the degrees of that quality. Simples may resemble, for example, in terms of two musical notes wherein they differ in degree, as when one is an octave higher than the other. Again, this is a case where resembling features (say, a high "A" versus a low "A") of the objects (the notes) are compared in respect to other differing albeit inseparable features, such that the "circumstance in which they resemble, is not distinguishable nor separable from the rest" (T. 637).

Both resemblance and degrees of a quality figure in Hume's notion of the philosophical relation of cause and effect. As we will see in the fifth chapter, this cause and that effect are distinct objects and need not resemble. The resemblance in cause and effect is found in

that series of objects (causes) that are immediately prior to and constantly conjoined with another series of resembling objects (effects). Degrees of a quality occur in causal reasoning by analogy, wherein a cause may resemble others, yet "this resemblance admits of many different degrees" (T. 142). This relation also plays a prominent role in the rules for judging causes and effects (T. I.III.xv.). Hume explains that the relation of degrees of a quality helps us to determine that:

The difference in the effects of two resembling objects must proceed from that particular, in which they differ. For as like causes always produce like effects, when in any instance we find our expectation to be disappointed, we must conclude that this irregularity proceeds from some difference in the causes (T. 174).

This sketch of the role these relations play in causal reasoning indicates their importance in the whole of Hume's theory.

The last of the intuitive relations is contrariety wherein we find Hume's expression of the law of contradiction. Contrariety is that subject of comparison that provides knowledge of real contrasts, or contradictories. He notices that real contrasts occur only between the existence or non-existence of any object. This comparison is between the actual existence or non-existence of an object, indicating that "existence and non-existence" destroy each other, and are perfectly incompatible and contrary" (T. 70). Resemblance in the relation of contrariety is found in the idea of an object as it might or might not exist, that is, as it might or might not have a referent in impressions. The diversity, essential in the comparison of any objects, is found in the idea of an object as existing or as it does not exist. In Hume's words,



. . . no two ideas are in themselves contrary, except those of existence and non-existence, which are plainly resembling, as implying both of them an idea of the object; tho' the latter excludes the object from all times and places, in which it is supposed not to exist (T. 15).

Hume's insistence that the a priori relation of contrariety is possible only in terms of the existence and non-existence of an object demonstrates that this relation must not be confused with its empirical counterpart found in the common notion of a contrary.

We commonly think that a contrary occurs when one object is unable to coexist with another. For example, fire and water coexist in the same place and at the same time. Fire cannot burn water and water destroys fire. But, says Hume, this is not a real contrast; we can imagine water being thrown on fire and imagine it to explode into flames as gasoline would. Thus contraries of this sort are known empirically in terms of cause and effect, not intuitively in terms of a true contrariety. Existence and non-existence exclusively are necessarily contrary:

All other objects, such as fire and water, heat, and cold, are only found to be contrary from experience, and from the contrariety of their causes or effects . . . (T. 15).

In Humean language, whereas the existence and non-existence of an object indicate a real contrast, causally incompatible objects indicate merely a "difference" between the objects. Hume explains that a difference is not a relation. Rather, it is the absence of "negation of relation, than as any thing real or positive" (T. 15). Accordingly, we find by empirical reasoning that there is a causal relation between fire and gasoline, in that fire burns gasoline, but no like relation between fire and water. There is no relation between fire and water, as it exists

between fire and gasoline, because the two are different.

Hume uses contrariety to show that causes and effects are contingently related. If objects are not necessarily contrary, as shown in a comparison of their ideas, then they could be causally efficacious:

Whatever is may not be. No negation of a fact can involve a contradiction. The non-existence of any being, without exception, is as clear and distinct an idea as its existence (E<sub>1</sub> 164).

But Hume's notion of a difference, as the absence of a relation, plays a vital role in his theory of causal reasoning by probabilities. A probability occurs when a relation between a cause and an effect deviates from the norm. A causal relation between objects is "positive", but when that relation appears to alter in its usual circumstances we say that there is a difference between those objects--there is no positive relation of causation in this case. Hume explains probability, understood as the absence of a typical relation, as that derived from "contrary" causes (T. 131, 142).

This concludes our examination of those relations judged by intuition. I have explained the relations and how they are judged; but I have also attempted to show their relevance in the broader aspects of Hume's theory of judgement, particularly in regard to causal reasoning. Now we may turn to an examination of those relations judged by demonstrative reasoning.

#### IV. Demonstrative Judgements

Hume notices that knowledge of mathematical relations is obtained by a reasoned process of mind, unlike the immediate judgements obtained intuitively or perceptually. These reasoned judgements, which are

derived from the relations known as "proportions of quantity and number", are called "demonstrations".

Hume thinks that all mathematical knowledge is ultimately based on the relation of equality (T. 71, A. 658). But the idea of equality is obtained initially by an immediate perceptual judgement, that is, "deriv'd from the whole united appearance and the comparison of particular objects" (T. 637). This provides the abstract idea of equality used in mathematical judgements. Although Hume is not clear on the matter, we can assume that the relation  $2=2$  is judged intuitively, since equality is an immediate idea. Reasoned judgements occur in the complex formulations found in arithmetic, algebra, and geometry (E<sub>1</sub> 25). So, unlike the intuitive judgement " $2=2$ ", the arithmetic " $2+2 = 3+1$ " would seem to involve the feature of addition characteristic of a reasoned judgement. The same is true of the algebraic judgement " $a(b+c) = ab+ac$ ". In geometry we might say that whereas the judgement "a triangle has three sides" is intuitive, the relation is made complex in the reasoned judgement "the sum of the interior angles of a triangle is equal to the sum of two right angles". According to this way of thinking, I can see no reason why the formulation of modern symbolic logic would not fall into the same category.<sup>17</sup> Whereas the symbolic formulation of Hume's relation of contrariety,  $\sim(p \& \sim p)$ , would be judged intuitively, the formulation of DeMorgan's theorem  $\sim(p \& q) \equiv (\sim p \vee \sim q)$ , would be judged by a reasoned process similar to that found in algebra.

Demonstrations are similar to intuitions by virtue of their a priori status. The subject of comparison or resemblance is the abstract features of groups of objects that identify them quantitatively

or numerically.

Propositions of this kind are discoverable by the mere operations of thought, without dependence on what is anywhere existent in the universe (E<sub>1</sub> 25).

Though known a priori, demonstrations require reasoning in the same way that judgements about the relation of cause and effect do. Arithmetic, for example, demands the mental processes of addition and subtraction beyond the intuitively judged relation of equality. In this, the truth of a demonstration depends on a collection of intuitions,<sup>18</sup> like, as we will see, the truth of a causal judgement depends on a collection of perceptions.

On the whole, no one denies Hume's account of mathematical knowledge found in arithmetic and algebra, outside of those few who argue that he has no viable account of a priori knowledge in general. But there is some debate concerning his views on geometrical knowledge. My interpretation of Hume's theory of demonstrative judgement is primarily directed to explaining how he thinks geometrical truths can be justified with an eye cast to settling the controversy.

At first glance Hume's remarks on the nature of geometrical demonstrations appear contradictory. In the Treatise he says that,

When geometry decides any thing concerning the proportions of quantity, we ought not to look for the utmost precision and exactness (T. 45),

and later comments that, "geometry falls short of that perfect precision and certainty" (T. 71) which is accorded to arithmetic and algebra.

But in the first Enquiry Hume seems to have had second thoughts; he remarks that "the truths demonstrated by Euclid would for ever retain their certainty and evidence" (E<sub>1</sub> 25). So it might seem that Flew is

correct in suggesting that Hume has changed his mind on the nature of demonstrative certainty from the Treatise to the first Enquiry.<sup>19</sup> However, this interpretation may be called into question when one discovers that geometry is classified under the four relations of ideas that "can be the objects of knowledge and certainty" (T. 69-70), which occurs less than a page before the attack on geometry. Nor is this oversight, as Flew suggests it must be, limited to the Treatise. Early in the first Enquiry Hume is convinced that geometrical demonstrations can provide certainty (E<sub>1</sub> 25), but later suggests that some of its principles are "big with contradiction and absurdity" (E<sub>1</sub> 157). Flew accounts for the shift from the Treatise (at T. 45 and 71) to the first Enquiry (at E<sub>1</sub> 25) by suggesting that Hume revises his position from the first book to the second. Flew is even able to account for the change from the early part of the Enquiry to the later part of the same book (E<sub>1</sub> 156-7) by suggesting that Hume is indecisive on the nature of geometrical certainty and has a tendency to "backslide" to the position found in the Treatise.<sup>20</sup> But he fails to account for those passages in the Treatise (at T. 69-70, 166, and 463) where geometrical certainty is considered to be possible. Clearly the nobler course would be to suggest that Hume thinks that some geometrical judgements are capable of providing exactitude and certainty, while others are not.

Atkinson indicates a possible reason for Hume's apparent indecisiveness:

For what it is worth--perhaps not very much--Hume betrays no awareness that the view of mathematics taken in the Enquiry is significantly different from that of the Treatise. The doctrine of infinite divisibility is attacked in both works.<sup>21</sup>

Atkinson's clue is more helpful than he realizes. Hume's contrary statements about geometry are not in reference to that science, per se, but rather about two different positions argued within it. The key to Hume's mysteriously contrary statements about geometrical demonstrations lies in the fact that in every passage where the certainty or exactness of geometry is questioned there is some reference to infinite divisibility. For example, Hume tells us that,

. . . no geometrical demonstration for the infinite divisibility of extension can have so much force as what we naturally attribute to every argument, which is supported by such magnificent pretensions. At the same time we may learn the reason, why geometry fails of evidence in this single point, while all its other reasonings command our fullest assent and approbation (T. 52; emphasis added).

Later in the first Enquiry we are assured that "the truths demonstrated by Euclid" are certain and exact; yet, Hume insists that,

No priestly dogmas, invented on purpose to tame and subdue the rebellious reason of mankind, ever shocked common sense more than the doctrine of the infinitive divisibility of extension, with its consequences; as they are pompously displayed by all geometers and metaphysicians, with a kind of triumph and exultation (E<sub>1</sub> 156).

We will find Hume's account of demonstrative judgement in the arguments he presents against infinite divisibility as it is conceived in geometry.

First, Hume argues that if the doctrine of infinite divisibility were correct, we could never form the clear and distinct ideas of the very objects upon which geometry is dependent. The ideas of planes, lines, and points are defined as those features of objects that lack three-dimensional spatial characteristics distinguished by reason (T. 43). That is, planes lack depth, lines lack depth and width, and points

lack depth, width, and length. Hume argues that these characteristics would be unintelligible if combined with the feature of divisibility. He points out that if these objects could be divided then they must have depth, breadth, and length by which to divide them. The argument is expanded. A plane or surface is not simply something lacking depth but "a surface terminates a solid; a line terminates a surface; a point terminates a line" (T. 43). Hume's argument is that these definitions would be meaningless if the features were composed of infinitely divisible parts, that is, no clear idea could be possible since whatever idea was found could be divided further without end. Infinite divisibility leaves us "without any possibility of its arriving at a concluding idea" (T. 44). If geometrical objects were composed of infinitely divisible parts then there could be no clear idea of the terminating characteristics essential to the ideas. The mind could not form a clear idea, since the idea would become infinitely smaller, rather than being the object of termination. The only meaningful sense, according to Hume, of termination applied to these ideas produces the idea of an indivisible point or atom of which planes and lines are composed. He concludes:

Thus it appears, that the definitions of mathematics [geometry] destroy the pretended demonstrations; and that if we have the idea of indivisible points, lines, and surfaces conformable to the definition, their existence is certainly possible, but if we have no such idea, 'tis impossible we can ever conceive the termination of any figure; without which conception there can be no geometrical demonstration (T. 44).

Briefly, the terminating properties of these objects are inseparable from the ideas of these objects, and Hume is arguing that the only way these ideas can be made clear and determinate is if they are viewed as

the objects of termination. But what does all this have to do with Hume's theory of demonstrative judgement?

The thrust of Hume's argument is that no judgement can be formulated unless we have clear and determinate ideas of the things being judged. This argument is used frequently throughout both the Treatise and the Enquiries. We will find it again occurring in regard to judgements made about the relations of space and time, identity, and causation. Hume's second argument against infinite divisibility as it is conceived in geometry serves a like purpose for explaining both his theory of demonstrative judgement, in particular, and his theory of judgements concerning other relations, in general.

In the second argument against infinite divisibility Hume suggests that this doctrine obviates the possibility of arriving at a "just" standard of equality which is necessary for determining truth and falsehood in some geometrical claims. Hume explains that arithmetic and algebra "preserve a perfect exactness and certainty" because,

We are possest of a precise standard, by which we can judge of the equality and proportion of numbers; and according as they correspond or not to that standard, we determine their relations, without any possibility of error (T. 71).

The standard by which we judge the truth or falsehood of the relation of proportions of number is "equality" or a one-to-one correspondence between the opposing ideas in a relation. This is evident, for example, in the judgement "If  $2+2 = 3+1$ , then  $4+4$ ". Hume explains that the idea of equality originates in the appearances of equally sized objects as compared to unequal objects:



There are many philosophers, who refuse to assign any standard of equality, but assert, that 'tis sufficient to present two objects, that are equal, in order to give us a just notion of this proportion. All definitions, say they, are fruitless, without the perception of such objects; and where we perceive such objects, we no longer stand in need of any definition. To this reasoning I entirely agree; and assert, that the only useful notion of equality, or inequality, is deriv'd from the whole united appearance and the comparison of particular objects (T. 637).

The standard of equality is not defined. Rather it is an idea "deriv'd from" or abstracted from impressions of objects. But problems arise when this standard is used to judge the proportions of quantity (geometry) when they are considered to be infinitely divisible.

Hume argues that objects composed of an infinite number of parts cannot provide a foundation for a just standard of equality. He explains that those who support the "hypothesis" of infinite divisibility are committed to the position that,

. . . the least as well as greatest figures contain an infinite number of parts; and since infinite numbers, properly speaking, can neither be equal nor unequal with respect to each other; the equality or inequality of any portions of space or spatial objects can never depend on any proportion in the number of their parts (T. 46, A. 658-9).

The argument is that when the notion of an infinite is treated as a number, then all objects composed of an infinite number of parts are necessarily equal. But if all geometrical objects, such as planes, lines, and points are composed of an infinite number of parts, and consequently all objects are, by hypothesis, equal, then the idea of equality loses all meaning. In other words, there is nothing by which to distinguish equal and unequal objects.

The only means whereby a just standard of equality can be established for geometry is if its objects are composed of a finite number of points. This standard could be applied to such figures since they are composed of complete and indivisible parts, and a judgement concerning equality could be determined. Hume admits that the idea of equality as a one-to-one correspondence between the points of two objects is a "just" standard. It is just or meaningful because the comparison of such objects provides a reasonable basis by which the standard of equality can be applied. Although the standard is just, Hume concludes that it is useless for the exactness and certainty geometry claims is possible. This standard is useless simply because the points are too small to be counted or observed accurately. Hume explains that,

. . . 'tis utterly impossible for the mind to compute their number, such a computation will never afford us a standard, by which we may judge of proportions (T. 45).

Again, the same argument is found in the Abstract:

Now there is an exact standard of equality if we suppose that quantity is composed of indivisible points. . . But tho' this standard be exact, 'tis useless; since we can never compute the number of points in any line (A. 658).

We know that any two geometrical lines must be either equal or unequal; this is assured by virtue of their status as groups of atoms. If the parts of objects were infinitely divisible we could not even claim that their equality or inequality is determinate. But despite their determinateness as objects, we are incapable of judging the equality or inequality of such objects. This is what Hume means when he says that atomism provides a just but useless standard for judging the proportions of geometrical objects. The discussion of standards of judgement is

important not only for Hume's theory of demonstrative judgement, but for his theory of judgement as a whole.

As shown above, the truth or falsehood of a judgement is determined as it corresponds or not to a standard. Without a standard we have no means for determining whether a judgement is true or false. Hume speaks of standards in relation to three of the four processes by which judgements are made. Demonstrations require a standard of equality (T. 45-52, 71, A. 658-9). Perceptual judgements utilize an impression given in sense experience by which their truth and falsehood is determined; "the appearance of objects to our senses be the original standard by which we judge of them" (T. 603). Reasoning about existence claims, not given immediately in perceptions, derived from the relation of cause and effect is judged by the standard of past experience (T. 113, 133, 182, E<sub>1</sub> 35, 112, 142, A. 656). Only intuitions are left out of Hume's frequent mention of standards. Intuitively judged relations are determined immediately by an examination of the relation "internal" to the ideas.<sup>22</sup> For example, I know directly that there are no square circles because the contrariety of these things is given immediately in the ideas. Now whether Hume thought intuitions have no indentifiable standard, or any discussion of this is unnecessary given their immediately known and evident certainty is never made clear. The need for a standard of judging perceptual claims is evident. The truth and falsehood of such judgements is not given internally to the ideas--judgement in this case depends on an impression which is always external to the ideas being compared. Demonstrations require a standard because they are a collection of intuitions. In the judgement " $2+2 = 3+1$ " we must determine

the outcome of "2+2" and "3+1" before we can compare these ideas in terms of their equality or inequality. The idea of equality is the rule by which a "comparison and juxtaposition" is determined beyond what can be determined immediately. Causal relations have both difficulties. On the one hand, their contingency requires that they be judged in terms of experience, that is, by impressions outside of the realm of mere ideas. On the other hand, their mediacy requires a collection of immediate perceptions to be combined into a single judgement. Hume is quite clear that, with the possible exception of intuitively judged relations, no judgement is possible unless we have a precise and available standard by which truth and falsehood can be determined.

In the foregoing arguments we have determined two things about Hume's theory of judgement. First, the ideas of the objects and the relations between them must be clear and determinate. Secondly, there must be a just and useful standard by which a judgement is compared and is determined to be either true or false. But, to return to the discussion at hand, how do these principles support Hume's claims about those cases where geometry is precise and necessarily certain?

When Hume praises geometry he always refers either explicitly to "the truths demonstrated by Euclid" (E<sub>1</sub> 25) or implicitly in terms of examples drawn from Euclid (T. 69, 166, E<sub>1</sub> 25, 60-1, 156-7, 163, E<sub>2</sub> 289, 291).<sup>23</sup> On the one hand, as we have seen, Hume scoffs at those who think that the proportions of lines and planes can be judged with certainty in terms of the number of points these objects might have. He specifically calls planes, lines, and points "the objects of geometry" (T. 42). But, on the other hand, he has high regard for those determining the

precision and certainty of the proportions of geometrical "figures", such as "circles and triangles" (E<sub>2</sub> 289). Herein lies an important distinction for understanding Hume's positive remarks on the precision and certainty with which geometrical judgements can be known.

Mathematicians argue that the definition of a right (straight) line is "the shortest distance between two points"; however, Hume counters by arguing that "the shortest way betwixt two points" (T. 49-50) is not a defining characteristic of right lines, but rather a relation or inseparable feature of right lines in general. Hume argues that the idea of a right line is different from the idea of the shortest distance between two points.

In common life 'tis establish'd as a maxim, that the streightest way is always the shortest; which wou'd be as absurd as to say, the shortest way is always the shortest, if our idea of a right line was not different from that of the shortest way betwixt two points (T. 50).

Since the idea of a right line is different from the idea of the shortest distance between two points, then we must concede that "this is more properly the discovery of one of the properties of a right line, than a just definition of it" (T. 50). However, if the property or relation is truly different, that is, separable by the imagination, from a right line, then the proposition "the streightest way is always the shortest" cannot be a "maxim" by virtue of the fact that the relation is not necessary. The object is to determine what Hume means by saying that the right line is "different" from the relation of being the shortest distance between two points.

Certainly the two are not different in the sense that they are separable by the imagination. One cannot imagine a right line that is

not the shortest distance between two points, nor could one conceive of the shortest distance between two points except in terms of a right line. Thus, the "difference" Hume refers to must be in terms of a distinction of reason, that is, the two ideas can be considered as "different aspects [features], according to the resemblances, of which they are susceptible" (T. 25). Thus, precise and certain geometrical demonstrations are possible in terms of the judgements of figures. These judgements are about the inseparable features of the figures being compared. Another example is seen in terms of the inseparable relation of equality that is found between the idea given in the sum of the interior angles of a triangle and the idea of the sum of two right angles, something Hume tells us is "convincing and satisfactory", as are all of Euclid's "conclusions concerning the properties of circles and triangles" (E<sub>1</sub> 156-7). These are the kinds of judgements that Hume sees as being on par with the demonstrations found in arithmetic and algebra. As we can see, geometrical demonstrations are judged in terms of the inseparable relations discovered in our ideas of figures.

A defence of Hume's arguments against infinite divisibility would take us too far afield. My intention is merely to show that his remarks about geometry, as a form of demonstrative judgement, make sense in the interpretation presented here. Again, I should like to point out that the arguments against infinite divisibility bring to the fore two important principles of Hume's theory of judgement. First, the idea or concepts employed in judgement must be made clear and determinate. This enables us to understand the nature of a particular relation and what is required in judging it. Secondly, we must determine from these concepts

a precise and applicable standard of judgement for each of the philosophical relations. The truth and falsehood of a judgement is finally determined as it accords or fails to accord with the standard implied in the relation being judged.

At this point the reader may wonder in what ways Hume's theory of judgement might be applied to philosophical problems. The coming section gives an example to show his use of the theory. In this we will find the concepts discussed above in further arguments Hume provides against the metaphysical doctrine of infinite divisibility. This section is useful not only for showing how the theory of a priori judgement actually works in a philosophical argument, it provides further proof for my general claim that Hume has a theory for judging the truth and falsehood of knowledge claims as well.

#### V. Applications of A priori Judgements

Earlier, I outlined the applications of the necessary relations of resemblance and degrees of a quality for Hume's theory of causal judgement. The use we make of contrariety, in terms of the law of contradiction, and proportions of quantity and number, in terms of mathematical knowledge, is evident in both our scientific and philosophical reasonings. Little would be gained by reviewing the applications of these relations again. Instead I shall demonstrate the use Hume makes of a priori judgements in terms of a specific metaphysical debate he enters. Herein we will find an application of the general principles of a priori knowledge, as Hume sees them, and as they have been discussed throughout this chapter.

Few, if any of Hume's readers, have realized that all of his arguments against the doctrine of infinite divisibility are a priori. Indeed they must be a priori if he is sincerely interested in showing that doctrine to be "utterly impossible and contradictory" (T. 39). If Hume argued on empirical grounds that infinite divisibility is false, then his argument would be merely contingently true at best. But Hume argues that that doctrine is necessarily false. Speaking in Humean terms, the debate must be settled on a priori grounds because the divisibility or indivisibility of spatial objects beyond a certain point is an inseparable feature of spatial objects. Objects must be either divisible or indivisible in the same way that a red object cannot be both dark red and light red. This is shown in the relation of contrariety.

I have supplied two arguments Hume uses against the doctrine of infinite divisibility. The first demonstrated that infinite divisibility does not permit the clear and distinct idea of a point as it is used to produce the ideas of planes and lines found in geometry. The second argument suggests that if all objects were infinitely divisible then they could be composed of an equal number of (infinite) parts, which is contrary to the idea of equality used as a standard of judgement. Both arguments support Hume's theory of geometrical reasoning. Yet they only show why infinite divisibility cannot be supported by geometrical arguments. Neither of these arguments attacks that doctrine outside of the sphere of geometry. But Hume is opposed to that doctrine on all counts, so he uses, as he must, an a priori argument against it. Now we will look at that argument.



Some might suggest that infinite divisibility is proven on the basis of the fact that the idea of an object might be halved without end in our imagination. The mathematical division of ideal objects seems to make possible an infinite divisibility of any such object. Although Hume is opposed to the doctrine of infinite divisibility, he does not oppose the suggestion that mathematical relations of increasingly smaller proportions are meaningful.

When you tell me of the thousandth and ten thousandth part of a grain of sand, I have a distinct idea of these numbers and of their different proportions . . . (T. 27).

Here he admits that the mind is able to recognize mathematical divisions without foreseeable end. I know that a thousandth part is ten times larger than a ten thousandth part, and that a ten thousandth part is ten times larger than a hundred thousandth part, and so forth. Although we might be able to witness or judge the actual division of some such real object, mathematical relations of this sort are intelligible. But Hume does not attack infinite divisibility on these grounds. Rather he appeals to the principle of imagined or possible separability:

. . . the images, which I form in my mind to represent the things themselves, are nothing different from each other, nor inferior to that image, by which I represent the grain of sand itself, which is suppos'd so vastly to exceed them (T. 27).

Hume's point is that there are no imaginable qualitative differences between a grain of sand and a ten thousandth part of a grain of sand.<sup>24</sup> He explains that no idea of infinite divisibility is possible on the basis of a mathematical division because the mathematical features of an object are not separable in terms of a real distinction. A real distinction requires at least an imaginable difference between the

separable parts, but a mathematical relation does not designate real differences. Mathematical relations indicate only inseparable features of objects in terms of a distinction of reason, as do all a priori known necessary relations. The mind is as incapable of separating the parts of an object on the basis of decreasing mathematical relations as it is of separating the features of color and shape. Hume's argument is not, as Rosemary Newman supposes, "that infinite divisibility considered as a mathematical idea, is ruled out by Hume . . . because of our inability to construct it mathematically".<sup>25</sup> Hume actually claims that arithmetic does provide the idea of decreasing mathematical relations, but that this does not serve as a proof that such a division could actually exist.

Hume argues that the actual divisibility of any object is possible only when the mind can discern qualitative or accidental, not quantitative differences;

. . . the idea, which we form of any finite quality, is not infinitely divisible, but that by proper distinctions and separations we may run up this idea to inferior ones, which will be perfectly simple and indivisible (T. 27).

A speck of ink on a white sheet of paper shows qualitative differences upon close inspection. I can see bumps and ridges around the edge of the speck, but when placed at a distance I can no longer discern any qualitative or real differences by which I might divide the speck into parts. Thus, the idea obtained from the speck-at-a-distance is not divisible (T. 27-8), because there are no discernable, real or separable parts. By showing that infinite divisibility is not possible in idea, Hume hopes to prove the impossibility of that doctrine in reality. The proof depends upon the principle that,

Whatever ideas are adequate representations of objects, the relations, contradictions and agreements of the ideas are all applicable to the objects; and this we may in general observe to be the foundation of all human knowledge. . . . The plain consequence is, that whatever appears impossible and contradictory upon the comparison of these ideas, must be really impossible and contradictory, without any farther excuse or evasion (T. 29).

Hume's argument is designed to show that the infinite divisibility of spatial objects is indeed impossible. The argument is that if something is divisible, then it must be composed of separable parts and if the object has separable parts then, they must be separable in idea. By showing that infinite divisibility is impossible in idea, that is, no idea of an object can be divided infinitely, Hume demonstrates that such a doctrine "must be really impossible and contradictory, without any farther excuse or evasion". His conclusion is borne out by recognizing that the divisibility of any object must eventually cease, not because of a psychological inability of the mind to continue the process, but because the object will eventually run out of real parts that may be separated from the whole.<sup>26</sup> Again, for Hume, divisibility is possible only as long as separable parts or accidental qualities exist. An idea with distinct parts will eventually run out of these parts as they are separated from the object. The mind is incapable of separating objects on any basis other than a real distinction of the parts. Thus,

'Tis therefore certain, that the imagination reaches a minimum, and may raise up to itself an idea, of which it cannot conceive any subdivision, and which cannot be diminished without a total annihilation (T. 27).

Since the imagination indicates the possibility of indivisible parts of space and time, then the contradictory doctrine of infinite divisibility must be impossible. The mind is limited simply because it cannot divide any object beyond those separations of accidental qualities that can be separated from the object. This seems to be the principal argument against the doctrine of infinite divisibility, which Hume summarizes as:

The capacity of the mind is not infinite; consequently no idea of extension or duration consists of an infinite number of parts or inferior ideas, but of a finite number, and these simple and indivisible: 'Tis therefore possible for space and time to exist conformable to this idea: And if it be possible, 'tis certain they actually do exist conformable to it; since their infinite divisibility is utterly impossible and contradictory (T. 39).

In this, Hume demonstrates a priori the impossibility of infinite divisibility, which serves as an example of the application of his theory of a priori in a metaphysical debate.

### Notes to Chapter Three

1. Those who argue that Hume cannot account for a priori knowledge do so either on the ground that, for Hume, all ideas are images and necessity is not imaginable, or on the ground that a priori ideas cannot be found in impressions so a priori judgements must be ruled out on the basis of the copy principle. An example of the first is found in Robert Imlay's "Hume on Intuitive and Demonstrative Inference", Hume Studies, I (1975), p. 36. Examples of the second are found in Passmore's Hume's Intentions, p. 20, and Donald Gotterbarn's "How Can Hume Know Philosophical Relations?", The Journal of Critical Analysis, IV (1973), p. 133. In the following pages I point to the philosophical relations as examples of ideas that are not images, thereby casting doubt on the imagistic interpretation assumed by Imlay. Further support for my view is found in John Yolton's "Hume's Ideas", Hume Studies, VI (1980), p. 12. Those who think that the philosophical relations of ideas must be found in impressions, such as Passmore and Gotterbarn, forget Hume's notion of an abstraction of a philosophical relation. This is a complex idea, which is never found in the objects of experience, but rather discovered by a distinction of reason. (See Stanley Tweyman's "Hume on Separating the Inseparable", in Hume and the Enlightenment, ed. W.B. Todd (Edinburgh: The University Press, 1974), pp. 30-42.) This will be discussed again later in the chapter.
2. A fiction, for Hume, is nothing more than a mere conception, that is, an idea without the belief-feeling. I think that Peter Jones is partially correct in saying that "they are imaginative constructions . . . (from fingo, to feign)" from Hume's Sentiments: Their Ciceronian and French Context (Edinburgh: The University Press, 1982), p. 66. Jones' point is that a fiction is an hypothesis that has not been judged true or false.
3. Following Bricke's example (Hume's Philosophy of Mind, p. 161), n. 14), much of what I have to say about predication and judgment is found in the writings of Frege. See especially the papers "Function and Concept" and "On Concept and Object" in Translations From the Philosophical Writings of Gottlob Frege, ed. Peter Geach and Max Black, 3rd edition (Oxford: Blackwell, 1980).
4. Bricke tells us that "Throughout I freely interchange 'belief' and 'judgment', following Hume's own practice (p. 161, 12.). Kemp Smith also suggests that "Hume makes no distinction between belief and judgment . . ." (The Philosophy of David Hume, p. 87,

compare, p. 64). I think that this view is correct in so far as Hume takes belief and judgement to be the same kind of object. After all a belief without the content (idea) would be nothing more than a feeling, that is, an impression of reflection, and a judgement (idea) without the feeling would be nothing more than a mere conception. But I also think that Hume admits that the two might be distinguished by reason. In this way we would feel a belief by concentrating on the vivacity of it, but we would judge the idea by concentrating on the idea and how it compares with the object of judgement.

5. Bricke, p. 117.
6. Ibid., p. 115.
7. Arnauld, The Art of Thinking, p. 30.
8. Ibid., p. 29.
9. Ibid., pp. 142-4.
10. Bricke, p. 118.
11. I am imputing the term "real" distinction to Hume from Descartes. The latter acknowledges the division between distinctions of reason and real distinctions in the same manner as Hume. See Descartes' Principles of Philosophy, numbers 60 and 62 in, The Philosophical Works of Descartes, trans. E.S. Haldane & G.R.T. Ross, 2 vols. Cambridge University Press, London, 1931, 243-45, Vol. 1.
12. R.W. Church suggests this when he says "The resemblance of different simple ideas is not a 'point or circumstance distinct from the respective ideas. Their resemblance is not a "common circumstance"; it is in no wise distinguishable from the ideas themselves. To find that two simple ideas,  $P_1$  and  $P_2$ , are resembling is to find that  $P_1$  and  $P_2$  are the same. This is to find that they are the same in quality of character", from "Hume's Theory of Philosophical Relations", The Philosophical Review, 50 (1941), p. 356. A similar view is found in Tweyman's "Hume on Separating the Inseparable".
13. I have adopted Nathan's use of "features" in this context as found in his "A Humean Pattern of Justification", Hume Studies (forthcoming), ts. p. 8.
14. Albert Casullo, "Conceivability and Possibility", Ratio 17 (1975), p. 119.
15. My use of "identity" in this context referring to the same thing should not be confused with Hume's conception of an identity relation which has "recourse to the idea of time or duration" (T. 200). As we will see, the philosophical relation of identity refers to an object that remains unchanged over a period of time.

16. Passmore, pp. 108-10. R.I. Aaron, "Hume's Theory of Universals", Proceedings of the Aristotelian Society, 42 (1942), pp. 118-22.
17. Passmore suggests that Hume tacitly argues against the possibility of a formal logic system in Hume's Intentions, chapter II.
18. Tweyman correctly points out that Hume "regards a demonstration as nothing more than a series of intuitions" in Reason and Conduct in Hume and His Predecessors, (The Hague: Martinus Nijhoff, 1974), p. 62.
19. Flew, Hume's Philosophy of Belief, pp. 62-3.
20. Ibid., p. 64.
21. R.F. Atkinson, "Hume on Mathematics", Philosophical Quarterly, 10 (1960), p. 133.
22. Nathan uses this expression to describe how we judge a necessary or "formal" relation. He explains that "In the case of the formal relations, the relations in question are internal to the ideas constituting the judgment. Hence, the truth conditions of any judgment asserting a relation of ideas or formal relation are internal to the judgment itself. Since the truth-conditions are internal to the judgment, inspecting the ideas in that judgment is the necessary and sufficient condition for establishing its truth or falsity" (ts. p. 11). This manner of characterizing the contingent and necessary relations in terms of their being "external" or "internal" is also found in R.W. Church's "Hume's Theory of Philosophical Relations" (p. 358), and Alan Hausman's "Hume's Theory of Relations", Nous, 1 (1967), p. 261.
23. I can see no grounds upon which Hume might object to those necessary truths found in non-Euclidean geometries. These also discover relations that "depend entirely on the ideas, which we compare together" (T. 69). It is just that the ideas of planes and triangles, for example, differ from those found in Euclid.
24. Hume's use of separable "qualities" (T. 27) and the "real quality of extension" (T. 29) should not be confused with inseparable "degrees of a quality" which are related necessarily. No quality (part) of an object is necessarily related to the object, although the degrees of a quality are related necessarily to that quality.
25. Rosemary Newman, "Hume on Space and Geometry", Hume Studies, VII (1981), pp. 12-13.
26. If Hume's argument was simply that the mind is incapable of dividing something an infinite number of times, then he could argue only that "the capacity of the mind is limited, and can never attain a full and adequate conception of infinity" (T. 26), which would not be sufficient to prove that spatial objects cannot be divided infinitely.

## CHAPTER FOUR

### Perceptual Judgements

Hume tells us that the relations by which we may judge the spatial or temporal locations, and the identity, of objects are judged by an immediate impression of the senses (T. 73). This description identifies these relations as both empirically and immediately judged. For example, spatial relations must be judged empirically because the relation between spatial objects is wholly contingent. The relation between these objects may alter without any change in the ideas of the objects;

. . . the relations of contiguity and distance betwixt two objects may be chang'd merely by an alteration of their place, without any change on the objects themselves or on their ideas; and the place depends on a hundred different accidents, which cannot be foreseen by the mind (T. 69).

Thus, the truth or falsehood of any judgement about these relations is known only by looking at the objects in question. Secondly, the evidence for the truth of these judgements is given directly in the impressions in question. Hume explains that the relations of space and time, and of identity, are given immediately:

When both the objects are present to the senses along with the relation, we call this perception rather than reasoning; nor is there in this case any exercise of the thought, or any action, properly speaking, but a mere passive admission of the impressions thro' the organs of sensation. According to this way of thinking, we ought not to receive as reasoning any of the observations we may make concerning identity, and the relations of time and place; 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).

Since these are relations an act of mind is required for the comparison or predication of ideas. Furthermore, another act of mind is required for the comparison of the idea (judgement) with the object of judgement. This is the act of judging itself. We say that these relations are judged immediately because all of the evidence needed for judging their truth is given directly by the impression, that is, "both the objects are present to the senses along with the relation". Further examination of the ideas found in these relations, and the standards for judging them will be given in sections one (I), "Space and Time", and two (II), "Identity".

The relations of space and time are significant for Hume's theory of causal relations. He argues that causes must be contiguous and prior to their effects (T. 75-6), so the relations of space and time are necessary for judging which objects are contiguous and prior to which other objects. As we will see in the following chapter, if there were no means for judging spatial and temporal relations, we would be unable to determine which objects in a causal relation are the causes and which are the effects. The relation of identity is important for Hume's examination of the metaphysical issues of external existence (T. 200-1) and personal identity (T. I.IV.ii.). Identity is the perceptually judged relation which tells us whether or not an object at one time is the same object at another time. This relation is,

. . . apply'd in its strictest sense to constant and unchangeable objects . . . being common to every being, whose existence has any duration (T. 14).

Since we commonly suppose that objects last longer than our perceptions of them, and that something of our minds exists unchanged throughout our lives, Hume relies on identity to examine the issues of external or lasting existence and the identity or permanence of mind. As with the previous chapter, the issues discussed here are clarified by seeing how Hume uses these relations in the broader context of his philosophy. This will be examined in the concluding section (III), "Applications of Perceptual Judgements". Once again, my general view that Hume has a theory of judgement is supported further in demonstrating how these judgements are actually employed by him.

#### I. Space and Time

The analysis of the philosophical relations of space and time is found in Book I, Part II of the Treatise. It is to be expected that this part of the Treatise would be missing from the Enquiries, not because Hume was dissatisfied with the arguments, but rather because his interest in the later work is restricted to reasoned judgements--primarily those of cause and effect. Nevertheless, Part II, "Of the ideas of space and time", produced the concepts of spatial and temporal relations that are important to his analysis of causal judgement, at least as the relation of cause and effect is presented in the Treatise (T. 75-6). The value of the relations of space and time to causal judgement is alluded to near the end of Part II:

It may not be amiss, before we leave this subject, to explain the ideas of existence and of external existence; which have their difficulties, as well as the ideas of space and time. By this means we shall be the better prepar'd for the examination of knowledge and probability, when we understand perfectly all those particular ideas, which may enter into our reasoning (T. 66).

Thus, Hume's reason for writing "Of the ideas of space and time" is because those ideas play an important role in our reasoning about "probabilities", which are derived from the relation of cause and effect. Furthermore, as we will see, Hume's conception of time as a relation of changing objects plays a large role in his conception of identity.

Hume's "system" regarding space and time is divided into two parts, which he claims "are intimately connected together" (T. 39). In the first part he argues that space and time are composed of indivisible parts or atoms (T. I.II.i, ii, and iv.). (The principal arguments against the doctrine of infinite divisibility were presented in the previous chapter.)<sup>1</sup> In the second part of the system, Hume advances the concepts of space and time as being relations existing between objects (T. I.II.iii, and v.). In fact, his entire discussion of space and time in these sections of the Treatise is directed to proving at least that these are relations of objects. Of course, by seeing them as relations, Hume has a basis for judging the spatial and temporal locations of objects.

The idea of space is presented by our observation of coexisting objects (T. 36, 429). In this case, more than one object is presented to the mind at the same time. Hume explains that,

Upon opening my eyes, and turning them to the surrounding objects, I perceive many visible bodies; and upon shutting them again, and considering the distance betwixt these bodies, I acquire the idea of extension (T. 33).

The idea of time is given in the observation of a change or succession of objects, but never in their coexistence. In regard to this relation, Hume explains that,

Now as time is compos'd of parts, that are not co-existent; an unchangeable object, since it produces none but co-existent impressions, produces none that can give us the idea of time; and consequently that idea must be deriv'd from a succession of changeable objects, and time in its first appearance can never be sever'd from such a succession (T. 36).

The idea of space is therefore obtained from the relation of coexistent objects. The idea of time is different in that it is obtained from the "perceivable succession of changeable objects" (T. 35).

Hume goes to great lengths to point out that his view of space and time is both properly conservative and fully adequate for his task. He does not oppose the nonrelational view of space and time as absolutes on the ground that this conception is inherently contradictory. Rather he simply points out that the absolute conceptions of space and time attribute more to these ideas than can be justified in our original impressions of them. He is fully cognizant that,

'Twill probably be said, that my reasoning makes nothing to the matter in hand, and that I explain only the manner in which objects affect the senses, without endeavouring to account for their real nature and operations (T. 63).

In response, Hume simply admits his lack of concern with the metaphysical nature of space and time, per se, and he expresses a measure of doubt regarding our ability to settle disputes arising from that quarter:

For besides that this belongs not to my present purpose, I am afraid, that such an enterprize is beyond the reach of human understanding, and that we can never pretend to know body otherwise than by those external properties, which discover themselves to the senses (T. 64).

In the "Appendix", again in regard to those conceptions of space and time beyond what may be inferred legitimately from experience, he warns that,

If we carry our enquiry beyond the appearances of objects to the senses, I am afraid, that most of our conclusions will be full of scepticism and uncertainty (T. 639).

But Hume's support for the relational view of space and time goes beyond the argument that we have nothing else from which to produce our concepts, except what is given in experience. He also argues that these ideas are inseparable from the ideas of objects as being spatially and temporally locatable.

In support of the relational view of space and time, Hume argues that,

The ideas of space and time are therefore no separate or distinct ideas, but merely those of the manner or order, in which objects exist: Or, in other words, 'tis impossible to conceive either a vacuum and extension without matter, or a time, when there was no succession or change in any real existence (T. 39-40).

In saying that the ideas of space and time are not "separate or distinct" he establishes their relational character. Since these ideas are not given in an idea separate from the ideas of objects, they cannot be known as absolutes. Furthermore, because they are not given in idea as simples separate from the ideas of objects, they require at least two ideas which serve as the relata to form the basis of our ideas of space and time as relations. Hume concludes that since these ideas are not simples, they must be given in the "manner or order" in which objects are presented to the mind, that is, relationally. But Hume's suggestion that these ideas are not distinct from the ideas of objects they relate does not imply that we have no abstract concepts of space and time. Indeed, he argues that we do have abstract ideas of these relations, wherein we distinguish, by reason, the essential features of all instances of

spatial-temporal relations as they must exist between such objects.

If we are going to be able to judge spatial and temporal relations between particular objects, then we must have some (abstracted) idea of these relations that will tell us what is essential in any such relation. Without the abstracted features of these ideas, we could not be sure what elements of the relation represented space and time, per se, and what elements of the ideas represented features of the particular objects found in that idea. The abstract idea of space and time is represented in a particular form, but in judgement it emphasizes those features common to all other like related ideas.

Suppose that in the extended object, or composition of colour'd points, from which we first receiv'd the idea of extension, the points were of a purple colour; it follows, that in every repetition of that idea we wou'd not only place the points in the same order with respect to each other, but also bestow on them that precise colour, with which alone we are acquainted, But afterwards having experience of the other colours of violet, green, red, white, black, and of all the different compositions of these, and finding a resemblance in the disposition of colour'd points, of which they are compos'd, we omit the peculiarities of colour, as far as possible, and found an abstract idea merely on the disposition of points, or manner of appearance, in which they agree (T. 34).

The same process is used for obtaining the abstract idea of time (T. 35-6). Ralph Church explains Hume's account of the ideas from their original impression to the abstracted concept, while Stanley Tveyman points to the link between the abstract ideas and space and time as philosophical relations.

Church explains that,

Thus in accordance with Hume's theory of abstract ideas, any "copy" of coloured or sensible points, ordered as is characteristic of extension, may be the particular content of the abstract idea in question.<sup>2</sup>

The abstract ideas of space and time are those that are particular in content but at the same time representative of all other such ideas by the features found in that referent. Although any particular idea of space, for example, must contain images of particular objects, including the colors, shapes, and sizes in their particular forms, the mind notices that all of these particulars resemble each other in the manner of coexistent objects. Thus, my ideas of space are derived from the impressions, for example, of books being on desks, chairs being next to tables, and floors being beneath chairs; however, my abstract idea of space, as it is used in judgement, emphasizes the manner or order of object representation, not the particular objects themselves. Of course, as Tweyman points out, the content of any idea of space cannot be separated in the imagination from the spatial relation. Consequently, the idea of space abstracted from the particulars does not mean that we have any idea exclusive of the objects represented in that idea; neither the ideas of space nor the ideas of time are "separate or distinct". Rather the idea of space is abstracted by a distinction of reason. Tweyman explains that,

Even though the arrangement of the colored points is inseparable from the points themselves in any such arrangement, we are able to found a philosophical relation on the resemblance existing in the arrangements of points of different colors, and in this way, through a distinction of reason, we arrive at the abstract idea of space.<sup>3</sup>

The resemblance, essential to all philosophical relations, in the idea of space, is found in the manner of coexistence. And, in turn, this resemblance is necessary to the spatial relation of any group of particular objects. But, as Hume points out, that resemblance does not

depend on any of the particular features of the ideas of objects, such as the particular colors, shapes, or sizes (T. 34).

The abstract idea of time is of the same sort. Although the particular ideas always contain objects found in the representation of time, the mind notices that the one feature common to all these particular ideas is that of succession or change (T. 36). In both cases, the ideas in abstraction refer specifically to the relations, without specific reference to the unimportant particulars of any individual idea. The philosophical relations of space and time are found in the abstraction of those ideas, as Tweyman points out, and that relation provides the basis for comparison and judgement. Judgements about distance, contiguity, above, below, and the like are judgements about the coexistence of objects, while judgements about before, after, during, and the like are judgements about the succession of objects (T. 14).

The truth of our judgements about spatial or temporal relations is relatively easy to determine. For example, I know that the book is on the desk when there is a "conformity" of the idealized relation with what is found in experience (T. 448). Since the ideas of "book" and "desk" are separable, in terms of a real distinction, I realize that any relations between these objects are contingent and must be judged empirically. Furthermore, the immediacy of the judgements tells me that the evidence for them is given directly to the present impression. Since there is no other source for the evidence of such a judgement, I know that each time I wish to verify that judgement I must reexamine the evidence.<sup>4</sup> Hume's theory of temporal judgement is imputed for his theory of identity judgement. So, before proceeding to the latter, we



should consider an objection to the former.

Robert McRae realizes that, for Hume, the idea of time is obtained from a succession of observed perceptions. The standard, then, for judging temporal relations lies in such a succession, so that without the succession we are incapable of judging the passage of time (T. 35). Furthermore, Hume claims that the idea of time is neither derivable from nor properly applicable to an unchangeable object (T. 65). McRae realizes that Hume is arguing, in opposition to Descartes, that an object is distinct and separable from the idea of its enduring, that is, an object's enduring is not inseparably connected to its existence.<sup>5</sup> McRae tells us that Hume thinks that it is a "falsehood" to suppose that "the idea of duration is applicable in a proper sense to objects, which are perfectly unchangeable" (T. 37).<sup>6</sup> From this McRae concludes that Hume does not think that temporal relations can be judged:

Let us suppose that the notation for the five [musical] notes indicates, in this order, two half notes, a quarter note, and two eighth notes . . . As heard, each of the five notes is equally a perfect and indivisible moment in Hume's time theory for none contains any succession within itself. Succession applies only to the notes together. It is by a fiction or falsehood that we say that the first two notes are each sustained for twice as long as the third will be and four times as long as each of the fourth and fifth notes will be. The measurable continuum of extension is real for Hume. The measurable continuum of duration is not.<sup>7</sup>

If McRae is correct, then Hume has no standard for judging (measuring) the length of time anything may last because no single thing lasts at all.

McRae is correct in pointing out that no single note provides the idea of succession, and therefore, that there is no standard for

judging the length of time any single note may last, in terms of that note alone. But McRae is mistaken in assuming that it is erroneous in Hume's view to judge the length of time any single note may last. In the first place, we know that the half note is not "perfectly indivisible", since after having heard the eighth notes we can see that the half notes could be divided into four separate parts, which would be eighth notes. Upon hearing the eighth notes we would realize, by comparison, that a half note is not the smallest possible division of time.<sup>8</sup> Secondly, since time is a relation it is the basis for a comparison. A temporal judgement may occur in the comparison of this succession with that more constant object. By comparing a succession of two quarter notes, for example, to one half note, we are fully justified in asserting the truth of the judgement that this note remained constant for the length of these other two notes. Judgements of duration are possible because we can compare the idea of this series of rapidly changing objects with the idea of that slowly changing object. In this manner, Hume accounts for a judgement regarding a "measurable continuum of time" that is neither fictional nor false. In fact, as we will see shortly, this comparison provides the basis for Hume's conception of the distinction between a permanent or identical object, and a succession of constantly changing objects.

## II. Identity

Hume's analysis of the philosophical relation of identity is found on two pages buried in the section "Of scepticism with regard to the senses" (T. 200-1). His intention in those pages is to discover a precise standard for judging the individuality of an object. The

relation of identity, or the "principium individuationis" (T. 199), must provide a method for judging whether or not an object is an individual. This relation plays a vital role in determining whether perceptions are caused by mind-independent, lasting objects, and in determining if the mind or self can be individuated in terms of an unifying mental object.

First Hume considers two conceptions of identity that fail to provide a standard for judging that relation. Then, using features of the rejected concepts, he produces a concept of identity that can serve as a precise standard of judgement. Of course, since this concept is a philosophical relation it is not derivable from a simple idea. The idea of identity cannot be obtained by "the view of any one object" (T. 200). Identity of this form is found in the tautology that an object is the same with itself, which is represented in the formal structure  $(x=x)$ . This concept is rejected on the basis that it is uninformative; it fails to tell us anything about the nature of the object in question.

For in that proposition, an object is the same with itself, if the idea express'd by the word, object, were no ways distinguish'd from that meant by itself; we really shou'd mean nothing, nor wou'd the proposition contain a predicate and a subject, which however are imply'd in this affirmation. One single object conveys the idea of unity, not that of identity (T. 200).

Hume considers a second conception of identity which indicates a strong resemblance between two objects. We might say, for example, that there are two objects which are identical in the sense that they share the same qualities, that is, they resemble in color, shape, and size. This conception of identity is represented in the formal structure  $(Fx=Fly)$ .

Yet, as Hume points out, this concept of identity must be rejected because it fails to individuate a single object. There is no identity of objects as long as they are at least numerically distinguishable; "However resembling they may be suppos'd" (T. 200). "Identity" in this sense produces the idea of a "multiplicity of objects", not a principle for judging an individual.

Hume explains that a proper conception of identity, that is, one that does not express unity or entail a multiplicity of objects, must "have recourse to the idea of time or duration" (T. 200). The identity of an object, then, is understood in terms of its having remained the same over a period of time. With this relation, however, we are not concerned with the amount of time an object remains an individual, but only with a method for judging that it is, or has been, an individual for some length of time. We know that an object is identical when we are certain that it has not changed over a period of time. But in order to be sure that the object in question has not changed, this standard requires an unbroken view of that object. In Hume's words,

Thus the principle of individuation is nothing but the invariableness and uninterruptedness of any object, thro' a suppos'd variation of time, by which the mind can trace it in the different periods of its existence, without any break of the view, and without being oblig'd to form the idea of multiplicity or number (T. 201).

If our view of an object is broken, even momentarily, then the judgment that "this object is the same from a perceived moment (say, time  $T_1$ ), through an unperceived moment ( $T_2$ ), and back to a perceived moment ( $T_3$ )" must be ruled false. The reason is because the evidence provides us only with the view of two objects, separated by a moment of time,

rather than of a single or identical object.

Identity, like all philosophical relations, is a comparison. In this case, the comparison is made between the constancy of the object in question and the idea of time produced by a succession of change of other objects. An identity judgement includes the idea of a unity, given by the constancy of the object, and the idea of a multiplicity of temporal moments; but these are distinct elements of identity. Therefore, an identity judgement is true if an object is known to remain the same over time and false if it is not. Although an object may be identical even though we do not have an unbroken view of it, the judgement that the object is identical must be false if there is a disagreement between the idea of identity and what is actually given in experience (T. 458). For example, I know that this cup is identical as long as I continue perceiving it and as long as I have a perception of time passing, such as might be given in a series of succeeding thoughts. However, without the temporal element, the relation is lost to the idea of a unity. And, if I should break my view of the cup, I am obliged to change my judgement from one of identity to that of a multiplicity of objects. A multiplicity of distinct perceptions, for Hume, is as good as a multiplicity of distinct objects, since the object at one moment could have passed out of view to be replaced by another resembling object found in my second observation.

Hume's method for formulating the idea of identity, which can provide a standard for judging instances of that relation, is quite different from his usual pattern of doing things. Generally he looks for an instance of the idea in experience and from that he formulates

the abstracted concept from which we discover the standard of judgement. We saw this pattern in his discussion of the relations of space and time. Examples of spatial-temporal relations are found in impressions, and from these we discover the essential features of coexistence (space) and succession (time). But in the analysis of identity we find him formulating the abstraction first by telling us what identity is not, and inferring what it must be. This reversed approach might lead some to think that Hume does not believe an example of identity can be derived from experience. But certainly there are many examples of identical objects encountered in experience. I know, for example, that this sheet of paper has lasted for the past few moments, at least during the time I have been staring at it trying to think of what I should write next. The abstraction of identity is that of any object that remains the same, or lasts, through a period of time. This is also the standard for judging identity relations.

Some of Hume's commentators find a difficulty in the suggestion that this relation entails the contradictory elements of constancy and change requisite for the idea of time. Robert McRae, for example, thinks that the relation of identity is, in Hume's opinion, a fiction or falsehood. David Wood argues that the idea of identity is a contradiction. Difficulties in McRae's account may be cleared up by examining Wood's argument first. Wood thinks that identity is a contradiction because it requires "both changelessness and time; but time implies change".<sup>9</sup> His mistake arises in the assumption that both the idea of sameness and the idea of time (change) must come from the same object. He fails to realize that this relation is a "subject of comparison" (T. 14), which means a comparison between different things. One object,

the one to which we ascribe identity, provides the idea of sameness by its being constant, another object, or rather a series of changing objects or ideas, provides the idea of time or succession. The idea of identity may be given in a single perceptual view; for example, I may have in sight a constant object with a clock in the background of my perceptual field. The motion of the second hand of the clock provides an idea of time which, when compared with the constancy of the other object, provides the idea of identity. Consequently, Wood's suggestion that "there can be no genuine attributions of the idea of identity" is mistaken.<sup>10</sup> Identity can be correctly ascribed to any object that remains the same during a period of time.

McRae tells us that Hume thinks that identity is a fiction or an error of judgement. It is supposed to be a "pure product of the imagination invented to mediate between unity and number".<sup>11</sup> McRae argues that the fiction of identity mediates between the contradictory elements of unity, given by the impression of constancy, and multiplicity, given by the changing impressions of a temporal relation. However, since identity is a relation between two kinds of objects, there is no contradiction which needs to be mediated in the first place.

### III. Applications of Perceptual Judgements

Despite the important role played by the philosophical relations of space and time in Hume's theory of causal judgement, judging these relations is largely unproblematic. In order to determine whether or not an object is, for example, contiguous and prior to another, we need only to observe such relations existing between them. Although

Hume clearly holds that the relation of identity is judged with equal ease and accuracy, the high standard he requires for such judgements seems to rule out common and apparently successful methods for determining the identity of objects. In this section we will discover why Hume demands the standard of a constant impression sustained through a variation of time for knowing the identity of an object.

At first blush Hume's standard for identity judgements appears too stringent. After all, we commonly think that we are assured of the identity of many objects which are not under constant surveillance. In fact, in most cases, identity judgements seem to rely more on the relation of cause and effect, than on the standard imposed by Hume. If, for example, I place a candle in this room, leave the room, and return later to find (at least) a resembling candle in the same place, I naturally assume that the candle I see upon my return is the same one I originally placed in that room. I make this judgement on the basis of my past experience with candles and other pertinent matters. I know that candles do not have a habit of changing places with other resembling candles. I know that the doors to my house are locked securely, so no one is able to sneak into that room and replace the original candle with a similar one. I also know, by past experience, that the cat is neither strong enough, nor sufficiently clever or interested, to have altered my experiment. Generally speaking, identity judgements are based upon our knowledge of the coherent behavior of objects, and Hume realizes this (T. 195). Yet upon close examination, coherence alone will not provide us with any certainty of the identity of an object, simply because the evidence presents us with a



multiplicity of objects, not an identity. But why is Hume so intent upon requiring us to use a standard for judging identity that is largely, though not completely, useless? Why could we not simply broaden the standard to include either a constancy or a coherence? The answers come in the use he makes of identity judgements. As it turns out, Hume requires the stringent standard mostly so that he may flog the metaphysicians, not the common man.

Recall that Hume's analysis of the philosophical relation of identity is found in the section "Of scepticism with regard to the senses". There is a good reason for this. In that section, Hume explores the metaphysical claim that objects external to an independent of mind cause impressions. This is accompanied by the belief that external objects are permanent, or at least more permanent than their appearances to mind. Hume provides us with an example of this assumption:

This very table, which we see white, and which we feel hard, is believed to exist, independent of our perception, and to be something external to our mind, which perceives it. Our presence bestows not being on it: our absence does not annihilate it. It preserves its existence uniform and entire, independent of the situation of intelligent beings, who perceive or contemplate it (E<sub>1</sub> 151-2).

This belief seems to arise from the predictable behavior or "coherence" of impressions, but Hume argues that the identity, and subsequent independence, of objects cannot be proven by the observation of causal relations between the perceptions.

Any degree, therefore, of regularity in our perceptions, can never be a foundation for us to infer a greater degree of regularity in some objects, which are not perceived; since this supposes a contradiction, viz. a habit acquired by

what was never present to the mind. But 'tis evident, that whenever we infer the continu'd existence of the objects of sense from their coherence, and the frequency of their union, 'tis in order to bestow on the objects a greater regularity than what is observ'd in our mere perceptions (T. 197).

Clearly, we are not justified in asserting the permanence of objects by examining the causal relations (coherence) of impressions. Causal relations between impressions tell us about the behavior or impressions, not of the objects that (might) cause them. This is what Hume means when he says that the inference from the coherence of impressions to the permanence of objects entails a greater degree of regularity assumed in the latter which is not supported in the evidence of the former. This proves that we cannot judge the lasting existence or identity of an impression-causing object by examining the causes found between impressions. Thus, the only way we might hope to prove that impressions are caused by external objects is by the philosophical relation of identity, in terms of the standard of constancy through time that Hume demands.

Since causal relations apply to different kinds of objects, there must be some basis for distinguishing impressions and the objects that cause them. That basis, Hume argues, must be found in the "different relations, connexions and durations" (T. 68) existing between the two.<sup>12</sup> In other words, we suppose both that objects are permanent and that they cause impressions. But before we might be able to assert the causal relation we must justify the distinction between impressions and external objects by showing that the latter are permanent while the former are not. Proof that external objects are permanent, and

subsequently independent from mind, would go some distance in proving that those are the things that cause impressions.

Identity, in its strictest sense, requires a constant perception for judging the existence of this relation; this evidence alone provides us with certainty of the (relative) permanence of an identical object. But the permanence of external objects is opposed to any permanence we might find in an impression; the identity of an impression is incapable of proving that an external object, causing the impression, lasts longer than the impression. Proof of this would require the perception of the external object actually outlasting the impression, but the identity of an external object requires the perception of an unperceived thing. From this, Hume draws the sceptical conclusion that we cannot know that impressions are caused by lasting objects external to mind. The reason is that we have no basis for judging that impressions are caused by external objects rather than by something else, such as God, for example (T. 84).

Interestingly, despite the sceptical conclusion, Hume does not think that the unknowability of the causes of our impressions endangers his theory of scientific knowledge. He explains that,

As to those impressions, which arise from the senses, their ultimate cause is, in my opinion, perfectly inexplicable by human reason, and 'twill always be impossible to decide with certainty, whether they arise immediately from the object, or are produc'd by the creative power of the mind, or are deriv'd from the author of our being. Nor is such a question any way material to our present purpose. We may draw inferences from the coherence of our perceptions, whether they be true or false; whether they represent nature justly, or be mere illusions of the senses (T. 84).

In fact, this is correct, if we see Hume's interest in terms of a theory of scientific judgement. Science is concerned with the causal relations between impressions, not the metaphysical causes of them. So science may continue to examine causal relations and discover the behavior of perceivable objects despite the fact that it may never know what causes these objects to become available to mind. Again, Hume tells us that there is no fear that scientific theories might be dispelled by metaphysical difficulties of a like sort discussed above:

Were I not afraid of appearing too philosophical, I should remind my reader of that famous doctrine, supposed to be fully proven in modern times, "That tastes and colors, and all other sensible qualities, lie not in the bodies, but merely in the senses." The case is the same with beauty and deformity, virtue and vice. This doctrine, however, takes off no more from the reality of the latter qualities, than from that of the former; nor need it give any umbrage either to critics or moralists. Though colors were allowed to lie only in the eye, would dyers or painters ever be less regarded or esteemed? There is a sufficient uniformity in the senses and feelings of mankind, to make all these qualities the objects of art and reasoning, and to have the greatest influence on life and manners. And as it is certain, that the discovery above mentioned in natural philosophy, makes no alteration on action and conduct, why should a like discovery in moral philosophy make any alteration?<sup>13</sup>

In this manner, Hume uses identity to show that we cannot be certain that our impressions are caused by permanent, external objects; but this scepticism does not impinge upon scientific inquiry.

It is important to realize that Hume is not sceptical about identity relations. An object is identical if it remains the same object over a period of time. The only way we can be certain that an object is identical is to observe its having remained unchanged through a temporal sequence. This relation alone can tell us whether or not an object

endures.<sup>14</sup>

We commonly assume that objects endure through unobserved moments of time, but Hume argues that this assumption is unprovable because it requires the observation of those things that are not observed. Although he is not sceptical of identity relations to tell us when something is known to be identical or not, he is sceptical of the claim that objects last longer than our perceptions of them. If we cannot prove that objects last longer than our perceptions, then we have no basis for knowing that the two are distinguishable. If we have no knowledge of a distinction between objects and perceptions, then we have no basis for postulating a causal relation between them. Thus, Hume uses the identity relation to argue the sceptical position that we do not know that perceptions (impressions) are caused by objects external to mind. But this does not mean that we do not have common knowledge of the objects of sensation. Rather it means that we do not know what causes these objects to be available to the mind. Impressions could be caused by external objects, by the "creative power of the mind", or by God--we can never know which. But scepticism about the cause of impressions does nothing to impinge upon our scientific knowledge of the observable world.

#### Notes to Chapter Four

1. Hume never tells us why he thinks that atomism is so crucial for his doctrine that space is a relation between objects.
2. R.W. Church, Hume's Theory of the Understanding (1935 rpt.; Westport, Connecticut: Greenwood Press, 1980), p. 58.
3. Tweyman, "Hume on Separating the Inseparable", p. 39.
4. Of course, we could have knowledge of past spatial and temporal relations of objects through memory. Memory plays a tacit role in Hume's theories of identity and causal judgements, but his view on that subject is somewhat confusing. Clearly, we could have no knowledge of causes and effects based on past experience, nor knowledge of the identity of objects, unless ideas of the memory had the evidential status of impressions. Sometimes Hume seems to think that they do; for example, he says that "ideas of the memory . . . are equivalent to impressions" (T. 82). Yet, he also voices some scepticism regarding judgements based on memory, as when he points out that it is "impossible to recal the past impressions, in order to compare them with our present ideas, and see whether their arrangement be exactly similar" (T. 85). Although I suppose that there must be some scepticism with regard to memory, on the whole Hume seems to be unconcerned with it, taking remembered ideas as being equivalent to impressions of the senses.
5. Robert McRae points this out in "The Import of Hume's Theory of Time", Hume Studies, VI (1980), p. 119. In fact, McRae is correct. In the Principles, Descartes says "because there is no substance which does not cease to exist when it ceases to endure, duration is only distinct from substance by thought [a distinction of reason]", see number 62, Descartes' Works, p. 245, Vol. 1.
6. McRae identifies "fiction" with "falsehood". I have already suggested, along with Peter Jones, that by "fiction" Hume means an hypothesis (see note 2 from chapter three). However, I am inclined to think that Hume means something more than a mere hypothesis by his use of "fiction". Things like external existence (T. 215) and personal identity (T. 225) are "fictions". By these, however, Hume does not mean false ideas, but rather ideas that are unverifiable. My suggestion is that by "fiction" Hume means a logical possibility that is empirically unverifiable.

7. McRae, pp. 122-3.
8. Of course, since we are dealing with mathematical fractions, this could also be known by demonstration.
9. David Wood, "Hume on Identity and Personal Identity", Australian Journal of Philosophy, 57 (1979), p. 73.
10. Ibid., p. 72.
11. McRae, p. 126.
12. This argument is explained in chapter two, section one.
13. David Hume, "The Sceptic", in Of the Standard of Taste and Other Essays, ed. John W. Lenz (Indianapolis: Bobbs-Merrill, 1965), p. 125, ln.
14. Hume also uses this relation to show that we can never know of the existence of an identical mind or self postulated by metaphysicians. In section I.IV.vi of the Treatise, he examines those senses of identity commonly attributed to "plants and animals" because there is "a great analogy betwixt it, and the identity of a self or person" (T. 253). But in the final analysis he finds these common uses of identity unsatisfactory because they fail to employ the standard of a constant and invariable impression. Hume warns that without this rigorous standard, as it must be used in any judgement concerning the identity of an object, "we have no just standard, by which we can decide any dispute concerning the time, when they acquire or lose a title to the name of identity" (T. 262).

## CHAPTER FIVE

### Causal Judgements

My efforts have been directed at formulating an interpretation of Hume that can accommodate his remarks on judgements and truth more easily than other interpretations. Perhaps by now the reader can see that it is not out of character for Hume to speak of methods of judging the truth and falsehood of scientific claims. This is a way of thinking about Hume which I hope to convey in the current examination of causal judgement. More specifically, I hope to show how Hume thinks that our knowledge claims about objects related by cause and effect can be judged true or false, and how we are justified in making such assertions.

I have shown throughout that Hume's theory of judgement depends upon his theory of relations. If this is correct, and if Hume has a theory of causal judgement, then we should find him arguing that causation is in fact a relation. I take this to be the point of his argument that the idea of cause and effect is not obtained from the impression of a quality found in causally situated objects.

Hume typically suggests that "To begin regularly, we must consider the idea of causation, and see from what origin it is deriv'd" (T. 74). If it is a simple idea, then according to the copy principle that idea must be produced from a simple impression. Hume argues that there is no simple impression which can produce that idea, since whenever he finds a quality in an object that might be causally efficacious he



finds other examples of causally situated objects that lack that particular quality.

At first sight I perceive, that I must not search for it in any of the particular qualities of the objects; since, which-ever of these qualities I pitch on, I find some object, that is not possest of it, and yet falls under the denomination of cause or effect. And indeed there is nothing existent, either externally or internally, which is not to be consider'd either as a cause or an effect; tho' 'tis plain there is no one quality, which universally belongs to all beings, and gives them a title to that denomination (T. 75).

He concludes that if the idea of causality is not simple, derived from the impression of a simple quality, then it must be a complex idea "deriv'd from some relation among objects" (T. 75). Our first task, then, will be to understand Hume's ontology of the causal relation. This will be examined in the first section (I), "Contiguity, Succession, and Necessary Connection".

In that section I shall argue that Hume's principal interest lies in determining a method of judging the causal necessity implied in the philosophical relation of cause and effect. However, before we can discuss that method we must understand in what ways Hume is not sceptical of causal judgement. This will be examined in the second section (II), "Scepticism and Causal Judgement". This section will clear the way for an examination of Hume's conception of an empirically verifiable necessary connection between objects, which will occur in the third section (III), "Proofs and Probabilities". I argue that Hume's distinction between a causal proof and a causal probability sets the groundwork for understanding how causal judgements are determined to be true or false. This is, in turn, clarified in the discussion of the

kinds of probability he admits, found in the fourth section (IV), "Chance and Probability". In the final section (V), "The Idea of Future Existence", I shall consider the distinction Hume draws between a causal belief and a judgement about that belief.

#### I. Contiguity, Succession, and Necessary Connection

Hume begins the analysis of causation by telling us that it is a relation composed of the three relations of contiguity, succession, and necessary connection. This means that every cause must be contiguous, prior, and necessarily connected to its effect. The first question that we must ask about this pronouncement is "How does Hume argue for it?", and given the direction of my interpretation, the second question must be "What does it have to do with causal judgement?" I shall argue that, for Hume, the contiguity, priority, and necessary connectedness of causation are implied a priori in the concepts of cause and effect. Since Hume thinks that this is proven early in the discussion (T. 75-7), we can assume that these ontological considerations, once accepted or presupposed, have very little to do with the issue of most concern to him. But if he is not concerned with arguing about the ontology of cause and effect, then with what issue is he so preoccupied? My suggestion is that Hume's principal concern with regard to causality is not metaphysical, as some would have it, but rather epistemological. In other words, once we accept the pronouncement that any cause must be contiguous, prior, and necessarily connected to its effect, the real task is to determine methods for judging when objects are so related. Actually, in Hume's system, the method for judging when one object is contiguous and prior (successive) to another is not problematic. These

are perceptually judged relations; we know when these relations exist between objects by observing the immediate impressions of the senses. However, judging the relation of necessary connection between ontologically independent objects is far more complex and, as we will see, Hume's principal efforts are directed at producing a method for judging the truth and falsehood of claims about this relation. Once we have methods for judging when an object is in fact contiguous, prior, and necessarily connected to another, then we have a method for judging the existence of a causal relation between objects.

The view that Hume's primary interest lies in determining a method for judging the truth and falsehood of a causal judgement, rather than with ontological concerns, is not acceptable to some. Thomas Beauchamp and Alexander Rosenberg insist that a correct view of Hume's theory of causation must emphasize metaphysical considerations over the epistemic considerations generally attributed to him.<sup>1</sup> This, I shall argue, is their first mistake. A good example of this way of thinking about Hume is found in their treatment of contiguity and succession in relation to causes and effects. Their second mistake is to assume that Hume's "empiricism" requires him to ground knowledge of ontological matters in experience.<sup>2</sup> Because they see the theory of causation as ontological, and because they see Hume as a complete empiricist, Beauchamp and Rosenberg expect Hume to produce empirical evidence for the existence of contiguity and succession between all causal objects.

Beauchamp and Rosenberg do not fail to notice that Hume in fact does argue that contiguity and succession are inherent in the concepts of cause and effect, but his arguments are based on a priori maxims

"he never troubles to substantiate".<sup>3</sup> They suggest that the theoretically constructed concept of a causal link, which Hume insists is necessary to explain observed instances of allegedly noncontiguous causes and effects,

. . . renders Hume epistemologically inconsistent, however, for he is insisting without empirical warrant, that there must be connecting causes (contiguous media), even if they cannot be observed.<sup>4</sup>

Accordingly, the maxim Hume uses to support succession fares no better in their view. Unable to see how Hume, the "empiricist", might prove the priority of causes to their effects, Beauchamp and Rosenberg rhetorically suggest that "we may well ask from what impression the idea of causal asymmetry [that causes must be prior to their effects] is derived".<sup>5</sup> Given their interest in saving the principles of contiguity and succession (asymmetry) for their own purposes, and given their inability to see how Hume's "empiricism" might support these principles, they argue that a viable Humean theory of causality can be rescued by eliminating the demands of empiricism. They insist that,

While this rebuke is deserved and reflects an inconsistency in Hume's thought, it is not a telling criticism against his philosophy of causation. The objection rests on an assumption that Hume must be unyielding in the protection of his empiricist demand that for every idea there exists a corresponding impression.<sup>6</sup>

The fundamental error here lies in thinking that Hume's ontological claims must be proven empirically. Not only is this untrue (recall Hume's a priori arguments supporting atomism), but proof that Hume does not think he is so restricted is found in the arguments used to demonstrate that causes and effects must be contiguous and successive. But, as we have seen in the third chapter, there is no warrant for the

view that Hume denies the validity of a priori arguments, nor that his system is incapable of justifying a priori truths. Hume's "empiricism", whatever that might mean, clearly does not mean there is no knowledge a priori. Moreover, if we find that Hume thinks he provides an a priori argument proving that all causes must be contiguous, successive, and necessarily connected to their effects, then we have also found where he is considering the ontological structure of the causal relation, that is, what the causal relation must be. Let us turn to Hume's discussion of contiguity.

I shall reproduce the argument in full because there are several parts I need to draw upon to show that Hume thinks he has proven that contiguity is inherent in the causal relation. He writes:

I find in the first place, that whatever objects are consider'd as causes or effects, are contiguous; and that nothing can operate in a time or place, which is ever so little remov'd from those of its existence. Tho' distant objects may sometimes seem productive of each other, they are commonly found upon examination to be link'd by a chain of causes, which are contiguous among themselves, and to the distant objects; and when in any particular instance we cannot discover this connexion, we still presume it to exist. We may therefore consider the relation of CONTIGUITY as essential to that of causation; at least may suppose it such . . . (T. 75).<sup>7</sup>

I am not concerned with the validity of the argument, only with showing that Hume thinks there are a priori reasons for believing that causes and effects must be contiguous. Notice that he asks us to reflect upon "whatever objects are consider'd as causes or effects". This is not an empirical examination of two objects which might be causally related; rather it concerns our concept of a causal object. This, in turn, is further supported by the maxim-like proposition that "nothing can

operate in a time or place, which is ever so little remov'd from those of its existence". From this maxim alone we can derive the a priori truth that causes and effects must be contiguous. Hume tells us that even if we should find a seeming counter-example to contiguity, "we still presume" that the objects are linked by continuous media. The conclusion to the argument is simply that contiguity is "essential" to the relation of cause and effect. Even after all of this, Hume asks that if we are not convinced we "may suppose it such"; but what is it we should presuppose? He is urging us to accept the view that if there is a cause, then it must be contiguous to its effect. This argument, then, is designed to illuminate the ontological structure of the causal relation.

Hume treats succession in the same way as he argues for contiguity. Stating the conclusion first, he says that the "second relation I shall observe as essential to causes and effects . . . [is] that of PRIORITY of time in the cause before the effect" (T. 75-6; emphasis added). Since he does not consider the possibility that an effect may precede its cause, and succession indicates that one or the other must be precedent, then proof of succession proves that a cause must be prior to its effect. Therefore, Hume is interested only in arguing that it is impossible that a cause and effect should occur simultaneously. The a priori argument proving that at least some part of the cause must occur before its effect is rather involved, so it will be examined in parts.

In Hume's words, he wants to show that it is logically impossible that a cause "shou'd precede its effect" in the sense that,

. . . any object or action, in the first moment of its existence, may exert its productive quality, and give rise to another object or action, perfectly co-temporary with itself (T. 76).

This argument is dependent on the "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; emphasis added).

The maxim explicates the conditions necessary for determining the causal relatedness of any individual object in an inactive but potential causal chain. For example, the powder held within the casing of a bullet is a potential causal object that exists "in its full perfection without producing" an effect, namely, the ejection of the bullet. The maxim states that the powder would not be the "sole cause" of the bullet's being ejected, when that effect occurs. The powder could not be the sole cause because sole causes are expected to act as soon as possible, though the powder is certainly a necessary causal condition in the chain.

Bertrand Russell clarifies this notion of sole cause in arguing the unlikelihood that,

. . . the cause after existing placidly for some time, should suddenly explode into the effect, when it might just as well have done so at any earlier time, or have gone on unchanged without producing its effect.<sup>8</sup>

The maxim provides a distinction between sole causes and causal conditions. An object existing for some length of time without producing an effect is not automatically ruled out of the causal relation. Such an object could not be the sole cause. These must produce an effect

immediately. Yet it is a proper part of the relation, since presumably, the possibility for such a relation could not exist without it. In keeping with the illustration above, the powder of a bullet would be a causal factor in the eventual ejection of the bullet, but not its sole cause. It could not be the sole cause, because sole causes react immediately.

With the maxim and the distinction between sole causes and causal conditions in mind, we may now understand Hume's a priori argument proving that causes and effects must be successive. He writes:

Now if any cause may be perfectly co-temporary with its effect, 'tis certain, according to this maxim, that they must all of them be so; since any one of them, which retards its operation for a single moment, exerts not itself at that very individual time, in which it might have operated; and therefore is no proper cause (T. 76).

Hume's point is that if it is logically possible for a cause and effect to begin in the same moment, then "according to this maxim" all true causes must begin at the same instant as their effects. The maxim implies that any cause must produce its effect immediately, except in the case of a causal condition, which does not become causal until some other object "pushes it from its state of inactivity". But if it is logically possible for a cause to begin at the same instant as the effect, then, logically, there could not be anything impeding the immediate effect. Hence, the logical possibility of a simultaneous cause requires that all causes be simultaneous with their effects; or in other words, the logical possibility of a simultaneous cause rules out the distinction between sole causes and causal conditions normally permitted by the maxim, thereby making every cause both sole and



simultaneous. Hume argues that this would mean,

. . . no less than the destruction of that succession of causes, which we observe in the world; and indeed, the utter annihilation of time. For if one cause were co-temporary with its effect, and this effect with its effect, and so on, 'tis plain there wou'd be no such thing as succession, and all objects must be co-existent (T. 76).

Thus the logical possibility of a cause being simultaneous with its effect requires that all causes and effects be simultaneous, which in turn destroys the logical possibility of temporal succession. Since causality is presupposed in this argument, as in the argument supporting the element of contiguity in causal relations, if one object succeeded another, then something must have caused its action. But if some causes occur at the same time as their effects, then succession could never be produced. Hume's conclusion is that it is logically impossible for even one cause to be "perfectly" simultaneous with its effect, and since effects cannot precede their causes, then it must be necessarily true that all causes are prior to their effects. Again, Hume can only prove that priority is "essential" to causal relations by presupposing causality in the first place.

The point of my duplicating this rather involved argument is to show, once again, that succession is part of the ontological structure of the causal relation. Hume concludes the argument, as he does for contiguity, with asking that if the argument is not deemed satisfactory "I beg the reader to allow me the same liberty, which I have us'd in the preceding case [contiguity], of supposing it such" (T. 76). So Hume urges that if we are not convinced by an a priori argument that all causes must be successive with their effects, then we may presuppose

the truth of this universal proposition. The foregoing proof that Hume thinks contiguity and succession are present in any causal relation indicates his ontological assertions about that relation. But what does all of this have to do with causal judgement?

If Hume takes care of the ontological analysis of the causal relation, at least concerning contiguity and succession, in two pages in the Treatise (T. 75-6), then it is a sure bet that the rest of Part III, of Book I are taken up with something other than ontological concerns. On my view, once we know (or presuppose) that the effect of a cause must be immediately successive with it, Hume's concern is to determine how we know when objects are contiguous and successive with one another. This will help us to identify which objects produce or cause which other objects. In fact, this is Hume's goal. He produces a list of eight rules for judging when causal objects "really are so [related]" (T. 173). The first two of these rules are derived from the ontological structure of the causal relation:

1. The cause and effect [as objects] must be contiguous in space and time.
2. The cause must be prior to the effect (T. 173).

So with the ontological structure of the causal relation firmly in mind, Hume proceeds to determine methods for judging when objects are known to be causally related. As mentioned earlier, contiguity and succession are determined by an immediate impression of the senses. But our judgements about the contiguity and priority of objects are more important than merely two parts of the causal relation.

Contiguity brings the objects in a causal relation together, while priority individuates them temporally. Without contiguity we

would be at a loss to determine which of all previously occurring objects was the true cause of the effect. On the other hand, without priority we could not determine which object was the cause and which was the effect. I know which of the two objects is the cause because causes must begin to occur immediately prior to their effects. Furthermore, the relations of contiguity and succession are essential for distinguishing causally related objects from those that are merely necessarily connected. The smell and color of an apple, for example, are necessarily connected, but these qualities are not temporally distinguishable in a determinate manner. This indicates that the smell and color of an apple is not a relation of cause and effect. Despite the clear temptation to identify the relations of causation and necessary connection in Hume's system, he explicitly tells us that the latter, though an "essential" element of causation, is still only a "part" of that relation (T. 409, E<sub>1</sub> 97). Further proof that Hume does not identify the relations of causation and necessary connection is found in the definitions he provides for those relations. Necessary connection is defined exactly as causation, except for the evident exclusion of priority and contiguity (T. 409, E<sub>1</sub> 97; compare "cause" defined at T. 170, E<sub>1</sub> 76-7). Although contiguity and priority are "essential" or "requisite circumstance[s]" (A. 649) to the relation of cause and effect, Hume warns that they are not sufficient conditions for that relation. He explains that,

An object may be contiguous and prior to another, without being consider'd as its cause. There is a NECESSARY CONNEXION to be taken into consideration; and that relation is of much greater importance, than any of the other two above-mention'd (T. 77).

Here again I shall argue that the relation of necessary connection is accepted by Hume as an inherent element of the ontological structure of the causal relation. In other words, Hume believes that if there is a cause, then it must be necessarily connected with its effect. Interestingly, however, with this there is apparently no argument from Beauchamp and Rosenberg. They argue that,

Hume's task of describing how the idea of necessary connection is essential to the idea of causation is carried out by showing that the latter idea would be disastrously diminished were the former removed and that there would then be no basis for causal inference.<sup>9</sup>

It is odd that Beauchamp and Rosenberg find it acceptable that Hume should argue a priori that without necessary connection, cause and effect would not be meaningful, but object to this kind of reasoning when Hume uses it to prove that contiguity and succession are related to causation in the same manner. Nonetheless, I shall argue that Hume treats necessary connection as part of the ontology of causation in the same way he deals with contiguity. I shall carry this argument through, as I did in the case of the other two relations, and show that once the ontological link between necessary connection and causality is accepted as being true a priori, Hume turns his attention to the problem of judging instances of necessary connections between objects.

It seems that everyone who reads Hume realizes that he argues that there is something about the relation of cause and effect that is not known a priori. But, it seems to me, that no one has noticed that there are a variety of possible suggestions as to what it might be that Hume thinks is not known a priori. I shall give examples of at

least three choices we are confronted with. The first is that Hume denies the a priori status of the claim that all effects have causes. J.L. Mackie, for example, tells us that Hume argues "that there can be no demonstrative proof of the principle that every event has a cause".<sup>10</sup> The second is that Hume denies the a priori status of the claim that particular causal objects are necessarily related in an a priori sense. B.M. Laing thinks that this is Hume's position and, accordingly, that he must be primarily concerned with the question "how we come to apply the term cause to one object and term effect to another", that is, how causal relations between particular objects are judged.<sup>11</sup> The third alternative is that Hume denies the a priori status of both possibilities. MacNabb, for example, argues that,

Hume found all inferences from the existence of one object to that of another are nondemonstrative and based on the relation of cause and effect. He then showed that they are not even indirectly demonstrative, for neither any specific causal relation, nor the proposition that every event has a cause . . . can be known either by intuition or demonstration.<sup>12</sup>

I shall argue against Mackie and MacNabb that, as with contiguity and succession, the relation of necessary connection is an integral feature of Hume's ontology of the causal relation. In other words, Hume thinks, as he must, that if there is a cause, then there must be an effect, that is, all effects necessarily have causes. But if this is true, then what is there about the relation of cause and effect that is not known a priori? My suggestion, along the lines of Laing, Beauchamp and Rosenberg, is that Hume argues that there is no a priori known connection between the particular objects in a causal relation. If true, then Hume's concern is to provide a method for judging the truth and

and falsehood of our knowledge claims about the empirically known relations between objects. In short, I shall argue, for Hume, although we know a priori that if something is a cause then it must necessarily have an effect (in the same way that it must be contiguous and successive with that effect), we do not know a priori which objects in the world produce or cause which other objects.

The parallels between Hume's discussion of contiguity and succession, and necessary connection are important for my argument. In connection with his consideration of the former two relations I argued that Hume established these as being "essential" elements for the ontology of the causal relation. Once proven or presupposed to be inherent in that relation, Hume shifts his concern to the problems connected with judging instances of these relations among objects. He does the very same thing with necessary connection.

Hume insists, for example, that the relation of necessary connection "makes an essential part" of the relation of cause and effect (T. 409, E<sub>1</sub> 97). In fact this is correct. When we say that something is a cause we mean that it must produce an effect. Hume briefly mentions those "who say, that every effect must have a cause, because 'tis impli'd in the very idea of effect". But he does not say that this principle is not true a priori, but rather than it simply "does not prove" anything regarding the relations found between particular objects or "beings":

Every effect necessarily pre-supposes a cause; effect being a relative term, of which cause is the correlative. But this does not prove, that every being must be preceded by a cause; no more than it follows, because every husband must have

a wife, that therefore every man must be marry'd  
(T. 82).

The conjugal analogy further demonstrates Hume's intent to distinguish the ontological structure of causation from the relations between particular objects. The truths found in the relations of concepts such as "husband" and "wife" provide no knowledge of factual claims, such as those concerning the marital status of individual men. Thus, Hume does not deny the validity of the a priori principle that "every effect necessarily presupposes a cause", but he does deny its applicability to factual knowledge of particular objects. In so doing, he also denies the possibility of obtaining knowledge of causal relations between objects by a priori means. In fact, as we will see in the following section, that is the true target of Hume's argument against the possibility of an a priori connection between causes and effects. Further proof of my interpretation is found in the fact that, once this ontological point is accepted, Hume moves on to consider the problems connected with judging instances of these relations among objects. Unfortunately, the bulk of my proof must consist in a rather dry, albeit careful, exegetical analysis.

Proof that Hume's analysis of causal relations concerns only particular objects is found in the Enquiry:

I shall venture to affirm, as a general proposition, which admits of no exception, that the knowledge of this relation [of cause and effect] is not, in any instance, attained by reasonings a priori; but arises entirely from experience, when we find that any particular objects are constantly conjoined with each other (E<sub>1</sub> 27; emphasis added).

In the Abstract he also points out that,

'Tis evident, that all reasonings concerning matter of fact are founded on the relation of cause and effect, and that we can never infer the existence of one object from another, unless they be connected together, either mediately or immediately (A. 649).

(The connection between particular objects referred to in this passage is "founded on experience", not by a priori inference (A. 651).) It is only in the Treatise that Hume makes a statement about causal relations that might not be taken, prima facie, to be about objects. This is found in the ambiguous maxim "whatever begins to exist must have a cause of existence". Yet an examination of the Treatise will show that the denial of the a priori status of this maxim refers to the connection between particular objects.

In the section before the one where this maxim is formulated (T. I.III.ii), Hume discusses the idea of causal necessity, a discussion he temporarily abandons to pose two related questions:

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

Secondly, Why 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 (T. 78)?

Clearly, the second of these questions deals with the causal relation as it concerns "particular causes". Hume spends most of Part III investigating this question; from section iv to the beginning of section xiv. He returns to the first question in section xiv. The first question is translated into the maxim "whatever begins to exist must have a cause of existence", which is later related as "What is our idea of necessity, when we say that two objects are necessarily



connected together?" (T. 155). In this we find that the original maxim concerns the idea of causality or necessity as it pertains to "two" particular objects. Again, in the Treatise, Hume formulates the causal maxim in the question regarding particular objects as:

The true state of the question is, whether every object, which begins to exist, must owe its existence to a cause . . . (T. 82; emphasis added).

Hence the maxim "whatever begins to exist must have a cause of existence" is about the relations between particular objects. Hume's assertion that no a priori connection can be found in this proposition is a denial of a priori connections between particular objects and not of the necessity implied in our concepts of cause and effect. Consequently, his attack on the causal maxim is not to be taken as an attack on the a priori principle that all effects have causes. Rather it is an attack on the view that there is an a priori connection between particular causal objects. This kind of connection, which Hume denies, would permit us to judge a priori which objects produced which other objects. Hume's argument opposing this view should be reviewed.

As we have seen, for Hume, things are either of one kind or they are not. We know that things are not of a kind when we can imagine them to be separate or distinct. Although we cannot imagine a cause, per se, without an effect, we can imagine one object which we might call a "cause" to be distinct from another object which we might call an "effect". Hume argues that any relation between particular objects, which we might assume are causally related, can be imagined not to exist as easily as it might be imagined to exist. He explains that,

The contrary of every matter of fact is still possible; because it can never imply a contra-

diction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. That the sun will not rise to-morrow is no less intelligible a proposition, and implies no more contradiction than the affirmation, that it will rise. We should in vain, therefore, attempt to demonstrate its falsehood. Were it demonstratively false, it would imply a contradiction, and could never be distinctly conceived by the mind (E<sub>1</sub> 26).

The reason that we can imagine the contrary of any matter of fact is because the causal relation between particular objects or facts is not necessary a priori, that is, the objects are of different kinds. Since the objects are of different kinds, we are incapable of determining the causal relations between one kind and another by examining the concepts of the objects employed. Hume points out that,

In a word, then, every effect is a distinct event from its cause. It could not, therefore, be discovered in [the concept of] the cause, and the first invention or conception of it, a priori, must be entirely arbitrary. And even after it is suggested, the conjunction of it with the cause must appear equally arbitrary; since there are always many other effects, which, to reason, must seem fully as consistent and natural. In vain, therefore, should we pretend to determine any single event, or infer any cause of effect, without the assistance of observation and experience (E<sub>1</sub> 30; compare E<sub>1</sub> 29).

This argument also appears in the Treatise where Hume says 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. Such an inference wou'd amount to [a priori] knowledge, and wou'd imply the absolute contradiction and impossibility of conceiving any thing different (T. 86-7).

Hume's point is that judgements regarding the causal relatedness of objects, that is, their necessary connections, must be determined empirically.

Now we can step back and look at the overall picture to determine precisely Hume's intentions in his analysis of the causal relation. First, we know by a priori arguments, or at least presuppose, that the ontology of the causal relation requires that any cause must be contiguous, prior, and necessarily connected to its effect. But how are we to judge when objects actually fall into these relations? Hume tells us that the relations of contiguity and succession are judged by an immediate impression of the senses. There are no real problems here. Necessary connection, on the other hand, implies the constancy of the relation through more than can be verified in an immediate impression, so it cannot be judged perceptually. Furthermore, this relation cannot be judged by a priori means, because the concept of one object (the cause) is not given in the concept of the other object (the effect). Thus the necessary connection between causes and effects, demanded in the ontology of that relation, must be judged empirically. Moreover, since it is an empirically judged relation, Hume must discover some conception of necessity between objects which can be judged by experience. This conception, which I shall call "empirical necessity", provides the basis for judging the truth and falsehood of knowledge claims about causes and effects. However, before examining that concept (in the third section), I shall look at some of the other arguments that might be used to show that Hume does not provide a basis for causal judgement.

## II. Scepticism and Causal Judgement

Hume argues that causal judgements cannot be justified on a priori grounds. From this, some of his readers conclude that he is

sceptical of causal judgements. This scepticism is seen as being more forceful than the view that Hume simply meant that causal truths are not certain in the same way that a priori truths are certain. The radical scepticism found in this view is supported by two arguments. The first argument, propounded by D.C. Stove, for example, is that causal judgements and inductive arguments are unreasonable because they cannot be known a priori. But this view tends to confuse Hume's argument against the deductive validity of causal judgements with their unjustifiability. The second argument, propounded by Kemp Smith, for example, suggests that Hume links "knowledge" with a priori judgements and mere "belief" with causal judgements. The inference is that although we can be certain of a priori connections, we cannot be certain of empirical (causal) connections. This view fails to notice the textual evidence for assuming that Hume recognizes a distinction between believing and judging the truth of an a priori relation, and a distinction between believing and judging the truth of a causal relation. Proof of this claim, coupled with further textual considerations, suggests that Hume recognizes a distinction between two kinds of certainty grounded in distinct concepts of necessity. One is derived from the necessity found in a priori relations, while the other is derived from a different kind of necessity found in the causal relations between objects. I shall argue that Hume thinks there is a sound method for determining the truth or falsehood of causal judgements grounded in the second concept of necessity. Since this argument must begin by proving that Hume asserted the justifiability of causal judgements, it is supported primarily by textual considerations. The following section will

show how Hume believed we can know these kinds of connections.

If we can be certain that two objects are necessarily connected, in some sense, then we are justified in asserting the truth of the causal judgement, provided, of course, that the conditions of contiguity and succession are also met. But some of Hume's commentators assume that the argument against the a priori validity of an empirically verifiable necessary connection proves that no certainty of such a connection is possible. The conclusion is that causal judgements are unreasonable, and that we are never justified in asserting the truth of a causal judgement. D.C. Stove supports this interpretation by imputing to Hume the tacit premise that if an argument form is invalid, then it is also unreasonable. Stove explains that,

Hume's argument . . . may therefore be summed up in the following way: from premisses which prove at most the invalidity of predictive-inductive inferences, along with the unstated premiss that an inference is unreasonable if it is invalid, Hume concluded that predictive-inductive inferences are unreasonable.<sup>13</sup>

Contrary to Stove, Hume shows that no causal judgement is demonstrably justified by its premisses, but he does not conclude that causal judgements are unreasonable in the sense that they cannot be judged true or false. Recall that for Hume, "Reason is the discovery of truth or falshood", which is applicable equally to both a priori judgements and those concerning "real existence and matter of fact" (T. 458). The latter includes those objects of reason known in terms of the causal relation ( $E_1$  25-6).

Realizing that Hume produces arguments demonstrating that causal judgements cannot be grounded by a priori means, Penelhum unjustly

concludes that judgements about the relation of cause and effect must, in principle, be ungrounded. This view depends on the assumption that, for Hume, certain truth is possible only for a priori judgements, thereby requiring that truth must be impossible for any other kind of judgement. Penelhum, in agreement with Stove, argues that,

As D.C. Stove insists, Hume's inductive scepticism depends entirely on his deductivism. His scepticism is the view that no proposition which is not itself observed to be true is rendered more likely true by the citation of evidence from experience. His deductivism is the view that an argument gives no rational warrant for its conclusion if the inference to that conclusion is not deductively valid. Since Hume is clearly right when he tells us that inductive reasoning is not deductively valid, there can be no doubt that if one accepts his deductivism, his scepticism about induction follows.<sup>14</sup>

However, this interpretation fails to recognize Hume's tacit distinction between an argument against the possibility of justifying causal judgements because they are not knowable a priori and an argument demonstrating merely that causal reasoning is not justifiable on a priori grounds. Both Stove and Penelhum have simply overstated Hume's case, taking the latter as proof of the former. Hume's argument against the a priori grounding of causal judgements is intended only to show that causal reasoning fails to admit of the same kind of certainty and truth found in a priori reasoning because it demands a different kind of evidence (E<sub>1</sub> 25), and not that causal judgements fail to admit of certainty at all. Beauchamp and Rosenberg tacitly depend on this distinction to prove that "Hume's intentions have been misrepresented" and that he is "not sceptical about causal reasoning itself". Instead they rightly conclude that,

[Hume] is concerned to show that inductive reasoning can provide neither self-evident certainty nor the logical necessity that uniquely characterizes demonstrative reasoning (a priori reasoning), and also that demonstrative reasoning cannot prove matters of fact by its own resources alone.<sup>15</sup>

Evidence for Hume's recognition of the distinction above is found in the explicit division he makes between two kinds of truth (T. 448, 458), and corresponding kinds of "evidence" needed to justify both a priori and empirical judgements (E<sub>1</sub> 25). Further proof for the view that Hume is not sceptical in regards to causal truth is found in his letters.

In a note to John Stewart (1754), Hume clearly warns against the kind of misunderstanding found in the interpretation by Stove and Penelhum. He explains that,

. . . I never asserted so absurd a Proposition as that any thing might arise without a Cause; I only maintain'd that our Certainty of the Falshood of the Proposition proceded neither from Intuition nor Demonstration; but from another Source.<sup>16</sup>

Nine years earlier in "A Letter From a Gentleman to His Friend in Edinburgh" (1745), Hume wrote that his analysis of the proposition "that whatever [object] begins to exist must have a cause of existence" was intended merely,

. . . to examine the Grounds of that Proposition; he [Hume] used the Freedom of disputing the common Opinion, that it was founded on demonstrative or intuitive Certainty; but asserts, that it is supported by Moral Evidence, and is followed by a Conviction of the same Kind with these Truths, That all Men must die, and that the Sun will rise Tomorrow.<sup>17</sup>

Hume rhetorically asks, "Is this any Thing like denying the Truth of that Proposition, which indeed a Man must have lost all common Sense to doubt of?"<sup>18</sup> Thus, Hume's argument against the deductive validity

of causal judgements was never intended to cast suspicion on the certainty found in causal reasoning, but rather simply to show that causal judgements have no a priori grounding.

Hume's continued insistence that causal judgements can be known to be true or false and that we can acquire certainty in these judgements, coupled with his argument that no causal connection can be known a priori, points to the possibility that Hume has a concept of an empirically verifiable necessity in mind. Although no amount of certainty will get us an unimaginable contrary, as is found in a priori judgements, there is a distinct kind of certainty by which we can know of causal necessity. However, before examining the concept of empirical necessity that underlies Hume's theory of causal judgement, we should turn to the evidence Kemp Smith uses to support a sceptical reading of Hume's view of causal judgement.

In the final analysis Kemp Smith argues that Hume is not sceptical of causal reasoning. But this view depends on the naturalistic interpretation, which holds that, although we cannot know of causal relations, we believe our judgements because it is our nature to do so. The naturalistic interpretation is dependent on proving that, at first, Hume argues against the possibility of justifying causal judgements, that is, Kemp Smith's naturalistic interpretation depends on proving that Hume is initially sceptical of causal judgements. He bases this view on passages in the Treatise, where Hume seems to say that, although we may "believe" that we can determine the truth of causal judgements, we can never "know" these truths.

Kemp Smith argues that Hume follows Locke in distinguishing



knowledge and belief in so far as only a priori judgements are objects of knowledge, while causal judgements are merely the objects of belief. The result is that only a priori judgements are capable of being truly certain. Kemp Smith explains that,

. . . belief Hume defines in contradistinction to knowledge. Knowledge and belief are mutually exclusive of one another. Each has its own domain, into which the other may not intrude;

so that a priori knowledge "yields the higher type of assurance".<sup>19</sup>

Locke does distinguish between belief and knowledge. He explains that,

. . . Moral Truth, which is speaking [of] Things according to the persuasion of our own Minds, though the Proposition we speak agree not to the reality of Things.<sup>20</sup>

These pseudo-truths are described in terms of belief, rather than of knowledge. Locke's definition of belief carries the same subtle reference to "perswasion" found in the definition of "moral truth":

The entertainment the Mind gives this sort of Proposition is called Belief, Assent, or Opinion, which is the admitting or receiving any Proposition for true, upon Arguments or Proofs that are found to persuade us to receive it as true, without certain Knowledge that it is so.<sup>21</sup>

Kemp Smith argues that Hume agrees with Locke's restrictive division between knowledge and belief, and that, for Hume, as with Locke, causal judgements must be placed in the category of belief rather than of knowledge. However, there is some rather explicit evidence indicating that Hume disagrees with Locke's view on this matter. This evidence casts suspicion on Kemp Smith's interpretation.

Locke's distinction is based on the notion of evidence that is possible either a priori or by immediate perception. This requires

that any proposition regarding matters of fact and existence beyond the senses is unable to be determined with certainty; hence it is called "belief". Given the way Locke distinguishes knowledge and belief, as presented by Kemp Smith, Hume recognizes that no knowledge is possible for causal judgements. If Hume accepts this distinction, as Kemp Smith suggests he does, then Hume must conclude in agreement with Locke that causal judgements are uncertain. But this is not his conclusion. By demonstrating that causal judgements are not determined a priori, nor by an immediate perception, Hume does not conclude that causal judgements must be uncertain, or unable to provide truth, but rather that Locke's distinction must go. In a specific rebuttal, Hume argues that,

Mr. Locke divides all arguments into demonstrative and probable. In this view, we must say, that it is only probable all men must die, or that the sun will rise to-morrow. But to conform our language more to common use, we ought to divide arguments into demonstrations, proofs, and probabilities. By proofs meaning such arguments from experience as leave no room for doubt or opposition (E<sub>1</sub> 56n.).

Earlier in the Treatise, Hume had proposed the same distinction. Given Hume's argument that causal reasoning is not grounded by the a priori relations of ideas, he points out that,

Those philosophers, who have divided human reason into knowledge and probability, and have defin'd the first to be that evidence, which arises from the comparison of ideas, are oblig'd to comprehend all our arguments from causes and effects under the general term of probability.

But he finds this distinction to be somewhat deficient:

. . . 'tis however certain, that in common discourse we readily affirm, that many arguments from causation exceed probability, and may be received as a superior kind of evidence.

This Lockean distinction is then amended to include "proofs", which are not grounded a priori, yet are a "superior kind of evidence" as opposed to mere probabilities:

By knowledge, I mean the assurance arising from the comparison of ideas. By proofs, those arguments, which are entirely free from doubt and uncertainty. By probability, that evidence, which is still attended with uncertainty (T. 124).

In both the Treatise and the first Enquiry Hume underlines his belief that causal proofs, though not grounded a priori, must be distinguished from uncertain probabilities. Contrary to Kemp Smith's claim, he gives no hint that proofs, which are derived from the relation of cause and effect, must be considered as any less certain than a priori judgments, since both are capable of yielding certain truths within their respective domains. Proofs are "entirely free from doubt and uncertainty", and "leave no room for doubt and opposition", indicating Hume's explicit rejection of Locke's proposal that all causal judgments must be placed in the less than certain category of belief. In one of the few times Hume chose to defend his views publicly, he argues that the distinction between a priori evidence obtained by intuition and demonstration, and proofs or the "moral" evidence<sup>22</sup> obtained by causal reasoning, marks a "difference" between the kinds of evidence that provide certainty, not a "superiority" of one kind over another. Hume carefully notes that,

It is common for Philosophers to distinguish the Kinds of Evidence into intuitive, demonstrative, sensible, and, moral: by which they intend only to mark a Difference betwixt them, not to denote a Superiority of one above another. Moral Certainty may reach as high a degree of Mathematical; and our Senses are surely to be comprised amongst the clearest and most convincing of all Evidences.<sup>23</sup>

Consequently, Hume's distinctions among the different kinds of evidence should not be confused with Locke's distinction between knowledge and probability, nor should it be assumed that Hume argued that causal judgements are necessarily less certain simply because they are not grounded a priori. There is further evidence for this interpretation as a replacement of Kemp Smith's.

For Kemp Smith's interpretation to be convincing we should find an explicit distinction in Hume between psychological and epistemological truth, such as may be found in Locke's Essay (IV.v.11.), or perhaps a distinction between an epistemologically grounded a priori certainty and a mere psychologically grounded feeling of causal certainty. Yet, contrary to Kemp Smith, Hume does not appear to distinguish kinds of truth into epistemological and psychological categories. In fact, he seems to be more comfortable with Leibniz's distinction between "truths of reason" and "truths of fact". This distinction is based on the differences between the kinds of objects being considered rather than between the psychological conditions of the mind's acceptance of them, such as is found in Hume's distinction between the relations of ideas and matter of fact.<sup>24</sup> Moreover, Hume's mention of causal certainty and truth provides no textual indication that "certainty" may be divided into the psychological realm containing only causal judgements, and the epistemological realm containing only a priori judgements (compare, T. 124, E<sub>1</sub> 25-6, 56n.). Although Hume most certainly must recognize the difference between a psychological feeling of certainty and true judgement, there is no textual evidence indicating that causal judgements may not rise above such a feeling, nor that

a priori judgements may not descend to it. Furthermore, support for a Lockean distinction between "a priori knowledge" and "causal belief", as Kemp Smith sees it, demands that Hume not reverse the two and speak of a priori beliefs or causal knowledge. Kemp Smith certainly seems to think that Hume would not speak in such terms: "That 3 and 2 are 5 is an absolutely certain judgement. To talk of believing it is meaningless; it is known", while on the other hand, empirical "matters must therefore always remain on the lower level" of belief.<sup>25</sup> However, Hume does speak meaningfully of a priori "beliefs" (T. 95), and of causal "knowledge" and "knowledge of matters of fact" (E<sub>1</sub> 27, 28, 41). On this textual evidence, it seems that Kemp Smith's division between "a priori knowledge" and mere "causal belief" must retire. (I would suggest that Hume's variant use of "knowledge" in the two works may be attributed to his own admission that "some negligences in his former reasoning [in the Treatise] and more in expression, are . . . corrected [in the first Enquiry!]" (E<sub>1</sub> 2; emphasis added).)

The foregoing conclusion suggests that there is a more complex structure in the relationship between belief and knowledge in Hume's system that is allowed for in either the sceptical or naturalistic interpretations. Both kinds of reasoned judgements, that is, a priori demonstrations and causal proofs, have grounds of belief as well as grounds for knowledge. For example, superior vivacity is the ground for believing in the existence of a causal connection between two objects, whereas we are justified in asserting the truth of an existential claim about a causal relation by a comparison of the idea of necessary connection with the relation found in experience. But, as

we can see, in order to assert the existence of a causal relation, there must be an idea of necessary connection that can be judged empirically.

### III. Proofs and Probabilities

The idea of necessary connection as it is implied in the philosophical relation of cause and effect is found in Hume's distinction between proofs and probabilities. From one point of view, proofs and probabilities are the same kind of arguments, that is, both are empirical. Yet from another point of view these are different kinds of arguments, that is, the first is capable of providing certainty while the latter is not. But we must ask how Hume is justified in distinguishing between the two. This will tell us how we may identify a proof and why it is certain, whereas a probability is not.

Since causal objects are individuated by a real distinction, there can be no real (a priori) connection between them. Hume concludes that a true causal connection between objects must be seen in terms of the conjunction of objects. For example, the causal connection between billiard balls hitting and moving one another is a conjunction, not a real connection, between these distinct objects. Furthermore, since there is no real connection, there is no a priori known necessity. So the necessity implied in the causal connections between objects must be seen in terms of the constancy of that conjunction of objects. Thus, the philosophical relation of necessary connection, as it is implied in the philosophical relation of cause and effect, is defined as "the constant union and conjunction of like objects" (T. 409), or simply as "the constant conjunction of like objects" (E<sub>1</sub> 97). The

distinction, therefore, between a proof and a probability is that between an exceptionless conjunction of objects and an inconstant or irregular conjunction of objects. Constancy alone permits the distinction between proofs and probabilities; a judgement,

. . . is founded on past experience, so it varies with the experience, and is regarded as a proof or a probability, according as the conjunction between any particular kind of report and any kind of object has been found to be constant or variable ( $E_1$  112).

An "empirical necessity", then, as I call it, occurs when there are no exceptions to a constant conjunction of like objects. But how does Hume think we are justified in asserting the existence of a necessary connection simply on the basis of the constancy of the conjunction of objects?

To argue that empirical necessities are in principle impossible, meaningless, or unjustifiable because the contrary of any alleged empirical necessity is conceivable merely supports the observation that empirical necessities are not known a priori. Furthermore, any argument attempting to demonstrate the impossibility of a non-a priori necessity neglects the distinction between empirical necessities and probabilities, neither of which are a priori. Since both empirically verifiable necessities and probabilities fail the test of a priori inseparability, some other means must be found for distinguishing between the two. This distinction is commonly made on the basis of previous conjunctions between any two so related objects, wherein those that have been without exception are designated as necessities (proofs), and those that have been with at least one exception are designated as probabilities. In other words, the distinction between

proofs and probabilities cannot be determined on the basis of the test of imagined separability, as can the distinction between a priori or "real" connections and empirical or contingent connections, since both proofs and probabilities have this characteristic in common. Since all empirical judgements may be justified by experience, the distinction between proofs and probabilities can only be in terms of the existence of actual contrary outcomes. Moreover, since an imagined a priori possibility is not empirically justified, it takes on the characteristic of an unproven hypothesis, which does not affect the truth of any empirical judgement.

Here we are searching for a meaningful concept of, what I shall call, an empirical possibility. With this we would be justified in arguing that it is impossible that a true causal relation could occur differently because there is no empirical evidence that such a possibility could happen. Notice that the statement that an empirical necessity could have occurred in such and such a manner employs the "could" of logical or a priori possibility. In this case, the assumption that the relation "C causes E" logically could have been different is granted in the argument demonstrating that causal necessity is not known by an a priori connection. Consequently, the "could" employed for any empirical proposition must imply a factual (empirically proven) possibility that becomes real only upon the presentation of evidence that it did occur in a manner contrary to usual experience. In this case, the original causal judgement would no longer be a necessity, but merely a probability. The distinction between logical and empirical possibilities is supported by Leibniz. He suggests that,



Possibility can be known either a priori or a posteriori; it is known apriori when we resolve the notion into its requisites or into other notions the possibility of which is already established, and when we find in it no incompatibility. . . . We know the possibility aposteriori when we know by experience that the thing actually exists; for whatever actually exists or has existed is certainly possible.<sup>26</sup>

Thus, empirical judgements are determined to be either necessary or probable on the basis of whether or not there are observed counterinstances to the judgement. Empirical necessities have no empirical counterinstances, proving a factual possibility, while probabilities do. For Hume, a priori possibilities are found in anything imaginable; if it is imaginable, then it is possible in this sense. But an empirical possibility is an instance where the existence of an object is guaranteed by the empirical evidence that such an object in fact existed:

We may observe, that there is no probability so great as not to allow of a contrary possibility; because otherwise 'twould cease to be a probability, and wou'd become a certainty [a proof]. That probability of causes, which is most extensive . . . depends on a contrariety of experiments; and 'tis evident an experiment in the past proves at least a possibility for the future (T. 135).

There is some confusion in Hume's terminology that should be examined briefly, so that the evidence for my view, cited in this passage, may be properly understood.

In the Treatise an a priori known connection between things is possible because the relations between the relata are necessary, whereas the relations between distinct objects are only contingent. So in comparison with a priori known relations, all empirically known relations are contingent. In this Hume distinguishes between "knowledge

and probability". But, within the category of "reasoned" empirical judgements, there is a further division between those that are "necessary" (proofs) and those that are "contingent" (probabilities). This distinction is evident at Treatise, page 124. So that when Hume says "there is no probability so great as not to allow of a contrary possibility; because otherwise 'twould cease to be a probability, and wou'd become a certainty" (at T. 135), "probability" here refers to an empirical probability as opposed to a proof or "certainty". (Notice that this passage occurs in the section entitled "Of the probability of causes", which is different from all empirical reasonings designated as merely probable as compared to a priori judgements.) Now we have a conception of necessary connection as a relation between distinct objects that is "more than probable" (E<sub>1</sub> 114).

Hume concludes that causation as a philosophical relation implies contiguity, succession, and necessary connection. We judge contiguity and succession by immediate impressions. Since necessary connection, as a philosophical relation or comparison, is nothing more than the "utmost constancy" of a conjunction between like objects (T. 175), then the philosophical relation of cause and effect, as "a comparison of two ideas", is defined as:

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

. . . 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<sub>1</sub> 76).

Hume's emphasis on the constancy of the conjunction implied in these definitions is significant for understanding how the causal relation may be predicated and judged of objects. Constancy alone permits the distinction between a conjunction that is provable and one that is merely probable. This is borne out in the philosophical relations of causation and necessary connection. The standard by which causal relations are judged is past experience (T. 113, 133, E<sub>1</sub> 35, 112, 142). It is by past experience alone that we are able to judge the truth or falsehood of any judgement about causal relations. But before continuing on to the question of judgement, we should note the "resemblance implied in this relation" (T. 15).

The resemblance, necessary for any comparison and judgement, is not to be found in the particular objects designated as causes and effects. In other words, since "any thing may produce any thing", the causal relation is not dependent on resembling qualities that may be found between any particular cause and its effect. These objects are "totally different" kinds of things (E<sub>1</sub> 29). The resemblance is found only in the constant conjunction of several sets of objects, that is, in those qualities of objects designated as causes which have been constantly conjoined with another set of resembling objects designated as effects. Hume points out that,

. . . when one particular species of event has always, in all instances, been conjoined with another, we make no longer any scruple of foretelling one upon the appearance of the other, and of 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. We suppose that there is some connexion between them, some power in the one, by which

it infallibly produces the other, and operates with the greatest certainty and strongest necessity ( $E_1$  74-5).

For example, upon repeated observations of a match conjoined with heat and then igniting I begin to notice resemblances between the matches being conjoined with heat, and resemblances between the ignition of these matches. The term "cause" is then justly applied to the heated match because these resemble in terms of their being contiguous, prior, and constantly conjoined with ignited matches, which are accordingly called "effects". Of course, as with all empirical relations, this idea of cause and effect is applied to the objects of experience. If those objects actually behave or correspond to that idea, then the judgement is true. If there is no correspondence between the idea and the objects, then the judgement is false.

Now I am suggesting that an experiment that renders a causal judgement probable must falsify that judgement. This, I presume, is precisely Hume's view. Recall that empirical truth is determined by a correspondence of the judgement with the evidence presented in experience, that is, "in the conformity of our ideas of objects to their real existence" (T. 448). The idea of necessary connection is judged to be true on the evidence of objects "which have been always conjoin'd together, and which in all past instances have been found inseparable" (T. 93). If we are confronted with an idea of necessary connection applied to an inconstant conjunction of objects, then we are justified in asserting the falsehood of that idea because it does not conform to the evidence. Accordingly, if we are confronted with the idea of a probable connection applied to an inconstant conjunction

of objects, then we are justified in asserting the truth of that idea; if applied to a constant conjunction, then the idea is false because the conjunction is provable not merely probable. Thus, all judgements derived from empirical reasoning are alterable if there is a change in the evidence. This, Hume argues, provides for the possibility of distinguishing three kinds of judgements based on the idea of probability; these are: probabilities derived from an imperfect experience of the conjunction of objects, probabilities derived from an observation of contrary causes, and probabilities derived from analogy.

#### IV. Probability and Chance

Thus far we have seen a distinction between things related necessarily in an a priori sense, as opposed to things related contingently in an empirical sense. Within the latter we have seen a distinction between objects related necessarily in the sense that they are constantly conjoined, as opposed to objects related contingently in the sense that they are not constantly conjoined. Within the realm of uncertain or contingently related objects known by probability, Hume distinguishes further between those known in terms of "chance" and those known in terms of undetermined causes or "causal probabilities". (Probable analogies are somewhat different and will be discussed later.) The two are similar in that, unlike causal proofs, these judgements provide no certainty because of the inconsistency of the conjunctions upon which they are founded. Thus, a probability is a case wherein the mind is unable to determine with any certainty what conclusion will result from a conjunction of objects.

Hume explains that,

Probability arises from an opposition of contrary chances or causes, by which the mind is not allow'd to fix on either side, but is incessantly tost from one to another, and at one moment is determin'd to consider an object as existent, and at another moment as the contrary (T. 440).

This sense of "probability", as distinguished from an empirical necessity, is of a common sort, but confusions arise in determining how chance and causal probabilities are distinguished.

Hume believes that the uneducated tend to conflate the "philosophical" distinction between chance and causal probabilities, and that the commoner distinguishes only between what is known to have a particular cause and what is not known to have a particular cause. He says that, "what the vulgar call chance is nothing but a secret and conceal'd cause" (T. 130); Hume provides an example of this confusion. If a watch stops, the common man tends to believe that there is a mere absence of the original cause, only the better education understand that chronometer failure results from the imposition of a "secret or concealed" cause, such as a speck of dust that has impeded proper functioning (T. 132). The common man's distinction between what is known (a proof) and what is unknown (chance) fails to account for the difference between what is unknown and what is unknowable. To rectify this Hume distinguishes between known causal proofs and unknowable chance probabilities, and causal probabilities that are unknown for the time being. The differences between these probabilities are founded on the assumption that chance probabilities are unknowable because there is no causal relation governing them, and that causal probabilities are unknown because the causal relation that governs them has

not yet been determined. This distinction is described in terms of the causal relatedness of the object:

Probability is of two kinds, either when the object is really in itself uncertain, and to be determin'd by chance; or when, tho' the object be already certain, yet 'tis uncertain to our judgment, which finds a number of proofs on each side of the question (T. 444).

The distinction is better understood in terms of the kinds of reasoning each produces.

The concept of chance is a "negative" idea, implying the absence of a cause (T. 125, E<sub>1</sub> 56) in the same way that darkness implies the absence of light (T. 57). In this respect, the negative idea, e.g. chance or darkness, indicates the absence of a specific kind of object, such as a cause or light. (The common man conflates the distinction between chance and causal probabilities because he believes that absence of a known cause implies the absence of an existent cause.) Consequently, not only are the concepts of chance and cause exclusive of one another, but they mutually include all possibilities of reasoning concerning matter of fact since an object is either caused to have a particular outcome or it is not. Hume notices that the implication of this is that "'tis impossible to admit of any medium betwixt chance and an absolute necessity" (T. 171), which in turn supports the maxim that,

. . . the connexion betwixt all causes and effects is equally necessary, and that its seeming uncertainty in some instances proceeds from the secret opposition of contrary causes (T. 132).

Thus, the distinction between cause and chance lies merely in the existence, or lack thereof, of a causal object, irrespective of the

knowledge of the existence of such an object.

Hume's distinction between chance and cause is entirely conceptual, and the idea of chance is best described in terms of the contemporary notions of a "fair" die or a "fair" toss of the coin. A chance indicates the possibility of a particular outcome that is removed from the existence of any outcome. Although the existence of some outcome is causally determined, the existence of a particular outcome is not. For example, by throwing this fair die I know that an outcome will occur, though I cannot know which possibility it will be, and thus, my knowledge that the die will turn up on one side or another tells me nothing about which side will actually turn up. Quite simply, the point is that some objects (usually of man's invention) do not have determined outcomes; that a fair coin must turn up on one side or the other is determined by the nature of the object, yet it is undetermined as to which side will turn up. The difference, then, between a chance event and a caused event lies in the empirical fact that nothing betrays a superior possibility to the former, while the latter is influenced by some feature of the object to produce at least a greater likelihood of a particular outcome. Since the chance object is without a specific cause, there is always the possibility that it may become causal through trickery, as may be found in the "loaded" die, the "stacked" deck, or the "fixed" game, thereby altering a chance object into a caused object. The result would be the same if someone could determine what specific causal factors could be introduced to produce a particular outcome through a technique, for example, of throwing the coin so that it would consistently turn up on one side



rather than the other. Clearly, the conception of chance prohibits any reasoning concerning matter of fact, that is, this kind of object produces no foundation for belief, or for judging the outcome of any particular action. Hume points out that,

. . . as chance is nothing real itself, and, properly speaking, is merely the negation of a cause, its influence on the mind is contrary to that of causation; and 'tis essential to it, to leave the imagination perfectly indifferent, either to consider the existence or non-existence of that object, which is regarded as contingent (T. 125).

Nonetheless, in a sense, we do reason on the basis of chance, or the likelihood of a strictly non-determinable outcome.

In order to account for the sort of reasoning employed by gamblers Hume need not give up the thesis that all factual reasoning must be founded on the causal relation ( $E_1$  26), nor the thesis that there is no medium between chance and necessity (T. 171). Hume explains that reasoning upon chances is founded on the notion of a "mixture of causes among the chances" (T. 126). Given the contrary natures of chance and cause, plus the fact that there can be no variation of degree in these concepts, Hume argues that no single chance can provide the basis for a reasoned judgement;

For if we affirm that one chance can, after any other manner, be superior to another, we must at the same time affirm, that there is something, which gives it the superiority, and determines the event rather to that side than the other: That is, in other words, we must allow of a cause, and destroy the supposition of chance; which we had before establish'd (T. 125).

Consequently, there must be some causal factor or mixture of causes in the event to provide a basis for reasoning upon possible outcomes. An example will help clarify the need for a mixture of causes in any

chance event for reasoning or judgement. In determining the probability that one number on a die will turn up after a toss, three conditions must be met. The first condition supplies the judgement that a thrown die will fall, roll, and turn up on only one side; this is a proof without which no information about the die can be obtained. The second condition is that the die has a certain number of fixed sides that are "suppos'd indifferent" (T. 128) in so far as no causal factor exists to determine the occurrence of any one side more frequently than any other side; this is also a proof obtained by causal reasoning. The third condition, simply, is that each side of the die has an unique and constant mark upon it, by which each is easily identifiable (T. 128). Without these conditions no judgement regarding the probability that any one side will turn up would be possible; this is an example of the kinds of causes that must attend some aspect of any chance event for reasoning and judgement to occur. Hume notices that in some cases of chance reasoning the possibility of a particular outcome is increased with the addition of like "chances". A jar, for example, that is filled with a hundred white beans and ten black beans employs certain factors that would permit one to determine that the possibility of drawing a white bean is ten times greater than the possibility of drawing a black bean by the increased number of possible white bean draws. Although there is no real assurance that one color will be drawn over another, some aspect of the problem is determinable, that is, that there is far greater probability that a white bean will be picked in any single draw. On this basis, Hume concludes that the one feature essential to all reasoning founded on chance is that there must be a "conjunction

of necessity in some particular, with a total indifference in others" (T. 126). Thus, a belief or judgement based on chance reasoning must employ some combination of causes, to produce the judgement, and some combination of chances, to produce the uncertainty characteristic of probability. The second kind of probability Hume considers does not employ the notion of chance, that is, the absence of a cause rather of particular facts about the cause that are presently unknown.

Hume specifies three kinds of causal probabilities, namely, probabilities determined by an "imperfect experience" of constant conjunctions, those are not determined by similarities found between known and unknown conjunctions or "analogy", and causal probabilities determined by the observations of "contrary causes" found in any one kind of conjunction (T. 142). Those probabilities that arise from imperfect experience are the least common, and Hume admits that although this kind of probability,

. . . naturally takes place before any entire proof can exist, yet no one, who is arriv'd at the age of maturity, can any longer be acquainted with it (T. 131).

This kind arises, simply enough, from the lack of a complete experience of the conjunction of similar objects, and is discovered to be probable upon the observation of a conjunction contrary to what has been experienced previously. Those probabilities arising from analogy are quite different from the other kinds, since this form depends not specifically on the constancy of the conjunction, but upon the resemblance that may be found between a known constant conjunction that is applied to similar objects of similar situations (T. 142). For example, I know that by striking a billiard ball on the left side with another ball, that the

first should move to the right; as a result of this, I may infer that the same sequence of events will occur with like results in the motions of bowling balls. In this example, the resemblance is kept in terms of the shape of the balls, but different results in the motions of the larger and heavier balls can be expected if the force used to propel them is not proportional. Thus our knowledge of unknown events is linked to the resemblance found in known events. Hume explains that,

. . . as this resemblance admits of many different degrees, the reasoning becomes proportionably more or less firm and certain. An experiment loses of its force, when transferr'd to instances, which are not exactly resembling; tho' 'tis evident it may still retain as much as may be the foundation of probability, as long as there is any resemblance remaining (T. 142).

Although the resemblance spoken of here is of the same kind found in the philosophical relation of cause and effect, which admits of proofs, not probabilities, the two uses are distinguishable in terms of the preciseness of the resemblance employed in each kind of reasoning. The last kind of reasoning by probability arises from the observation of consistently contrary results in what is assumed to be a true causal relation.

The feature that distinguishes probabilities founded on chance from those founded on causes is that in the former there are no causes, while in the latter the causes are simply unknown, that is, they are "secret" or "concealed". This difference is discovered when some regularity in a conjunction is found, which occurs in both reasonings from imperfect experience of a conjunction and from analogy; however, it is only the third kind of reasoning from probable causes that specifically takes into account the number of those conjunctions that are contrary to usual or expected experience. When a conjunction of objects fails

to be constant, the resulting judgement is derived from the maxim that "the connexion betwixt all causes and effects is equally necessary" (T. 132), which is in turn based on the fact that there is no medium between a necessary connection and none at all (T. 171). In this case, the assumption is that the true causal relation is simply hidden from view for the time being. Hume explains that reasoning from the observation of conjunctions contrary to usual experience is reduced to a "single judgment" by considering the evidence for a conjunction on both sides of the opposition. A judgement has more evidence, and a belief more vivacity when a conjunction occurs nine times out of ten rather than only half of the time. This judgement is based on a formula for determining the number of times any given conjunction may occur, such that,

Any of these past events may again happen; and we judge, that when they do happen, they will be mix'd in the same proportion as in the past (T. 134).

A judgement is arrived at by the consideration of "opposite experiments" (E<sub>1</sub> 111). However, imagined or a priori possibilities encountered in this form of reasoning, as found also in causal proofs, are to be treated as merely hypothetical, unevidenced possibilities that carry no real force in the judgement; the probability that some event will occur is based on the empirical possibility, which Hume insists, is "of the same nature, and differ in number only, but not in kind" (T. 136).

In a sense, all probabilities are justified in so far as there may be a legitimate correspondence between the believed idea and the object of judgement, and therefore, they are considered by Hume to be "reasonable foundations of belief and opinion" (T. 143), even though they do not provide certainty in the manner found in causal proofs.

However, as with all other empirical judgements, truth is provided in the correspondence of a judgement with its object, and the vivacity attending all such beliefs has no place in the judgement, per se. Patrick Maher explains Hume's theory of probability in terms of the vivacity found in probable beliefs, and as a result, unwittingly provides a reductio ad absurdum argument against the imposition of such an interpretation on any aspect of Hume's views of empirical reasoning. Maher assumes that the "central notion [of Hume's analysis] is the 'belief-feeling', vivacity".<sup>27</sup> This suggests to him that the belief-feeling must be quantifiable in order to generate a judgement about probabilities. However, Maher notices that when vivacity is quantified, Hume's theory of probable judgement falls prey to the "lottery paradox", explained in the following way:

Suppose, for example, that belief is identified with degree of belief greater than 0.9. Now given a fair lottery with 100 tickets, we are justified in having a degree of belief greater than 0.9 that the first ticket will not win, and similarly for all the other tickets. Hence we should believe, of each ticket, that it will not win. But if we conjoin these beliefs, we obtain the conclusion that no ticket will win, which we know to be false.<sup>28</sup>

The absurd conclusion may be avoided by Hume by emphasizing the idea (content) of the belief/judgement rather than the feeling. A correct judgement is quantifiable as it reflects the number of times any possible chance might occur, or any possible cause and its contrary has occurred. In this case, a probable judgement is judged to be true if it properly conforms to the objects of judgement. This will tell us what degree of evidence we have for believing that a particular outcome will occur.

Hume notices that causal and probable judgements are ideas about what will occur in the future. This means that these judgements include, what I shall call, the idea of future existence. We should now examine the origin and status of that idea, as it plays a significant role in Hume's theory of causal judgement.

#### V. The Idea of Future Existence

When we say "C causes E", we mean more than that C and E have always been conjoined; we also mean that these objects will always be conjoined. This feature of the idea of cause and effect includes, what I shall call, the idea of future existence. The idea of future existence is derived from the natural relation of cause and effect. It is explained as the belief that particular objects which have always been constantly conjoined in the past will remain so conjoined in the future. Hume thinks that this belief is an essential component of causal arguments.

Abandoning a logical investigation, or a "direct survey" (T. 78), of the idea of necessary connection, which might be used to explain our beliefs in the future conjunctions of objects, Hume turns to an empirical examination of that belief. Although constant conjunctions are essential to causal reasoning, this relation fails to tell the whole story. Hume explains that by this relation alone "we can never discover any new idea, and can only multiply, but not enlarge the objects of our mind" (T. 88). Constant conjunction tells us only of past and present conjunctions, and as a result, the idea of necessary connection employed in the philosophical relation of cause and effect does not provide the idea of necessity expected in future conjunctions. Hume

turns to a psychological investigation of belief to determine what might account for the predictive or anticipatory element found in causal judgements. He concludes that if this element of prediction cannot be known by reason (T. 97), then it might be accounted for by a psychological principle. That principle is known as "custom";

Now as we call every thing CUSTOM, which proceeds from a past repetition without any new reasoning or conclusion, we may establish it as a certain truth, that all the belief, which follows upon any present impression, is deriv'd solely from that origin (T. 102).

Custom is further described as that "facility of transition, which is essential to" the natural relation of cause and effect (T. 99) in that it,

. . . has two original effects upon the mind, in bestowing a facility in the performance of any action or the conception of any object; and afterwards a tendency or inclination towards it . . . (T. 422).

Hume warns that the discovery of this principle comes about "as a question in natural philosophy, which we determine by experience and observation" (T. 101), also claiming that "I must confess I place my chief confidence in experience to prove so material a principle" (T. 99). Therefore, custom is purely a psychological principle of the mind used to explain, not justify, the element of prediction that is found in causal reasoning.

Since the idea of necessary connection employed in reasoning about future conjunctions cannot be found in the objects, Hume concludes that the idea must arise from an "internal" impression of reflection caused by the particular circumstances in which the mind is placed. In other words, the idea of predictive necessity is copied



from a felt connection that is, in turn, produced by the observation of a constant conjunction:

Tho' the several resembling instances, which give rise to the idea of power or cause, have no influence on each other, and can never produce any new quality in the object, which can be the model of that idea, yet the observation of this resemblance produces a new impression in the mind, which is the real model (T. 164-5).

Hume provides definitions of the natural relation of necessary connection, which produces the idea or belief in future existence.

Necessary connection may be defined as "the inference of the mind from one object to the other" (T. 409), or "in the inference of the understanding from one object to another" (E<sub>1</sub> 97). For example, in being convinced of a causal argument I am shown that a particular constant conjunction between resembling objects has in fact occurred. But this is not all. The psychological principle of custom produces the belief that this conjunction will occur in the future as it has in the past. Both the philosophical and the natural relations participate in the argument. A causal argument includes both the judgment concerning necessary connection in terms of a constant conjunction and the idea or belief that these conjunctions will continue to hold in the future. The definition of necessary connection as a natural relation produces corresponding definitions of cause in terms of a natural relation.

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 forms a more lively idea of the other (T. 170),

or in simpler terms, "an object followed by another, and whose

appearance always conveys the thought to that other" (E 77). These definitions account for two things. First, they explain the nature of that belief which is generated by a causal argument. A sound argument produces a lively idea or belief of a causal relation based on the previous experience or constantly conjoined objects (T. 624). Secondly, these definitions account for a new idea of necessary connection or "power" (T. 165, E<sub>1</sub> 63), which is not found in the observation of constant conjunctions alone. This new idea "enlarges" the idea of constantly conjoined objects to include the idea of a possible, future existence lacking in the impressions of past conjunctions. But what is the relationship between the ideas of causation and necessary connection both as natural and as philosophical relations?

Hume explains that both the natural and the philosophical relations are needed to explain causal reasoning:

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).

Thus all the conjunctions found in the philosophical relation are united in the form of a final idea, that is, the idea produced by a customary impulse of the mind. Since the customary idea arises immediately from an impression of reflection, it cannot be checked against that impression to tell us about causally related objects (impressions of the senses). It can, however, be checked against the impressions of previously conjoined objects. This idea of future existence has the content of past impressions but the belief-feeling (vivacity) is derived from an impression of reflection. In other words, I believe

this causal relation will occur in the future as it has in the past because I feel that it will. On the other hand, I judge that this relation will occur as it has because there is no evidence falsifying that claim. The natural relation explains our belief that something will occur, while the philosophical relation explains our judgement that something will occur. The two together account for the structure of causal reasoning. Of course, the truth and falsehood of causal judgements cannot be determined by means of a metaphysical or a priori principle that the future is conformable to the past (T. 89); but the assurance of our causal judgements is based upon the evidence we do have available. As Hume explains,

A wise man, therefore, proportions his belief to the evidence. In such conclusions as are founded on an infallible experience, he expects the event with the last degree of assurance, and regards his past experience as a full proof of the future existence of that event (E<sub>1</sub> 110).

He continues the passage, supporting the view that causal knowledge is derived from the distinction between "kinds of evidence" (T. 124), that is, between what is required for a proof or a probability:

In other cases, he proceeds with more caution: He weighs the opposite experiments: he considers which side is supported by the greater number of experiments: to that side he inclines, with doubt and hesitation; and when at last he fixes his judgement, the evidence exceeds not what we properly call probability. All probability, then, supposes an opposition of experiments and observations, where the one side is found to overbalance the other, and to produce a degree of evidence, proportioned to the superiority (E<sub>1</sub> 110-1).

But, then, in what sense is Hume sceptical about causal reasoning?

I have argued throughout that Hume is not sceptical with regard to our scientific judgements based on the relation of cause and effect in the sense that we have no reasonable basis for judging the truth and falsehood of instances of this relation. This view is opposed to the Pyrrhonian interpretation which argues that, for Hume, it is nonsensical to speak of causal truths, and the naturalistic interpretation which argues that the only manner of judging causal relations is by means of our innate compulsion to believe that such relations exist. My argument is that Hume takes a much more common sense approach in suggesting that we do have a reasonable basis, though not a priori, for asserting the truth and falsehood of causal judgements based on the evidence given in experience. Even in his most sceptical moments, Hume, in the guise of Philo in the Dialogues, tells us that "Experience alone can point out . . . the true cause of any phenomenon" (D. 146). Nevertheless, he recognizes that regardless of the amount of evidence we have for the truth of any causal judgement, it is never wholly complete. Historically, we find that scientific theories are altered by the presentation of new and conflicting evidence; witness the rise of Newtonian physics during Hume's time. A priori judgements, in Hume's view, are based on evidence that is complete. The evidence for judgements about the necessary relations of ideas is contained wholly within the ideas themselves. But the evidence of empirical reasoning may be hidden within some, as yet, unseen part of the object. Yet certainty is possible within the framework of a judgement and the evidence that is available. In this we are fully justified in asserting the truth or falsehood of a judgement about causal relations. So Hume's scepticism

with regard to causal judgements is in terms of the incompleteness of the evidence with which these judgements must be determined. But the distinction between a priori and empirical judgements must not be blurred by the question "Are not a priori judgements more certain than empirical judgements?", since this comparison is similar to asking someone whether they prefer red things to sweet things--the two are incomparable. The distinction between a priori and empirical judgements is far too broad to compare, because each is occupied with a completely different task. A priori judgements tell us about the relations between ideas, while empirical judgements tell us about the relations between existing objects. In this sense, the twain shall never meet.

Despite the scepticism with regard to the completeness of the evidence for causal judgements Hume provides us with a list of rules for judging the truth and falsehood of these judgements (T. I.III.xv.). These rules originate in the philosophical relations. The first three rules are, in fact, nothing more than a restatement of the philosophical relation of cause and effect:

1. The cause and the effect must be contiguous in space and time.
2. The cause must be prior to the effect.
3. There must be a constant union betwixt the cause and effect. 'Tis chiefly this quality, that constitutes the relation (T. 173; compare T. 94).

The eighth rule is derived from the rule of temporal priority (number two):

. . . an object, which exists for any time in its full perfection without any effect, is not the sole cause of that effect, but requires to be assisted by some other principle, which may forward its influence and operation (T. 174; compare T. 76).

With this rule we may distinguish "sole" or real causes from causal conditions. The powder of a bullet, for example, is a necessary condition for the effect of the bullet being ejected, but the sole cause may be found in the ignition of that powder. This rule provides us a basis for identifying what object actually sets off a particular chain of events.

The fourth rule is closely tied to the third. It states that "The same cause always produces the same effect, and the same effect never arises but from the same cause". Hume explains that,

For when by any clear experiment we have discover'd the causes or effects of any phaenomenon, we immediately extend our observation to every phaenomenon of the same kind, without waiting for that constant repetition, from which the first idea of this relation is deriv'd (T. 173-4).

This rule seems to be derived from custom but Hume explains that it is not. Judgements guided by this rule are determined by experience. He points out that "This principle we derive from experience, and is the source of most of our philosophical reasonings" (T. 173). By this I think that Hume's point is that judgements derived from the relation of cause and effect are justified by the experienced conjunction of objects found in the philosophical relation. The remaining three rules, numbers five through seven, are founded on the fourth.

The fifth and sixth rules provide a basis for determining precisely what qualities of objects are essential to any particular causal relation. These state that:

5. . . . where several different objects produce the same effect, it must be by means of some quality, which we discover to be common amongst them. For as like effects imply like causes, we must always ascribe the causation

to the circumstance, wherein we discover the resemblance.

6. . . . The difference in the effects of two resembling objects must proceed from that particular, in which they differ. For as like causes always produce like effects, when in any instance we find out expectation to be disappointed, we must conclude that this irregularity proceeds from some difference in the causes (T. 174).

Since objects are composed of different qualities, sometimes we find that a particular quality is irrelevant to the efficacy of the causal relation. For example, at one time physicians thought that dirt found in a wound caused an infection. Later it was discovered that infections were caused by germs in the dirt, and not the dirt itself. Thus, by means of the fifth and sixth rules we determine what qualities of the objects are the true causes or effects in any given relation.

The seventh rule depends on the constant conjunction of objects as well as the philosophical relation of degrees of a quality. Should we find that part or quality of an object that is efficacious, we can determine that the effect will increase or diminish in proportion to the degrees of the quality found in the cause. Hume explains that,

7. When any object encreases or diminishes with the encrease or diminution of its cause, 'tis to be regarded as a compounded effect, deriv'd from the union of several different effects, which arise from the several different parts of the cause. The absence or presence of one part of the cause is here suppos'd to be always attended with the absence or presence of a proportionable part of the effect. This constant conjunction sufficiently proves, that the one part is the cause of the other (T. 174).

To use the example of a bullet, the decrease in part of the cause, say fewer grains of powder will produce a proportionate decrease in the

effect, which would be the impact of the ejecting bullet.

These rules provide a basis for judging and refining the truth and falsehood of our claims about causal relations. They alone can tell us that there is a causal relation between objects, and what that relation is. As Hume explains:

Since therefore 'tis [logically] possible for all objects to become causes or effects to each other, it may be proper to fix some general rules, by which we may know when they really are so (T. 173; emphasis added).



### Notes to Chapter Five

1. Beauchamp and Rosenberg, Hume and the Problem of Causation, pp. 3, 292.
2. Ibid., p. 180.
3. Ibid., p. 200.
4. Ibid., p. 179.
5. Ibid., p. 241.
6. Ibid., p. 180.
7. The rest of the sentence reads: ". . . according to the general opinion, 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". Causally related objects need not be spatial and, of course, if they are not extended then they cannot be spatially contiguous, though all other relations would hold.
8. Bertrand Russell, "On the Notion of Cause", in Mysticism and Logic (Garden City, New York: Doubleday, 1957), pp. 178-9.
9. Beauchamp and Rosenberg, p. 8.
10. J.L. Mackie, The Cement of the Universe: A Study of Causation (Oxford: Clarendon Press, 1974), p. 8.
11. B.M. Laing, David Hume (1932; rpt. New York: Russell and Russell, 1966), p. 119.
12. D.G.C. MacNabb, "David Hume", in The Encyclopedia of Philosophy, ed. Paul Edwards (New York: Macmillan, 1967), vol. 4, p. 80.
13. D.C. Stove, Probability and Hume's Inductive Scepticism (Oxford: Clarendon Press, 1973), p. 51.
14. Terence Penelhum, Hume (London: Macmillan, 1975), p. 50.
15. Beauchamp and Rosenberg, p. 37.
16. David Hume, The Letters of David Hume, vol. 1, p. 187.

17. David Hume, A Letter From a Gentleman to his Friend in Edinburgh (1745), ed. Ernest Mossner and John Price (Edinburgh: The University Press, 1967), p. 22.
18. Ibid.
19. Kemp Smith, The Philosophy of David Hume, p. 68.
20. John Locke, An Essay Concerning Human Understanding, ed. Peter H. Nidditch (Oxford: Clarendon Press, 1975), 578. (IV.v.11.).
21. Ibid., p. 655. (IV.xv.3.).
22. The seventeenth and eighteenth centuries' use of "moral evidence" and "moral certainty" refers specifically to the highest level of proof for an empirical claim. In The Great Debate on Miracles: from Joseph Glanvill to David Hume (Lewisburg: Bucknell University Press, 1981), R.M. Burns tells us that this concept is used to refer to "assent 'beyond reasonable doubt'" (pp. 24, 40).
23. David Hume, A Letter From a Gentleman, p. 22.
24. Gottfried Leibniz, "On the Universal Science: Characteristic", part XIV in Monadology and Other Philosophical Essays, trans. Paul and Anne Schrecker (Indianapolis: Bobbs-Merrill, 1965), p. 13.
25. Kemp Smith, p. 66.
26. Gottfried Leibniz, "Reflections on Knowledge, Truth, and Ideas", in Monadology and Other Philosophical Essays, p. 7.
27. Patrick Maher, "Probability in Hume's Science of Man", Hume Studies, VII (1981), p. 137.
28. Ibid., p. 140.

## Conclusion

Now it is time to place this theory of judgement within the context of Humean scepticism. The Pyrrhonian interpretation is correct in arguing that Hume rejects a system of metaphysical first principles in support of knowledge. Hume warns:

But neither is there any such original principle which has a prerogative above others, that are self-evident and convincing: or if there were, could we advance a step beyond it, but by use of those very faculties of which we are supposed to be diffident (E<sub>1</sub> 150).

But they are incorrect in assuming that from the scepticism about metaphysics that Hume infers "there is neither human nature nor science in the world".<sup>1</sup> In this, the naturalistic interpretation rightly argues that Hume does not find Pyrrhonism an acceptable conclusion.

Pyrrhonism, he fears, ends in a position demanding the complete cessation of all belief and judgement.<sup>2</sup> Hume opposes this by pointing out that men are as incapable of the cessation of belief and judgement as,

. . . we can hinder ourselves from thinking as long as we are awake, or seeing the surrounding bodies, when we turn our eyes towards them in broad sunshine (T. 183).

But Pyrrhonism is not thwarted by this as it is a "fact" of human nature, as Kemp Smith would have us believe, nor could it be.<sup>3</sup> A fact, strictly speaking, has to be supported by a theory of scientific judgement. Since Pyrrhonism opposes the possibility of such a theory

in the first place, it cannot be answered by scientific evidence. Hume's solution to Pyrrhonism does not arise in a psychological fact, nor a philosophical argument. Rather its force comes in the action of judging and believing itself. But such actions, as all actions, have no truth value (T. 458). So the act of belief shows the impossibility, not the falsehood, of Pyrrhonism.

Interestingly, Hume finds this solution to Pyrrhonism to be itself sceptical, albeit in a different sense. He explains that,

I may, nay I must yield to the current of nature, in submitting to my senses and understanding; and in this blind submission I shew most perfectly my sceptical disposition and principles (T. 269).

The solution is sceptical because it is not an argument; it is not an issue which can be proven true or false, but merely the way of human nature. As Nathan explains, Hume's solution is sceptical because "it is the height of scepticism to admit that we believe entirely without justification".<sup>4</sup> Hume explains that "nature breaks the force of all sceptical arguments in time" (T. 187), but nature does not accomplish this by argument or reasoning. It is, of course, a fact that all men are incapable of the complete cessation of belief, but this fact can be proven true only in terms of a theory of scientific judgement that is produced only after Pyrrhonism is overcome. The downfall of excessive scepticism permits the possibility of our establishing a method of judgement:

But were these [Pyrrhonist] hypotheses once remov'd, we might hope to establish a system or set of opinions, which if not true (for that, perhaps, is too much to be hop'd for) might at least be satisfactory to the human mind, and might stand the test of the most critical examination (T. 272).

We cannot hope to prove the truth of a "system" of judgement, since to do so we would have to appeal to unknowable first principles. Although the system itself cannot be proven true, we can discuss methods for knowing truths within the system. As Hume argues, discussions of this sort simply ignore Pyrrhonian arguments:

A correct Judgement observes a contrary method, and avoiding all distant and high enquiries, confines itself to common life, and to such subjects as fall under daily practice and experience; leaving the more sublime topics to the embellishment of poets and orators, or to the arts of priests and politicians (E<sub>1</sub> 162).

How, then, can we choose one method of judgement over another?

Hume's answer, I think, is to choose the system that removes our doubts about particular judgements in the greatest degree. Doubt, he says, is a "hesitation" of mind (T. 403); or

. . . 'tis the nature of doubt to cause a variation in the thought, and transport us suddenly from one idea to another . . . (T. 453).

Identity, for example, must be judged by a constant and invariable impression, so that the mind is not "oblig'd to form the idea of a multiplicity or number" (T. 201). Again, a causal relation is known to exist when there are no empirical counter-examples to the constant conjunction of like objects. Such counter-examples produce the doubt found in mere probabilities (T. 124). We might ask, for example, whether or not it is possible for an object to be identical even though we have only an intermittent awareness of it. The answer might be yes; but this evidence alone is not sufficient to fully assuage our doubt about such a claim.

Hume's proposal regarding scientific knowledge is to impose a

bit of scepticism to keep us modest in claims about knowledge (T. 274), but to follow our inclination to judge and believe because we have no real alternative. Since we must continue these actions, we should formulate a system wherein the judgements of common life and science are "methodized and corrected" (E<sub>1</sub> 162). Although the final ground of appeal for any such system is found in its ability to ease the discomfort brought on by doubt, we need not be concerned with the psychologistic criticism. The criterion for truth within any given system need not be governed by psychological concerns, though our method of judging might be guided by it. As long as the method is kept within the bounds of human understanding, science has a prosperous avenue of inquiry.

David Hume's philosophy is a balance between sceptical hesitation and natural desires to know. We cannot eradicate the questioning spirit of philosophical inquiry, nor the general human quest for knowledge. Hume's solution is to integrate the two: "Be a philosopher; but, amidst all your philosophy, be still a man" (E<sub>1</sub> 9).

### Notes to the Conclusion

1. Thomas Reid, An Inquiry into the Human Mind, p. 14.
2. David Norton argues persuasively that the ancient Pyrrhonians in fact held this view, and that perhaps Hume misunderstood their position. See chapter six of his David Hume: Common-Sense Moralism, Sceptical Metaphysician.
3. Kemp Smith, The Philosophy of David Hume, pp. 124, 132, 155.
4. Nathan, "A Humean Pattern of Justification", (ts.), p. 18.

## Bibliography

- Aaron, R.I. "Hume's Theory of Universals", Proceedings of the Aristotelian Society, 42 (1942), 117-40.
- d'Alembert, Jean Le Rond. Preliminary Discourse to the Encyclopedia of Diderot, translated by Richard N. Schwab and Walter E. Rex. Indianapolis: Bobbs-Merrill, 1963.
- Arnauld, Antoine. The Art of Thinking. trans. James Dickoff and Patricia James. Indianapolis: Bobbs-Merrill, 1964.
- Atkinson, R.F. "Hume on Mathematics", Philosophical Quarterly, 10 (1960), 127-37.
- Beanblossom, Ronald E. "A New Foundation for Humean Scepticism", Philosophical Studies, 29 (1976), 207-10.
- Beauchamp, Thomas and Rosenberg, Alexander. Hume and the Problem of Causation. New York: Oxford University Press, 1981.
- Bennett, Jonathan. Locke, Berkeley, Hume: Central Themes. Oxford: Clarendon Press, 1971.
- Bricke, John. Hume's Philosophy of Mind. Princeton: Princeton University Press, 1980.
- Burns, R.M. The Great Debate on Miracles: from Joseph Glanvill to David Hume. Lewisburg: Bucknell University Press, 1981.
- Capaldi, Nicholas. David Hume: The Newtonian Philosopher. Boston: Twayne Publishers, 1975.
- Casullo, Albert. "Conceivability and Possibility", Ratio 17 (1975), 118-21.
- Church, Ralph W. "Hume's Theory of Philosophical Relations", The Philosophical Review, 50 (1941), 353-67.
- Descartes, Rene. The Philosophical Works of Descartes, trans. E.S. Haldane & G.R.T. Ross, 2 vols. Cambridge Univ. Press, London, 1931, Vol. 1.
- Elkin, W.B. The Relation of the Treatise of Human Nature--Book I, to the Inquiry Concerning Human Understanding. New York: no publisher given, 1904.



- Flew, Antony. Hume's Philosophy of Belief: A Study of His First Inquiry. London: Routledge and Kegan Paul, 1961.
- Frege, Gottlob. "The Thought: A Logical Inquiry", in Essays on Frege, edited by E. Klemke. Urbana: University of Illinois Press, 1968.
- Gassendi, Pierre. Institutio Logica (1658). trans. Howard Jones. Assen, The Netherlands: Van Gorcum, 1981.
- Gotterbarn, Donald. "How Can Hume Know Philosophical Relations", The Journal of Critical Analysis, IV (1973), 133-41.
- Hobbes, Thomas. Leviathan. Oxford: Clarendon Press, 1909.
- Hausman, Alan. "Hume's Theory of Relations", Nous, 1 (1967), 255-82.
- Hume, David. Dialogues Concerning Natural Religion, edited by Norman Kemp Smith. Indianapolis: Bobbs-Merrill, 1947.
- . Enquiries Concerning the Human Understanding and Concerning the Principles of Morals, 3rd edition, edited by P.H. Nidditch and L.A. Selby-Bigge. Oxford: Clarendon Press, 1975.
- . A Letter From a Gentleman to his Friend in Edinburgh (1745), edited by Ernest Mossner and John Price. Edinburgh: The University Press, 1967.
- . The Letters of David Hume, edited by J.Y.T. Grieg. Oxford: Clarendon Press, 1932. 2 vols.
- . "The Sceptic", in Of the Standard of Taste and Other Essays, edited by John W. Lenz. Indianapolis: Bobbs-Merrill, 1965.
- . A Treatise Concerning Human Nature, 2nd edition, edited by P.H. Nidditch and L.A. Selby-Bigge. Oxford: Clarendon Press, 1978.
- Imlay, Robert. "Hume on Intuitive and Demonstrative Inference", Hume Studies, I (1975), 31-47.
- Jones, Peter. Hume's Sentiments: Their Ciceronian and French Context. Edinburgh: The University Press, 1982.
- Laing, B.M. David Hume. New York: Russell and Russell, 1966. Reprinted from the 1932 edition.
- Leibniz, Gottfried. "On the Universal Science: Characteristic", in part XIV, in Monadology and Other Essays, translated by Paul and Anne Schrecker. Indianapolis: Bobbs-Merrill, 1965.

- . "Reflections on Knowledge, Truth, and Ideas", in Monadology and Other Essays, translated by Paul and Anne Schrecker. Indianapolis: Bobbs-Merrill, 1965.
- Locke, John. An Essay Concerning Human Understanding, edited by P.H. Nidditch. Oxford: Clarendon Press, 1975.
- Mackie, J.L. The Cement of the Universe: A Study of Causation. Oxford: Clarendon Press, 1974.
- MacNabb, D.G.C. "David Hume", in The Encyclopedia of Philosophy, edited by Paul Edwards, vol. 4. New York: Macmillan, 1967.
- Maher, Patrick. "Probability in Hume's Science of Man", Hume Studies, VII (1981), 137-53.
- Nathan, George. "A Humean Pattern of Justification", Hume Studies (forthcoming).
- Newman, Rosemary. "Hume on Space and Geometry", Hume Studies, VII (1981), 1-31.
- Norton, David Fate. David Hume: Common-Sense Moralist, Sceptical Metaphysician. Princeton: Princeton University Press, 1982.
- Noxon, James. Hume's Philosophical Development: A Study of His Methods. Oxford: Clarendon Press, 1973.
- Passmore, John. Hume's Intentions, 3rd edition. London: Duckworth, 1980.
- Pears, David. "Hume's Empiricism and Modern Empiricism", in David Hume: A Symposium, edited by David Pears. London: Macmillan, 1963.
- Penelhum, Terence. Hume. London: Macmillan, 1975.
- Popkin, Richard H. "David Hume: His Pyrrhonism and His Critique of Pyrrhonism", in Hume: A Collection of Critical Essays. edited by V.C. Chappell. Garden City, New York: Doubleday, 1966.
- Reid, Thomas. An Inquiry into the Human Mind. edited by Timothy Duggan. Chicago: The University of Chicago Press, 1970.
- Russell, Bertrand. "On the Notion of Cause", in Mysticism and Logic. Garden City, New York: Doubleday, 1957.
- Russow, Lilly-Marlene. "The Concept of Truth in Hume's Treatise", Southern Journal of Philosophy 19 (1981), 217-28.

- Smith, Norman Kemp. "The Naturalism of Hume", Mind, 14 (1905), 149-73 and 335-47.
- . The Philosophy of David Hume: A Critical Study of its Origins and Central Doctrines. New York: Macmillan, 1941. Reprinted 1966.
- Stove, D.C. Probability and Hume's Inductive Scepticism. Oxford: Clarendon Press, 1973.
- Stroud, Barry. Hume. London: Routledge and Kegan Paul, 1977.
- Thomas, Max M. "Hume's Impressions and the Problem of Objective Knowledge", read at the Twelfth Hume Conference, Concordia University, August 21, 1983.
- . "Relative Ideas Rejected", Hume Studies, VIII (1982), 149-57.
- . "Why the Missing Shade of Blue Counter-Example Isn't a Problem", read at the Eleventh Hume Conference, York University, August 24, 1982.
- Tweyman, Stanley. "Hume on Separating the Inseparable", in Hume and the Enlightenment, edited by W.B. Todd. Edinburgh: The University Press, 1974.
- . Reason and Conduct in Hume and His Predecessors. The Hague: Martinus Nijhoff, 1974.
- Walsh, W.H. "Hume's Concept of Truth", in Reason and Reality, edited by G. Vesey. London: Macmillan, 1972.
- Wood, David. "Hume on Identity and Personal Identity", Australian Journal of Philosophy, 57 (1979), 69-73.
- Watts, Issac. Logick: or, The right use of reason in the enquiry after truth, 8th edition. London: T. Longman, 1745.
- Yolton, John. "Hume's Ideas", Hume Studies, VI (1980), 1-25.