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PROJECTIONISM IN HUME'S THEORETICAL PHILOSOPHY

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**A dissertation submitted in April, 2001, to the School of Graduate Studies
and Research in partial fulfillment of the requirements for the degree of
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of Ottawa**

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ABSTRACT:

In this thesis I present a reading of Hume's projectionism. Hume took very seriously our predicament of being in a position of making judgments about the external world, and about other minds, *solely* on the basis of our own beliefs. By "Hume's projectionism" I mean his answer to this predicament, namely, that our minds construct beliefs unaided by mind-independent events; that these beliefs are then projected upon the world; and that *for us* the world literally becomes the bearer of our notions. "Hume's projectionism" thus is an examination of the external world, or rather what we *believe* it to be, through the analysis of conceptual constructs that *for us* constitute its very nature.

In my interpretation I place considerable emphasis upon the fact that Hume identifies *three* essentially different sets of conceptual tools that result in three theoretical standpoints -- that of common sense, the theory of the false philosophy, and that of the true philosophy. Human beings are capable of constructing *three* incompatible and independent sets of beliefs. Hume believes that we have no independent and objective grounds that would warrant the evaluation of our projections. Consequently, our only hope to establish a normative evaluation of our beliefs lies in the analysis of the conceptual tools by which each of these projections is constructed.

I develop three separate arguments to support my reading. First, I argue that Hume's arguments implicitly rely on his theory of theories, which I set out in chapter 2. This chapter considers the conceptual tools that Hume can use in normative evaluations of our beliefs. Secondly, in chapter 3 I seek to show that Hume should best be seen as attempting to *reconcile* the dispute between Locke's scientific realism and Berkeley's instrumentalism. By showing the historical roots of Hume's projectionism I hope to undermine any charge that my reading of Hume is anachronistic. Thirdly, in chapter 4 I examine Hume's account of probability, where I seek to illustrate Hume's attempt to assess the changes in philosophical problems that result from his considered belief that absolute truth and certainty are unattainable.

In my thesis I hope to establish that Hume's philosophy is projectionism through and through. This is a highly controversial interpretation. By definition, if Hume is a projectionist, then his philosophical position cannot be defined *solely* as empiricism, or skepticism, or common-sense realism. I believe that if we focus upon Hume's implicit philosophical methodology, then we have no choice but to consider seriously the issue about the *variety* of his arguments. We then have to come to understand how it is possible for Hume to be an empiricist, a sceptic, and a realist -- all at the same time? I argue that we can best understand this only if we view Hume's system as projectionism.

To my father, Alfreds Zakatistovs

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LIST OF ABBREVIATIONS:

David Hume

- (T, page number) *A Treatise of Human Nature* [1739], L.A. Selby-Bigge (ed.), Oxford, Clarendon Press 1978.
- (A, page number) *An Abstract of the Treatise of Human Nature* [1740], in Hume [1739] (1978).
- (E, page number) *An Enquiry concerning Human Understanding* [1748], E. Steinberg (ed.), Indianapolis, Hackett Publishing Company 1993.

George Berkeley

- (Entree, number) *Philosophical Commentaries* [1707-1708] in *The Works of George Berkeley Bishop of Cloyne*, A. A. Luce and T. E. Jessop (eds.) London, Thomas Nelson and Sons Ltd. 1948, vol. 1, pp. 9-104.
- (NTV, paragraph) *An Essay towards a New Theory of Vision* [1709].
- (PHK, Intro., paragraph) "Introduction" to *A Treatise concerning the Principles of Human Knowledge* [1710].
- (PHK, paragraph) *A Treatise concerning the Principles of Human Knowledge* [1710].
- (Dialogues, page) *Three Dialogues between Hylas and Philonous* [1713] in Berkeley (1948), vol. 2.
- (Siris, paragraph) *Siris: a Chain of Philosophical Reflections and Enquiries concerning the Virtues of Tar-water* [1744]

John Locke

- (book, chapter, paragraph) *An Essay concerning Human Understanding* [1690]
- (Epistle, page) "Epistle to the Reader" [1690]
- (Examination, paragraph) "An Examination of P. Malebranche's Opinion of seeing all Things in God" [1706] in *The Works of John Locke*. A new edition, corrected in ten volumes, London, Thomas Davison, Whitefriars 1823, vol. 9, pp. 211-255.

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Introduction: Hume's Philosophical System

In this thesis I present a reading of Hume's projectionism. Hume took very seriously our predicament of being in a position of making judgments about the external world *solely* on the basis of our own beliefs. By "Hume's projectionism" I mean his response to this predicament. Hume maintains that our minds construct all of our beliefs unaided by mind-independent events; that these beliefs are then projected upon the world; and that *for us* the world literally becomes the bearer of our notions. "Hume's projectionism" thus is an examination of the external world, or rather what we *believe* it to be, through the analysis of conceptual constructs that *for us* constitute its very nature. My reading is *not* an attempt simply to provide an interpretation of *some* of Hume's arguments in terms of projectionism. My aim is more general. I hope to establish that Hume's philosophy is projectionism through and through. This is a highly controversial interpretation because it might appear to be extraordinarily "abstract". Indeed, I shall treat nearly all workings of the mind as potential projections. To be more precise, I shall argue that all perceptions that can be analyzed by a *distinction of reason* (T, 24-5) become projections if we believe that they properly describe the world. The class of non-projections is thus limited to perceptions with "that certain *je-ne-scai-quoi*, of which 'tis impossible to give any definition or description, but which every one sufficiently understands." (T, 106)

By definition, if Hume is a projectionist, then his philosophical position cannot be defined *solely* as empiricism, skepticism, or common-sense realism. I believe that if we focus upon Hume's methodology, then we have no choice but to consider seriously the issue about the great *variety* of his arguments. We then have to come to understand how it is possible for Hume to be an empiricist, a sceptic, and a realist -- *all at the same time*. We can understand this if and

only if we view Hume's system as projectionism. That is to say, Hume believes that by a distinction of reason our minds are capable of constructing *different* systems of beliefs. Some of our beliefs are best understood in terms of empiricism, others in terms of skepticism, still others in terms of common-sense realism. These *various* constructions are then projected upon the world, and we make an implicit commitment to read the world in terms of them.

In what follows I place a great deal of emphasis upon the fact that Hume identifies *three* essentially different sets of conceptual tools that result in three theoretical standpoints -- the view of the vulgar, the theory of the false philosophy, and that of the true philosophy. Human beings are capable of constructing *three* incompatible and independent sets of beliefs. From the standpoint of the view of the vulgar the world is implicitly defined as an aggregate of mind-independent bodies. From the standpoint of the false philosophy, the world is defined in terms of mind-independent objects and their representations in our minds. From the standpoint of the true philosophy, the world becomes defined in terms of a consistent metaphysical system of definitions of mutually related and arbitrarily chosen entities (examples of such could be "substances", "primary qualities", "mathematical points", etc.). Hume believes that we have no independent and objective grounds, which would warrant the evaluation of our projections. Consequently, our only hope to establish a normative evaluation of our beliefs lies in the analysis of the conceptual tools by which each set of projections is constructed.

I propose to identify Hume's philosophical system with a philosophical stratum that underlies his empiricism, skepticism, and common-sense realism. I believe that this foundational level cannot be properly described in terms of faculty psychology. We have to make normative statements about our beliefs, and Hume can do just that because his particular arguments arise

from a conceptual analysis of judgments and theories, and from his deep-seated appreciation of the way in which our understanding of probability changes philosophical problems. In what follows I attempt to show the *unity* of Hume's thought, by showing that he has a philosophical system that enables him to examine each construction of the mind separately, and to evaluate the usefulness of all of our beliefs.

I realize that my claim that Hume developed a coherent philosophical system may initially seem to be foolish. But we cannot ignore the influence of 19th century readings of Hume's work, which tended to regard him as a *non-systematic* philosopher. Consider Burton's unflattering evaluation of Hume's *Treatise of Human Nature*:

It has been generally and justly remarked, that the *Treatise* is among the least systematic of philosophical works -- that it has neither a definite and comprehensive plan, nor a logical arrangement. It was, indeed, so utterly deficient in the former -- there was so complete a want of any projected scope of subject which the author was bound to exhaust in what he wrote -- that an attempt to divide and subdivide the matter after it had been written, according to a logical arrangement, would only, as a sort of *experimentum crucis*, have exposed the imperfect character of the plan. The author, therefore, very discreetly allowed his matter to be arranged as the subjects of which he treated had respectively suggested themselves, and bestowed on his work a title rather general than comprehensive, -- a title, of which all that can be said of its aptness to the subject is, that no part of his book can be said to be wholly without it, while he might have included an almost incalculable multitude of other subjects within it.¹

T.H. Green's subsequent analysis² of Hume's "system" established what we can call the 'received view' of Hume's philosophy. According to this view, Hume is a sceptic, even the Great Sceptic, whose philosophy is an elaborate *reductio ad absurdum* of British Empiricism. Green interpreted Hume as a philosopher who never takes anything for granted: Hume's empirical atomism is taken to eliminate *necessity* from philosophy; and his allegedly absurd theory of personal identity is believed to deny the very possibility of a unified account of the

world. Green argues that Hume proved the impossibility of arriving at any knowledge by empirical means, and thus had shown that empiricism renders “all philosophy futile.”³

We can identify three features of the ‘received view’ of Hume’s philosophy:

- (1) Hume’s scepticism denies the possibility of obtaining any knowledge, and it is a logical consequence of the extreme empiricism of the tradition of British Empiricism;
- (2) Hume’s philosophy should be seen *solely* as part of this tradition;
- (3) Hume’s particular theories have no lateral connections, and they can be analyzed separately without losing any content.

These tenets of the ‘received view’ establish a position that leads to the description of Hume’s work that I intend to undermine. The ‘received view’ entails the claim that Hume has gained fame and recognition in the history of philosophy because of his attention to *individual* problems.

Hume’s scepticism, his bundle theory of personal identity, his analyses of causation and induction, have become inseparable from most current philosophical inquiries. The ‘received view’ alleges that Hume’s philosophical genius is established, whether or not he succeeded in developing a philosophical system. Accordingly, it is believed that the study of Hume’s philosophical system, the design of his work, and his intentions might, at best, be merely of some historical interest.

We have good grounds to be suspicious of the ‘traditional view’ because it comes from a hostile party. Green uses Hume’s philosophy to prove the untenability of empiricism in general, because it allegedly inevitably leads to total scepticism. Green finds that scepticism *per se* is a self-defeating position because it undermines the very possibility of knowledge, something that all philosophers -- including empiricists -- strive to establish.⁴ Generations of Hume scholars have endeavored to show that the ‘received view’ of Hume’s system is deficient, and I am happy to join this campaign.

Let us now consider several responses to the 'received view'. I am aware that my description of the attack that Hume scholarship has waged against the 'received view' might appear both overly broad and historically inaccurate. But even a deficient and selective overview of recent scholarship will help to convey where my position stands in respect to previous work in the field. If the 'received view' identifies an extreme position on one side of the spectrum of various views, I would like to develop another position on the *opposite* side of the spectrum. I in fact believe that previous responses to the 'received view' *have not gone far enough*, and so I here hope to build an alternative position that is completely disassociated from the 'received view'.

We can identify four broad responses to the 'received view'. The first attacks the claim that Hume's scepticism is *the* central feature of his work. Let us call it the 'naturalistic response'. The second maintains that we misread Hume's philosophy if we approach it merely as a part of British Empiricism. Let us call it the 'contextual response'. The third focuses on the analysis of lateral connections among Hume's arguments, and their reliance on psychological predispositions that generate theoretical concepts. Let us call it the 'dispositional response'. Finally, the 'complex approach response' attempts to interpret Hume's philosophy *as a system*.

Norman Kemp Smith⁵ was the first to highlight the importance of naturalism in Hume. He argues that "[t]he establishment of a purely naturalistic conception of human nature by the thorough subordination of reason to feeling and instinct is the determining factor in Hume's philosophy."⁶ The connection between Kemp Smith's position and the 'received view' is unmistakable. Kemp Smith claims that earnest critics who label Hume as a sceptic neglect the most important feature of his work -- his naturalism. While Kemp Smith has no particular

opposition to the view that some of Hume's arguments are sceptical, he seeks to undermine the claim that Hume is *nothing but* a sceptic. If there is *one* lesson to be learned from Hume, claims Kemp Smith, then we should see him as a naturalistic philosopher because "Hume's philosophy is not fundamentally sceptical; it is positive and naturalistic, and we may here add, humanistic in tendency."⁷

The issue of Hume's naturalism has become a common topic in Hume scholarship, although nobody else was able to isolate Hume's naturalism from his other concerns quite so extremely as Kemp Smith. Kemp Smith's most prominent successor -- Barry Stroud -- tries to overcome the opposition between Hume's scepticism and naturalism. His interpretation is less extreme: "Of all the ingredients of lasting significance in Hume's philosophy I think his naturalistic attitude is of the greatest importance and interest. He saw it as his most original contribution, and it gives rise to the most far-reaching and challenging issues raised by his philosophy."⁸ Many have agreed with Stroud in identifying Hume's naturalism not as the central feature of his work, but as one of its ingredients. Wade Robison gives a description of Hume's naturalism that now would be endorsed by many Hume scholars. He argues that Hume "is concerned with, as it were, the natural history of the human mind, with how we come to hold certain beliefs or make certain judgments, and necessary to that history is an explanation of the mind's basic structure and of the objective conditions which, when combined with that structure, produce the basic beliefs we have. Hume's philosophy is thus meant to be essentially *descriptive*."⁹ But this interpretation of Hume's naturalism has variations. David Pears, for example, argues that Hume's naturalism anticipates the relevance of evolutionary theory to philosophy.¹⁰ According to Pears, Hume recognizes that particular conceptual frameworks

define the meanings of ideas. If, however, philosophical examination reveals that no acceptable justification of a given idea can be found within the accepted framework, then we have no choice but to argue that we proceed in a way that we find natural. Nature, in a sense, engraves particular uses of ideas on our minds.

I completely endorse this attempt to undermine the claim that Hume is nothing but a sceptic. Contrary to the 'received view', naturalism deserves to be recognized as an element of Hume's philosophy. But why should we replace one label for Hume's philosophy with another? Why simply substitute 'naturalism' for 'scepticism'? Why should we believe that there is only *one* lesson to be learned from Hume? The 'received view' of Hume's work is wanting not only because it mistakenly defines his philosophy, but also because it treats Hume's work too narrowly. Moreover, the 'received view' cannot escape from being arbitrarily selective about Hume's arguments. Clearly, Hume's work contains sceptical arguments, but this is merely one aspect of his philosophy. The cost of emphasizing Hume's skepticism comes at the neglect of the richness of his work. To claim that Hume is a sceptic, we have to downplay the importance of many passages where he clearly expresses *other* concerns. Why should we insist that Hume's sceptical arguments, and not, for example, his theory of causation, identify the core of his work?¹¹ Unfortunately, the 'naturalistic response' to the 'received view' suffers from the same problem of treating Hume's work too narrowly. One has to have a justifiable reason for selecting particular aspects of Hume's philosophy as central for his cause. Neither the 'received view', nor the 'naturalistic response' to it, can readily explain *why* a given selection of Hume's arguments is definitive of his overall project.

The 'naturalistic response' to the 'received view' of Hume has recently evolved into a

realist reading of Hume, which gives a different answer to the question of what the central feature of Hume's philosophy is.¹² Here scepticism is replaced by realism. It is argued that Hume's arguments can be rendered meaningful if we adopt the following hypothesis: regardless of the fact that we cannot justify it, the world indeed has the features that are captured by the naive realism of the vulgar. As John Wright explains: "On the realist interpretation, Hume's major aim is to discredit a 'rationalistic' conception of man as a being who is independent of the rest of nature. While Hume accepted something called the 'theory of ideas' from his predecessors, he concentrates on what must be added to it in order to explain human belief and behavior."¹³ The realist reading assumes that the vulgar adequately perceive the features of the mind-independent universe, and human behavior can be properly explained only on the basis of this recognition.

I believe, however, that this new development is equally open to the abovementioned methodological criticism. The texts clearly depict the richness of Hume's work. However, we do not and cannot have any standard that would allow us to decide whether a given set of passages is relevant or irrelevant in defining Hume's project.¹⁴ Our evaluation of the relevance of any given passage to Hume's overall project has to be founded on some theory or other. My project therefore is to attempt to define Hume's theory about the nature of theories (see chapter 2), so that it can serve as a foundation for our evaluations of the role that particular arguments play in relation to Hume's overall project.

Let us now briefly examine the 'contextual response' to the 'received view'. It is by far the most widely shared in Hume scholarship, and it would be a large task to provide a fair overview of the literature. I shall take a shortcut here by insisting on the importance of a

principle that, although obvious, is often forgotten. One should remain impartial and avoid imposing a contentious reading upon Hume's text, and instead take the utmost of care to detect Hume's own meaning. This principle requires a *lasting* open-mindedness on the part of Hume scholars. Indeed, if this principle were acknowledged, then the search for the 'proper' influences upon Hume would become secondary. Then in our investigations of Hume's arguments we could simply proceed on a case-by-case basis.

There are two types of 'contextual responses'. The first maintains that traditional divisions in the history of philosophy are artificial and misleading. In this context, Hume becomes a case study to substantiate such a claim. Two issues are usually raised in this connection. Some commentators¹⁵ are concerned about the ideology of philosophical classification, and see the identification of the tradition of British Empiricism -- the 'Locke-Berkeley-Hume triumvirate' -- more as a politically than a philosophically motivated classification. They are passionate about expanding the circle of influences upon Hume, sometimes at the cost of denying obvious connections within the tradition of British Empiricism. Others¹⁶ are content to attack the distinction between rationalism and empiricism, and to claim that Hume, as well as other philosophers of his time, are better understood within a new framework that allows for mutual influences between philosophers in both traditions -- instead of imposing an unwarranted expectation of their inevitable antagonism.

The second type of 'contextual response' identifies the origins and the context for particular arguments of Hume. John Laird's *Hume's Philosophy of Human Nature*¹⁷ still remains the best single description of the sources for Hume's arguments. More focused studies provide valuable insights that were overlooked by the 'received view'. Michael Ayers¹⁸ and David

Raynor¹⁹ have convincingly revealed Hume's indebtedness to Berkeley. Charles McCracken²⁰ gives a telling presentation of the presence of Malebranche's insights in the works of English-speaking modern philosophers. In *Hume's Sentiments: Their Ciceronian and French Context*, Peter Jones²¹ thoroughly examined Hume's interest in ancient philosophy. Paul Russell²² has highlighted the Hobbesian trends in Hume's philosophy. Others have dealt with the similarities between the Newtonian²³ revolution in physics and Hume's endorsement of experimental philosophy. These studies clearly demonstrate the depth of Hume's philosophical background, and, thus, undermine the claim of the 'received view' that the significance of Hume's philosophy is limited to the tradition of British Empiricism.

I believe, however, that these contributions must be further explored. We cannot rest content with proving the existence of a variety of influences upon Hume. We need to see what becomes of Hume's philosophy when these newly established influences are recognized. Indeed, what should we learn from Hume when we see that his philosophy is not limited to the tradition of British Empiricism? I believe that these disparate contributions not only show the inadequacy of the 'received view', but also show it to be completely irreparable.

Let us now briefly examine the 'dispositional response'. It maintains that the 'received view' fails to appreciate the importance of Hume's account of the manner in which the mind *actually* operates. It is argued that Hume's discussion about various tendencies, propensities, natural beliefs, and general rules²⁴ breaks the boundaries of his particular arguments and establishes a variety of ways in which the issues of external existence, causation, identity, induction, and the passions are intertwined. In a sense, the 'dispositional response' identifies the very subject of Hume's *Treatise* -- how to define human nature. The 'dispositional response'

highlights the claim that our sentiments and predispositions ‘add’²⁵ something specifically human to the perception of the world that is given to us solely by our senses. Vice and virtue, beauty and deformity, and even necessary connection are not in the objects themselves. They remain for Hume an *invention* by which humans take something that is in fact mental and see it as external.

I believe that the ‘dispositional response’ introduces a new problem that deserves more scrutiny. The issue of *defining* the limits of human nature, or identifying what is the subject of Hume’s science of man, should become central in our examination of Hume’s work. Does Hume’s science of man exhaust his philosophy? Is there more to Hume’s arguments than merely a diagnosis of the causal structure of actual deeds? Barry Stroud argues that “Hume’s “science of human nature” is meant to explain, in theory, how human beings come to have all the ideas, thoughts, and beliefs that we know they have.”²⁶ This interpretation rests on the view that Hume’s view about human nature can be depicted as faculty psychology. But this definition of the science of man is certainly too general to provide a useful mapping of Hume’s arguments. More detailed accounts of Hume’s arguments can be given from a different perspective. If we agree that our minds ‘spread themselves’ over the world, then the understanding and classification of different kinds of projections should inevitably become the main task of our analysis. I believe that in this context Stroud’s claim that Hume’s science of man covers all possible activities of the mind is not instructive. Without a doubt, Hume wants to classify the mind’s activities. But he also tries to offer *normative* criteria for a reliable examination of our ideas and beliefs, and thus identifies the self-reflective nature of philosophical inquiries. Stroud is right that Hume’s *science of human nature* fails to face the *questions* of normativity. But this concession does not prove that Hume himself is not concerned with the *issue* of normativity. If

we agree that Hume deals with the issue of normativity, as I think we should, and if we concede that the science of man evades this issue, then we cannot claim that Hume's philosophy is exhausted by his science of man. But what else is there? This thesis will argue that the questions of normativity can be addressed on the basis of the conceptual analyses that underlie Hume's philosophy. I shall argue that the 'dispositional response' to the 'received view' shows the necessity of introducing a completely different framework in terms of which the very variety of Hume's arguments can be assessed. I believe that we have to see Hume not as a rudimentary "armchair" psychologist, but rather as an analytic philosopher of the highest rank.

Finally, the 'complex approach response' to the 'received view' maintains that there is a particular pattern of argumentation that depicts Hume's attempt to resolve philosophical problems in a systematic manner. The most common interpretation of this type focuses on Hume's empiricism and claims that his use of the 'copy principle', the hypothesis that simple ideas are copied from impressions, forms the basis of his philosophical arguments throughout the *Treatise*. David Pears, in *Hume's System*, maintains that Hume's 'copy principle' succeeds in introducing the issues of meaning, evidence and truth as a *unified complex*.²⁷ Pears finds that Hume's ability to show that in all areas of philosophy we have to establish a certain balance between the issues of truth, evidence, and meaning, remains at the core of Hume's system. According to this reading, Hume succeeds in generating a particular framework within which traditional philosophical problems are brought together, and his theory of ideas provides a solution to these problems. Although Pears concedes that this solution has many faults, he insists that Hume's arguments *should* be read as a philosophical system -- 'sophisticated empiricism' -- which positions Hume's philosophy against 'rationalism' and 'naïve empiricism'.

Donald Livingston²⁸ provides a different interpretation of Hume's philosophical system. He maintains that Hume constantly uses a *dialectical* pattern of argumentation.²⁹ According to Livingston, Hume recognizes that philosophical inquiry inevitably has a self-referential nature. Livingston further notices that for Hume the context in which philosophical arguments can be applied is ever-changing and, as a consequence, philosophical principles remain relative. He argues that Hume operates with three different views -- the view of the vulgar, the false philosophy, and the true philosophy -- and he believes that these positions are *dialectically* related to each other. Thus, Hume's arguments reach beyond the immediately given into the meta-theoretical realm. Livingston believes that Hume's dialectical pattern of argumentation examines the principles that should be followed to develop a theory that can withstand the most critical examination.

It seems to me that to a sympathetic reader both attempts to perceive Hume as a systematic thinker will seem plausible. Clearly, Hume is an empiricist, and he tries to apply the theory of ideas to resolve philosophical puzzles. But he also develops sophisticated arguments in which philosophical inquiry itself is scrutinized, and he develops the view that predispositions, passions, and one's acceptance of particular explanatory principles, determine the nature of particular accounts of phenomena. Must we choose between these two competing views to present a coherent reading of Hume's system? I shall argue that the conflict between Hume's sophisticated empiricism and his dialectical tendencies can be avoided, and that these two broad views can be shown to be compatible within a more general framework -- Hume's projectionism.

First, this thesis will not try to resolve the question as to whether Hume's philosophy is best depicted as scepticism, naturalism or realism. These 'labels' are artificially imposed by the

‘received view’, together with its modifications and corrections. I shall address these issues. But we should not expect that my answers to them will, on their own, generate a systematic reading of Hume’s philosophy. Some of his arguments are skeptical, while others present a naturalistic or realistic account of the mind. We clearly need a new framework that will explain the *variety* of Hume’s arguments. I shall maintain that the variety of Hume’s arguments can be accounted for if and only if we see him as a projectionist. Secondly, I will not attempt to identify the work of any particular philosopher as *the* deciding influence upon Hume’s philosophy. Projectionism gives Hume a unique perspective upon the work of *all* of his predecessors. He can approach particular philosophical theories and arguments as individual modules, and appreciate them without appearing to be a disciple of any given philosopher. Thirdly, I shall bring to the fore the significance of Hume’s discussion about dispositions and sentiments as a unifying feature of his particular theories. Finally, I shall define the general theoretical framework within which Hume’s arguments can be presented as a unified system. Hume’s philosophy can be broadly described as projectionism.

Simon Blackburn has given a description of Hume’s projectionism that I fully endorse:

In this [Hume’s] picture the world -- that which makes proper judgment true or false -- impinges on the human mind. This, in turn, has various reactions: we form habits of judgment, and attitudes, and modify our theories, and perhaps do other things. But then, and this is the crucial mechanism, the mind can express such a reaction by “spreading itself on the world”. That is, we regard the world as richer or fuller through possessing properties and things which are in fact mere projections of the mind’s own reactions: there is no reason for the world to contain a fact corresponding to any given projection. So the world, on such a metaphysic, might be much thinner than commonsense supposes it.³⁰

In my interpretation, Hume’s projectionism covers three different issues. First, his theory of belief allows Hume to capture the nature of individual projections, such as our perception of

objects. Individual projections are generated by our epistemic habits that enable us to construct complex ideas from given simple impressions. Secondly, Hume also tries to explain various *systems* of projections. For him the view of the vulgar is an *inductive* system of beliefs, while both the true and the false philosophy are organized as *deductive* systems of beliefs. Each system enables its users to construct new beliefs *without* any explicit reference to immediate experience, so that Hume can broaden the scope of projections. Our projections are not merely interpretations of given sense-data. They are primarily *inventions of external existences*. Finally, Hume examines the relation between our projections, as ordered systems of beliefs, and given states of affairs. He argues that this relation can be depicted in terms of probability. For Hume probability is the property of a given system of ideas that identifies an implicit relation between associated beliefs.

This approach puts Hume into the company of philosophers such as C. S. Peirce, J. M. Keynes, F. P. Ramsey, and R. B. Braithwaite. It highlights the idea that Hume's understanding of habits and beliefs anticipates Peirce's arguments.³¹ Louis Loeb describes the similarities between the theories of Hume and Peirce in the following way:

Much as Peirce writes of the 'fixation' of belief, Hume writes of operations that 'infix' ideas with force or vigour, that is, that infix belief. Much as Peirce thinks that belief requires a state that is settled because habitual, Hume thinks that beliefs are infixed by custom or habit, as well as by memory and the senses. These are but two symptoms that *A Treatise of Human Nature* contains the main elements of Peirce's theory of belief.³²

Habits and beliefs that we employ in our reasoning are the guiding principles of inference. I shall treat beliefs as the algorithmic processes that generate individual projections.

Hume's examination of the three systems of projections -- the vulgar, and the theories of the false and the true philosophy -- closely resembles Ramsey's and Braithwaite's³³ analysis of

scientific theories. The issue of the nature of abstraction or generalization underlies both positions. When by the application of a given cognitive habit we derive a hypothesis, we inevitably face the question of its empirical validity. Two different conceptual attitudes can be adopted in this case. First, we can argue that in our hypothesis we *describe* a given state of affairs. In this case, we tacitly affirm that our beliefs acquire meaning by denotation. Both Hume and Ramsey agree that this choice will render our hypothesis applicable solely to a given situation with no hope of making valid generalizations in further inferences. Or, secondly, we can argue that our hypothesis does not properly describe a state of affairs, but instead helps us anticipate the future, and thus guide our actions. Here abstract ideas, or theoretical terms, function as *rules* for making judgments by which we express our predisposition to construct a given judgment whenever the occasion arises. Here we maintain that the meaning of beliefs is given by their use thereby avoiding the reification of abstract ideas. Ramsey³⁴ believes that scientific theories are best understood as projections without any commitment to reified theoretical terms. I shall show that Hume anticipated this position by implicitly applying it in his analyses of the vulgar and philosophical systems of beliefs.

Finally, my interpretation brings to the fore Hume's interest in probability. He believes that we cannot assess the relation between our projections and given states of affairs with certainty. I believe that Hume's account of probability should be regarded as the ancestor to Keynes's³⁵ analysis of subjective probability. Keynes introduces his account in the following manner: "Part of our knowledge we obtain direct; and part by argument. The Theory of Probability is concerned with that part which we obtain by argument, and it treats of the different degrees in which the results so obtained are conclusive or inconclusive."³⁶ Probability for both

philosophers is the function by which the conclusiveness of partial beliefs can be measured within an organized system of beliefs. The issue about the principles that would allow us to measure partial beliefs is crucial for the defense of Keynes's theory of probability. I shall show that Hume's views implicitly contain a better defense of the principles of subjective probability than Ramsey's attempt to quantify probability "from the possibility of acting on it consistently."³⁷

Unlike Keynes, Hume is a pluralist about theories, and thus has more resources to address the shifting systems of partial beliefs. Hume understands that individual utility, as a matter of fact, is more important for the acceptance of any system of beliefs than its consistency. Thus Hume expands the scope of the relevant criteria for the analysis of partial beliefs, and argues that the acceptance of beliefs is a dynamic process. Hume's position can be modeled by analogy to recent attempts to incorporate game-theoretical elements into the theory of subjective probability.³⁸

This general outline of Hume's philosophical system has a dual nature. On the one hand, I have to show that projectionism, as it is broadly presented here, contains no serious flaws. On the other hand, I must also prove that projectionism properly defines Hume's philosophy. It is impossible to strike a balance between these tasks if we insist that projectionism has its proper roots solely in 20th century philosophy. (Indeed, if projectionism is to be defended, why should we bother to talk about Hume at all?) This thesis will show that Hume's concern with human nature makes his perspective upon projectionism unique. He regards our understanding and passions as two sources for our projections, and argues that these sources should not be isolated from each other. This allows him to explore the consequences of projectionism more freely and imaginatively than 20th century philosophers. Thus, unlike contemporary projectionists, such as

Ramsey and Blackburn, Hume's arguments are not hampered by 20th century concerns about scientific realism and reductionism. As a result, Hume can establish a mediating position of projectionism by treating scientific realism and instrumentalism equally, as competing ontologies. This gives him an advantage over more recent projectionists who cannot regard instrumentalism as a plausible alternative to scientific realism.

But the central task of this dissertation is to understand *Hume's* projectionism. I am well aware that there is a danger of this examination being viewed merely as a study in the history of ideas. If I argue that given passages in Hume's work confirm his endorsement of projectionism, instead of naturalism or empiricism, then I will inevitably challenge entrenched readings. And this will undoubtedly appear to be especially damaging if Hume's arguments are discussed *in isolation*. The wide background of Hume's empiricism or scepticism is often presupposed when interpreters focus on a given passage to support their attribution of empiricism or skepticism to him. Any *alternative* reading of the same passage has no such privilege. On the contrary, the notion of Hume's projectionism has no intuitive appeal. This has to be established. My main task therefore must be to show that the projectionist interpretation is not only consistent with the text, but also is plausible because it explains the variety of Hume's arguments. If the interpretation of a given passage in terms of projectionism is deprived of this context, and stripped of its capacity to produce similar readings of other passages, then it no doubt will appear somewhat superficial and uninformative. A projectionist interpretation of any particular argument *alone* cannot prove that Hume is a projectionist. So it might seem that, if we wish to talk about one of Hume's particular arguments, we would be better off discussing it in terms of skepticism, realism, or indeed any view that presupposes common knowledge about its wider

context. For this reason I believe that the interpretive work on Hume's texts cannot be treated too narrowly, and should like to discourage my readers from expecting me to provide a *decisive* proof for Hume's projectionism. My interpretation of Hume's particular arguments will be properly understood only if we keep in mind the plausibility of applying projectionism in our interpretations of many of Hume's *other* arguments as well.

This dissertation will try to bridge the gap between conceptual and historical issues in the following manner. Chapter 2 will evaluate Hume's views about the nature of theories. This chapter will prove that Hume has plenty of conceptual resources to deal with the issue of normativity. This perspective will present a different entry into the examination of Hume's philosophy. Traditional issues about the meaning of ideas and the truth of propositions will not fade away. However, by highlighting Hume's interest in *how* given projections are constructed, we will show that the reliability of the method by which they are derived provides the key to solving issues of meaning and truth. I shall argue that Hume examines the issue of meaning on the basis of his analysis of the manner in which a given belief is constructed and employed. This chapter will examine the theoretical features of *three* complete and different kinds of theories -- the view of the vulgar, that of the false philosophy, and that of the true philosophy.

Chapter 3 will discuss Hume's attempt to introduce a new system of the sciences. In this chapter I hope to show that my account of Hume's projectionism is not an attempt to impose an anachronistic reading upon 18th century discussions, but is rather a philosophical position that reconciles the views of Locke and Berkeley. I hope to show that the development of methodological views within the tradition of British Empiricism can be modeled in terms of realism, instrumentalism, and projectionism. Locke attempts to defend the experimental sciences

by developing a position of scientific realism. Berkeley's critique of abstractionism undermines the ontological commitments of this position, and in its place develops a position that can be described as instrumentalism. Hume endorses Berkeley's anti-abstractionism, but tries to apply it in a manner that does not eliminate the significance of the experimental sciences. This can be accomplished only by re-defining the goals and nature of scientific theory in terms of projectionism.

Finally, in chapter 4 I will discuss Hume's views on probability. For Hume the mind is just a collection of various arrangements of projections. Systems of ideas are autonomous entities that often have no connection with each other. Partial beliefs do not describe states of affairs, but are projections that guide our actions. Probability can be assigned on the basis of the analysis of the manner in which given inferences follow within a system of beliefs. But the analysis of the internal features does not suffice. In an environment of competing partial beliefs, or competing strategies for further action, we also have to understand the dynamic decision-making process that defines our strategy for making a given choice.

Chapter 2: Hume's Analysis of Theories

2.1. Introduction

It might appear that the analysis of theories does not belong to the tradition of British Empiricism. After all, Locke, Berkeley and Hume are believed to be guilty of 'psychologism', and in their epistemic analyses they are allegedly limited to 'faculty psychology' -- an outdated and philosophically bankrupt project. Even philosophers who are more charitable suggest that the philosophical reputation of the British Empiricists would be better served if the theory of ideas were abandoned.¹ The theory of ideas is believed to be fallacious because it fails to provide any argument that establishes the relation between an actual pattern of thought and a norm for thought. Hume, among others, is accused of mistaking the analysis of habitual inferences for a discussion about warranted beliefs.² However, this charge of 'psychologism' in the works of the British Empiricists recently has been challenged.³ And it is increasingly recognized that Hume's theory of ideas is a multifaceted view that presents more than rudimentary psychology. It also contains elements of analysis, and various accounts of the construction of different systems of beliefs. In this chapter I shall examine this 'hidden' feature of Hume's theory of ideas.

The general line of thought for this chapter may be briefly indicated at the outset. What is the general theoretical framework of Hume's philosophy? Why should we approach Hume's work as a philosophical system? I shall defend the view that Hume implicitly employs a set of standards that define an acceptable theory, and that he continually applies it in evaluating various projections of the mind. Hume argues that:

[W]e may observe a gradation of three opinions, that rise above each other, according as the persons, who form them, acquire new degrees of reason and knowledge. These

opinions are that of the vulgar, that of a false philosophy, and that of the true. (T, 222)

This crucial passage will be quoted fully and its analysis will be presented later (p. 66). At the moment, we shall discuss the theoretical framework in terms of which this passage will be read. I shall argue that Hume develops a standard against which these projections can be tested. This standard is a theory about the logical structure of projections, which enables Hume to apply rigorous theoretical standards to the three main types of projections -- the view of the vulgar, the false philosophy and the true philosophy. I shall insist also that these projections themselves can be considered as theories about the external world, and that they are essentially independent of each other. Regardless of their shared assumptions and some similarities in their logical structure, these projections are incompatible because each generates a complete and different account of the world: the view of the vulgar presents us with common-sense realism; the false philosophy insists on the theory of the double existence of external and internal worlds; and the true philosophy operates merely with metaphysical definitions of perceptions. The fact that all three theoretical constructions generate incompatible ontological claims will be explained by the analysis of different operations that are used in the construction of these theories. If I am right, then the aim of Hume's theoretical philosophy is not to construct *one proper* theory about the world, but to evaluate which particular type of projection generates a most reliable view. Moreover, his evaluation of projections faces the question as to why a particular construction is preferable to others, and to what degree it can be trusted. Hume will here be presented as a *pluralist* about theories in terms of which we can understand the mind-independent world.

The position that I am attributing to Hume should be contrasted with another view about

the nature of conceptual analysis, where conceptual improvements are seen as being part of a process that results in developing one encompassing theory about the world. Under the influence of logical positivism,⁴ a similar view was adopted in respect to Hume's philosophy. Here the view of the vulgar is not recognized as a theory. The senses are said to provide us with the subject matter -- the ideas of immediate perception. These ideas are then allegedly shaped into some system by the constructive efforts of philosophers. Philosophy is thereby alienated from the daily concerns of common-sense realism, and philosophical inquiry becomes the process of striving towards a unified theory about the world that is *incompatible* with the common-sense view.

It is hard to decide between these two different readings of Hume's conceptual analysis without specifying the exact problem. If we see Hume as a pluralist about theories, then we shall agree that (1) he identifies three incompatible systems of projections in terms of which we define the external world; and (2) he fails to find criteria that enable us to reduce this variety of views to a common foundation. The deciding issue in the dispute whether Hume should be seen as a pluralist about theories can be brought out by considering the different attitudes to the view of the vulgar. If Hume is a pluralist about theories, then he should be seen as interpreting the view of the vulgar as a theory, albeit a mistaken theory. And this view commits us to a somewhat radical claim that all activities of the mind are theoretical activities, *i.e.* that for Hume there is no such thing as a non-theoretical arrangement of perceptions. If we believe, however, that Hume's conceptual analysis is a process that leads towards the construction of one unified theory of the world, then we have to acknowledge that Hume's account of the vulgar contains no constructive

elements that are worth investigating. We have to maintain that for him the vulgar perception remains merely a passive provider of sense-data. This chapter will defend the claim that Hume sees all activities of the mind, *including the naive realism of the vulgar*, as essentially constructive efforts. Thus, I shall present Hume as a pluralist about theories. Along with the theories of the false and the true philosophy, the view of the vulgar is a theory that is constructed in our minds and later projected onto the world.

I am keenly aware that my intention to demonstrate that Hume is a pluralist about theories appears to be foreign to Hume's insistence that *habit* is properly the leading principle in the operations of the mind. The defense of my position hangs on my ability to overcome this objection. The mind cannot be both active in constructing a theory about the world, and passive in merely perceiving mind-independent events.⁵ Since I am making the claim that Hume treats the mind as essentially active, I need to explain how his remarks about habits should be read. This will be done in the section below (p. 35).

2.2. Main Elements of the Analysis

A theory for Hume is a structured system of perceptions. Within this system we can identify two sets of perceptions. The primary set contains perceptions that constitute the universe of discourse. The secondary set of perceptions describes relations that hold within the universe in question. Intuitively, the primary set would correspond to a set of *impressions*, while the secondary set would correspond to a set of *ideas*. Moreover, the relations between the primary and the secondary sets of perceptions are ordered according to the following principles:

1. The perceptions of the primary set should be identified, and defined; and their definitions should remain unchanged within all relations described by a given theory.
2. The perceptions of the secondary set must represent the perceptions of the primary set according to uniform principles.
3. The perceptions of the secondary set should be related to each other by a set of consistent rules. Moreover, the number of rules by which the perceptions of the secondary set are related should not be multiplied unnecessarily.

I shall use this initial description for expository purposes as the standard against which the three different kinds of projections -- the view of the vulgar, the false and the true philosophy -- must be compared. The fact that Hume has not explicitly stated this standard in his work cannot undermine my claim that he implicitly relies on it in his examination of given projections.

I will argue that Hume, in his evaluation of theories, employs two criteria -- (1) the *consistency* of a given theory, and (2) its *usefulness*. A theory is to be considered consistent if it does not generate contradictory inferences. A theory is to be considered useful if the relations between the primary set of perceptions and the secondary set of perceptions can be made explicit, so that individuals endorsing a useful theory will be able to predict what inferences any given impression warrants.

A few preliminary remarks about this framework are in order. The conception of theories that I am advocating here, as essentially Humean, is different from the positivistic attempts of Russell⁶ and Carnap⁷, who argue that any (scientific) theory requires a firm and indubitable basis in a unique and common ‘observational language’ in which its propositions can be judged as either true or false. If we were to accept this interpretation, we would have to maintain that the reduction of more abstract levels of theoretical concepts to the propositions of ‘observational language’ allows us to evaluate every scientific proposition in terms of truth-functions. There is, nevertheless, an alternative view⁸ about the nature of theories. Such a view, as developed by Frank P. Ramsey⁹, is a holistic view, which affirms that theories themselves cannot be judged to be either true or false.¹⁰ We can only conduct empirical tests of singular propositions that are deduced from the theories. The relations (laws) between the defined elements of a theory are not expressions of a truth-function but of a belief, or a habit of making judgments by which “the speaker meets the future.” For Ramsey, “the theoretical system is all like a variable hypothetical in being there just to be deduced from.”¹¹

The framework of the analysis of theories that will be used in this chapter is much simpler than the one proposed by Ramsey. For Hume the only elements of analysis are perceptions -- impressions and ideas (simple, complex and abstract). Ramsey’s account of the primary and the secondary systems contains descriptive terms, singular statements, and general statements that are sometimes used as axioms, theorems, or a dictionary.¹² Nevertheless, in their interpretations of the nature of theories both philosophers share two main characteristics. First, the theoretical system is viewed as a whole. It is there just to enable us to construct testable

hypotheses. Secondly, the relations between the primary and the secondary systems are introduced *by us* to facilitate our understanding of the world. That is to say, we introduce theoretical terms, or ideas, to explain the elements of the primary system, and to justify our derivations within the secondary system.

Let me immediately give an illustration about the consequences of choosing which reading of the nature of theories to follow. Hume's distinction between impressions and ideas is usually believed¹³ to be an attempt to reduce the complexity of experience to simple indubitable entities. That is to say, his project is thought to be akin to that of Russell and Carnap. According to this view, all perceivers share a set of impressions that is given by immediate perception, and their impressions are regarded as the Humean substitute for the 'observational language'. Since I intend to challenge this view, I must immediately indicate what is wrong with it.

First, there is no indication that for Hume the primary set of perceptions is unique and universally shared. If I am right, then Hume would not acknowledge the existence of the universal and unique 'observational language'. When Hume talks about the nature of impressions early in the *Treatise*, he merely outlines the elements of his philosophical position to his readers. The meaning of Hume's discussion is transparent -- the mind can operate solely with perceptions. If we were to argue that, beyond this claim, Hume advances another one, namely, that there exists a set of unique and universally shared impressions, we would grossly misrepresent his position. For what would it mean to say that a generic impression of, for example, a 'table' exists? Is Hume implicitly relying on some ontology about the existence of

generic impressions? No. It rather seems that at the outset Hume is unwilling to endorse *any* ontological position, so we should be careful not to condemn Hume from the very beginning to some distinct ontology of universal generic impressions. What, then, are the “impressions” that Hume, with much confidence, presents as the criterion of meaningfulness? They are not eternal existences of Berkeley’s heterogeneity thesis.¹⁴ For Hume “impressions” are not merely given. They are constructed entities, and he clearly identifies imagination as the faculty that performs these constructions. The meaning of “impressions” can only be detected by means of an analysis of the ideas that these impressions generate. If this is correct, then an impression of a ‘table’, apart from the system of perceptions that constitutes one’s mind, has no meaning. We can talk about any impression only because its meaning is recognized in the employment of related ideas. Hume is trying to argue that impressions acquire meaning not by denotation, but simply by means of the relations among perceptions that constitute the perceiving mind. Minds are systems of perceptions. Therefore, we can define the meaning of impressions only in relation to a system of perceptions (see also p.201-5). And since individual systems of perceptions are constructed by imagination, we cannot claim that the primary system of perceptions is unique and universally shared.

Secondly, more than one primary system of perceptions is possible. Hume identifies three different kinds of projections. If we define impressions in relation to these theories, then we come up with different results. Within the system of the vulgar we, as a matter of fact, will be talking about the “impressions” that are defined as “external objects”. Within the system of the false philosophy we will be dealing with two sets of definitions. One set of definitions will

treat “impressions” as “external objects themselves”, while the other set of definitions will treat “impressions” as “*representations* of external objects”. The true philosophy will recognize that the meaning of “impressions” is fully captured in definitions of metaphysical entities, whatever they might be. I shall maintain that Hume’s philosophy does not allow any conceptual space for the analysis of generic impressions. By confirming this, we will also confirm that for Hume the primary set of impressions is not simply given, but is instead *constructed* within a theory.

We can now turn our attention to the question about the possible reconciliation between two seemingly incompatible claims about Hume’s work. The claim that for Hume all cognitive activities are constructive theoretical efforts conflicts with a widely accepted belief that the thoughts of the vulgar are organized on the basis of habits. This issue can be solved if we distinguish between the systematicity and justifiability of a projection. We can approach the views of the vulgar as constructive and systematic theoretical activities, but we can also make the claim that the theory in question is *unjustifiable*. Theories are compared to each other by their internal consistency within the outlined framework of primary and secondary sets of perceptions. The projections of the vulgar are best described as inconsistent *and* habitual because the connections between the primary and secondary sets of perceptions are maintained by habits, which are the relations of chance and, thus, cannot be justifiably accepted. For Hume the view of the vulgar is a theory that generates inferences that cannot be justified. There should be little surprise about this claim. The projections of the vulgar are inductive theories. Nevertheless, they are systematic theories in which relations are established by a given set of principles. These principles are mere associations that carry no proof of their validity.

The remaining part of this chapter will be organized in the following way. First, we shall examine the projections of the vulgar and prove that they are systematic theories that employ inductive generalizations to make predictions. Secondly, we shall examine the projections of the false and the true philosophy. Here we will show that they are essentially deductive theories. Finally, we shall evaluate these three types of theories.

I shall show that Hume rejects the projections of the false philosophy because they are internally inconsistent theories in which their users cannot predict what conclusions given definitions of impressions entail. Yet, he cannot easily reject the projections of the vulgar. Although these theories are found to be inconsistent, they generate a view that is *useful* in daily affairs. The deductions of the vulgar rely on implicit conventions.¹⁵ Every user of the view of the vulgar, including philosophers, knows what conclusions can be derived from a given set of impressions because of the shared common knowledge about the relations among perceptions within the view of naive realism. Finally, Hume finds that the true philosophy generates projections that satisfy the criterion of consistency in presenting internally consistent systems of definitions. These theories, however, remain unconvincing because the relations between the set of impressions and the set of ideas are not explicit. These relations can eventually be made clear by deductions. But even if this is done, they will be available only to a select group of philosophers. Moreover, it will provide little guidance in the conduct of daily affairs. As we shall see, Hume finds that none of the examined projections are both consistent and useful.

2.3. *The Theory of the Vulgar*

The view of the vulgar has been little studied by Hume scholars. Sporadically, philosophers, such as Lewis and Blackburn, have argued that Hume's philosophy presents rich analyses of our common ways of perceiving the world. Lewis has introduced into philosophical discourse concepts of Humean Supervenience and the desire-as-belief thesis.¹⁶ Blackburn¹⁷ has argued that Hume's arguments anticipate the position of 'Quasi-Realism', and that we commonly act on the basis of projected values without even realizing that our values are projected. Nevertheless, these trends in appreciating Hume's arguments have not been systematically developed.

The reason for this lack of interest about Hume's own position on what is commonly recognized as 'Humean' influences seems twofold. On the one hand, Hume's theory of ideas, and the principle that ideas are copied from impressions, is read as evidence of Hume's belief that the vulgar are merely passive recipients of the flux of perceptions.¹⁸ It is a commonly shared opinion that the 'naïve realism' is a systematic view not because of constructive efforts of the vulgar, but rather because the external world imposes certain regularities upon perceiving minds. As will be argued presently, however, this position cannot be attributed to Hume. It plainly ignores a great body of arguments in Book I of the *Treatise* (most notably, Sections viii-xiii in Part III, and Sections ii and v in Part IV) where Hume presents a detailed examination of the constructive endeavors of the vulgar. On the other hand, there has been no precedent that would invite such an investigation of the view of the vulgar. The development of empiricism in the 20th century has not identified the view of the vulgar as a philosophically significant subject.

Quine's¹⁹ influential analysis of the history of empiricism is a case in point and is overly simplistic. If we agree that Hume's philosophy is a precursor to the constructive empiricism of Russell and Carnap, then the issue about the theory of the vulgar never arises. Russell and Carnap sought to explain the manner in which logical constructions *should* be assembled, instead of investigating what *actual* constructions dominate the common-sense worldview.²⁰ But, clearly, Hume believed that the naive realism of the vulgar contains regularities that are worth investigating. These actual cognitive practices are the very subject of his book. Let us now proceed to an examination of the view of the vulgar, regardless of these initial methodological inclinations about the futility of the task.

In what follows I outline Hume's arguments about the vulgar from the perspective of the construction of theories. I do not challenge the conclusions that are traditionally associated with Hume's views about the vulgar, namely, that regardless of Hume's critique of the view of the vulgar, he argues that we have no choice but to endorse it.²¹ The present analysis of the vulgar is merely intended to specify *why* the views of the vulgar are mistaken, as well as to identify reasons for their inevitable endorsement. The reason for this endorsement, however, is not that the view of the vulgar essentially reveals the true causal structure of the world.²² Instead, it is my contention to show that Hume accepts the common-sense position of the vulgar because it is useful, *i.e.* we can predict what conclusions any given impression warrants, and we can act on the basis of our predictions.

Hume's analysis of the view of the vulgar initially focuses on the employment of abstract ideas. In terms of his analysis of theories, the vulgar pay no attention to the distinction between

the primary and the secondary sets of perceptions. There should be little doubt that for Hume this distinction is important. He believes that the perceptions of the primary set establish the universe of discourse, while perceptions of the secondary set clarify the relations within this universe. The vulgar use perceptions of the secondary set to represent an unspecified number of possible discourses, and thus fail to address any given universe of discourse properly.

According to Hume, abstract or general ideas are perceptions of the secondary set. He maintains that the perceptions of the primary set are always copied in the secondary set. But abstract or general ideas are an exception. After particular ideas of the primary set become copied in the secondary set, some of the ideas in the secondary set acquire new characteristics. Abstract ideas, although particular in their nature, are transformed in such a manner that they are considered to be general representations of a number of perceptions of the primary set. For example, we can have a general idea of a circle. This idea is particular in its nature because it is generated by a given perception in the primary set -- a circle of one inch in diameter, for example. Nevertheless, as a perception of the secondary set it is applied beyond its nature, and this new application "proceeds from our collecting all their possible degrees of quantity and quality in such an imperfect manner as may serve the purposes of life." (T, 20) The result of this added feature is an abstract idea of a circle which represents numerous possible perceptions of the primary set -- circles of four, six, eight inches in diameter, figures in general, figures with no angles, *etc.* Thus, the vulgar use abstract ideas to define the universe of discourse of the theory regardless of the fact that, strictly speaking, they are perceptions of the secondary set. The vulgar do not realize that, by using these perceptions as representations of the perceptions of the primary

set, they are continually switching between different universes of discourse. Abstract ideas represent perceptions of different primary sets without any given *principle* of representation. New universes of discourse are introduced either by resemblance, or in view of their usefulness for the purposes of life that, by strict deductive standards, amounts to little more than a random selection.

There is another difficulty with the use of abstract or general ideas. Being in their nature perceptions of the secondary set, they are often taken to be perceptions of the primary set. This happens when we posit *circles* in general, *government*, *church*, *negotiation*, *conquest*, etc. as the very subject of our discourse. This move, according to theoretical principles, totally disrupts any possibility of specifying the extension of the theory. As a result, by making use of abstract ideas we never properly know what *exactly* we are talking about. If the perceptions of the primary set are represented by the perceptions of the secondary set randomly, then the extension of our theory is only loosely defined. For example, we can talk about a given circle and believe that we are describing any figure in general. Moreover, when the perceptions of the secondary set are taken to be those of the primary set “we seldom spread out in our minds all the simple ideas, of which these complex ones are compos’d.” (T, 23) Thus, the vulgar enter into a particular discourse without having any precise definitions of what is being discussed. The precise subject of any particular discussion *always* escapes undefined because of the use of abstract ideas. Thus, in the view of the vulgar the *precise* extension or the domain of the theory remains unidentifiable.

The second set of problems about the view of the vulgar deals with the manner in which

the vulgar establish connections among perceptions. On the one hand, the vulgar fail to establish a system of general rules by which perceptions of the secondary set are connected. Thus, the vulgar might end up endorsing, at the same time, *contrary* general rules. On the other hand, the vulgar ignore the principle that rules establish relations solely between the perceptions of the secondary set. The vulgar carelessly, by *mere* association, make inferences from the perceptions of the primary set, that merely provide the universe of discourse, to particular perceptions of the secondary set, that neither represent nor copy the original perceptions of the primary set. Moreover, the vulgar never hesitate to associate the perceptions of the primary set with each other. Associations establish connections between perceptions that, strictly speaking, cannot be justified. This association of perceptions is a shortcut that leaves a conceptual gap. The vulgar cannot explain by what rules and by what intermediate perceptions any given connection is established. This mistake is costly. For without a unified set of rules we cannot *derive by necessity* new conclusions in our theory. Associated perceptions cannot be used in new theoretical constructions because we cannot know whether the association is made according to the same principles. Thus, the derived claims cannot be used to generate further justifiable inferences.

Hume's observation that the vulgar commonly invent contradictory general rules that suit particular occasions requires little proof. If we accept such rules as "[a]n *Irishman* cannot have wit, and a *Frenchman* cannot have solidity," (T, 146) we can draw further inferences, and derive new conclusions in our theory, but we will never be able to justify them.

More interesting is Hume's claim that, as a matter of fact, the vulgar endorse relations

established by mere association, while philosophers try to specify the nature of these relations. This point is important in the present context because it illustrates Hume's objection against the vulgar, namely, that they fail to establish a system of rules by which perceptions are connected.

Hume explains that:

[O]ur general rules are in a manner set in opposition to each other. When an object appears, that resembles any cause in very considerable circumstances, the imagination naturally carries us to a lively conception of the usual effect, tho' the object be different in the most material and most efficacious circumstances from that cause. Here is the first influence of general rules. But when we take a review of this act of the mind, and compare it with the more general and authentic operations of the understanding, we find it to be of an irregular nature, and destructive of all the most establish'd principles of reasoning; which is the cause of our rejecting it. This is the second influence of general rules, and implies the condemnation of the former. Sometimes the one, sometimes the other prevails, according to the dispositions and character of the person. The vulgar are commonly guided by the first, and wise men by the second. (T, 149-150)

Hume's recognition that the vulgar establish relations among perceptions by association, and his critique of the validity of this method, is important because it anticipates the conflict between the theoretical constructions of the vulgar, and those of the philosophers. This subject will be the focus of our discussion shortly (p. 67).

The paradigm case for the 'easy' transition from the perceptions of the primary set to logically independent²³ perceptions of the secondary set is Hume's analysis of the perception of causation. The relation of causation *per se*, however, is not relevant to the present discussion. Here we are concerned with two issues. First, we need to establish that this transition from perceptions of the primary set to those of the secondary, illustrated by the example of causation, is a trend typical of the vulgar, and that the operation of relating logically independent perceptions differentiates the view of the vulgar from that of the true philosophy. Secondly, we

need to prove that these theoretical errors -- the relating of logically independent perceptions by association, and the employment of abstract ideas -- allow the vulgar to construct a theory about the existence of mind-independent objects.

The first point requires separate clarification about the extent and importance of the transition from primary to secondary sets of perceptions. On the one hand, we can observe that Hume believes that *every* claim of the vulgar about the external world can be reduced to the application of a single theoretical operation, namely, the association of impressions to ideas. Hume maintains that “’Tis evident, that all reasoning from causes and effects terminate in conclusions, concerning matters of fact; that is, concerning the existence of objects or of their qualities.” (T, 94) The relation of causation in Hume’s analysis of theories is nothing but a particular case of the operation of association, or the transition from perceptions of the primary set to those of the secondary. For Hume, as the quotation suggests, the repeated application of this operation generates *every belief* about the world that the vulgar can possibly have. That is to say, repeated associations between impressions and ideas shape our perception of the world. Moreover, Hume expands the application of this operation to cover not only the relation of causation, but also those of resemblance and contiguity. Combinations of these three kinds of associations generate each and every belief of the vulgar.

On the other hand, the theoretical operation of the association also *defines* the type of theory that is known as the ‘naive realism’ of the vulgar. As Hume emphasizes:

We have already taken notice of certain relations, which make us pass from one object to another, even tho’ there be no reason to determine us to that transition; and this we may establish for a general rule, that wherever the mind constantly and uniformly makes a transition without any reason, it is influenc’d by these relations [associations of ideas]. Now this is exactly the present case. Reason can never show us the connexion of one

object with another, tho' aided by experience, and the observation of their constant conjunction in all past instances. When the mind, therefore, passes from the idea or impression of one object to the idea or belief of another, it is not determin'd by reason, but by certain principles which associate together the ideas of these objects, and unite them in the imagination. (T, 92)

This transition is part of the theoretical activities of the vulgar, and as such can be contrasted with the theories of philosophers that explicitly demand a detailed account about the nature of these relations. Although this distinction appears to be trivial, its consequences are important. If we can identify the projections of the vulgar as unique theoretical structures, then we will be justified in accepting the claim that the science of human nature is *solely* about the projections of the vulgar. The projections of philosophers are subject to a separate consideration, and the science of human nature has nothing to say about them.

The vulgar believe that, regardless of the physical and mental processes that are involved in perception, they perceive external objects. This belief, according to Hume, is generated within the system of perceptions of the vulgar and indicates the theoretical errors inherent in that system. "We may observe, that 'tis universally allow'd by philosophers, and is besides pretty obvious of itself, that nothing is ever really present with the mind but its perceptions or impressions and ideas, and that external objects become known to us only by those perceptions they occasion." (T, 67) Why don't the vulgar share this obvious position? Because they are inattentive in the use of abstract ideas: "'tis usual for men to use words for ideas, and to talk instead of thinking in their reasonings. We use words for ideas, because they are commonly so closely connected that the mind easily mistakes them." (T, 61-62) The process of mistaking particular perceptions for external objects takes place before we have any time for reflection.

Moreover, we believe that the relations among external objects are independent of perception because in our reasoning we continually employ shortcuts from the perceptions of the primary set to those of the secondary set. We simply fail to inquire into the nature of these associations, so that the fact that the associations among perceptions are generated by our minds goes unnoticed. And we project onto the world “fictions” about mind-independent relations among the perceptions that are thereby implicitly defined as external objects.

Our initial answer to the question of whether it is possible to reconcile Hume’s claim about the habitual nature of the views of the vulgar with the claim about their constructive nature was the following: the vulgar develop a sloppy projection *and* we can describe this unjustifiable theory as habitual (p.35). Hume’s discussion about the projections of the vulgar is very general. It is supposed to identify a very fundamental structure that generates the particular beliefs of the vulgar -- we have an immediate perception of extended objects; the relations between the objects are independent of our perception; the perceiving subject preserves its personal identity over time, *etc.* We have identified three commonly shared errors within the projections of the vulgar. First, the use of abstract ideas introduces ambiguity about the universe of discourse, as when the vulgar mistake perceptions for objects. Secondly, the vulgar fail to establish the system of rules by which the perceptions are connected, so they are in no position to justify results derived from the associated perceptions. Thirdly, the reliance on associations establishes relations among logically unrelated perceptions. The imagination,²⁴ according to Hume, is the constant and active force that drives the theoretical and constructive inclinations of the vulgar. Moreover, the imagination constructs abstract ideas, forms general rules, and establishes connections among the

perceptions of the primary and secondary sets. The imagination is ever present in the operations of the mind. And Hume concludes that the imagination fails to establish a consistent theory.

Now we can turn to the issue of how these projections can be described as habitual theories. The dilemma that Hume faces is obvious. On the one hand, the imagination is free to join any perceptions in a variety of ways, and we may reasonably expect random results if relations within a given collection of perceptions are established merely by the imagination. On the other hand, the views of the vulgar are surprisingly regular over time within the same individual, and indeed as an overall characteristic of mankind. Hume resolves this problem in two steps. First, he acknowledges that the imagination is not completely free to establish the connections between perceptions in the projections of the vulgar. As a matter of fact, there are three general associative principles of causation, resemblance, and contiguity, which guide the imagination of the vulgar. Thus, although the imagination generates theoretically inadequate beliefs, we can claim that these beliefs are *systematic* because they are generated by a uniform set of associations. The theorems within the view of the vulgar, or their beliefs, are produced by the repeated application of the same operations. Secondly, Hume observes that particular combinations of perceptions generated by the imagination establish habits that remain relatively stable over time:

Of these impressions or ideas of the memory we form a kind of system, comprehending whatever we remember to have been present, either to our internal perception or senses; and every particular of that system, joined to the present impressions, we are pleas'd to call a *reality*. But the mind stops not here. For finding, that within this system of perceptions, there is another connected by custom, or if you will, by the relation of cause and effect, it proceeds to the consideration of their ideas; and as it feels that 'tis in a manner necessarily determined to view these particular ideas, and that the custom or relation, by which it is determin'd, admits not of the least change, it forms them into a new system, which it likewise dignifies with the title of *realities*. (T, 108)

According to Hume, habit is a principle that can be used only after the initial constructions of the mind are completed. In other words, habit is a principle that allows us to *use* the system of already constructed beliefs. It is not a principle that is employed in these cognitive constructions themselves. The theory of the vulgar can therefore be considered to be constructive *and* habitual. The imagination commits the same set of theoretical errors in constructing complex arrangements of perceptions, and these errors are repeated when these given theories are employed.

We have thus far given an outline of the projections of the vulgar. These theories, according to Hume, exhibit three different conceptual errors. First, the perceptions of the primary set remain undefined because of the employment of abstract ideas. Thus, the extension of the theory is not specifiable and leads to arbitrary shifting between different universes of discourse. Secondly, the vulgar adopt general rules randomly, according to whatever is convenient at any given time, so that the connections among the perceptions of the secondary set remain unstructured. Accordingly, no new conclusions can be justifiably introduced within the theories of the vulgar. Finally, the vulgar constantly associate perceptions of the primary set with logically independent perceptions of the secondary set. By failing to investigate the principles that govern these relations, the vulgar assign external existence to the perceptions and their relations. Hume argues that these conceptual errors are generated by the imagination. The projections of the vulgar, nevertheless, operate as a unified system by continual and successive employment of habits and the imagination. Thus, the initial conceptual errors are multiplied and repeated by the habits without any attempt on the part of the vulgar to identify and correct these

errors. With these conceptual shortcomings in mind, we can now turn to another issue, namely, Hume's analysis of the advantages of this theoretical position.

The advantages of the projections of the vulgar revolve around their usefulness. Hume identifies two different levels of usefulness. First, the projections of the vulgar are easily adaptable to any changes. This feature makes them practical tools for the conduct of life, or the anticipation of future events. As Hume explains:

'Twou'd be very happy for men in the conduct of their lives and actions, were the same objects always conjoin'd together, and we had nothing to fear but the mistakes of our own judgment, without having any reason to apprehend the uncertainty of nature. But as 'tis frequently found, that one observation is contrary to another, and that causes and effects follow not in the same order, of which we have had experience, we are oblig'd to vary our reasoning on account of this uncertainty, and take into consideration the contrariety of events. (T, 131)

The projections of the vulgar are useful because they take into account "a contrariety of events in the past [which] may give us a kind of hesitating belief for the future." (T, 132)

Secondly, the projections of the vulgar are useful because, without exception, all men share them. This means that the *subject* of any discussion within the system of the vulgar, although never absolutely exact and precise, is both known and accepted as valid by the users of this system. As a matter of fact, we all share a common body of knowledge²⁵ that allows us to anticipate what inferences are warranted by given impressions. Hume praises the way in which the vulgar generate abstract ideas by saying that "[n]othing is more admirable, than the readiness, with which imagination suggests its ideas, and presents them at the very instant, in which they become necessary or useful." (T, 24) This ability is universally present and, more importantly, the resulting system of beliefs is also extraordinarily similar for all mankind. This feature allows

the confident users of the vulgar projections to anticipate the inferences of other agents when a given impression is presented. The fact that men use the same inductive principles to derive given beliefs about the world establishes the foundation for Hume's views about intersubjectivity. Different people share beliefs because they are constructed by the application of the same set of operations.

The conceptual discrepancy between the fact that the subjects within the projections of the vulgar are constructed by *individual* imaginations, and the fact that they yet exhibit a remarkable overall similarity presents Hume with a profound philosophical problem. We believe that the vulgar *directly* perceive the external world, but that certainly is not true. We have seen from the discussion about abstract ideas that the vulgar rarely ever know what *exactly* the subject under consideration is. The vulgar construct *objects* by repeated applications of theoretical operations. Moreover, it is the imagination that associates particular ideas of the primary and secondary sets. Hume cannot give up the view that the mind is merely a particular system of perceptions. Thus, even the most *mundane* elements of the projections of the vulgar -- objects themselves, distances among extended objects, their existence over time, *etc.* -- are generated by individual minds. We *cannot* beg the question and assume that there is an independent and external world that would explain the similarity of the objects generated by individual imaginations. If we assume the existence of the external world, then we are presupposing something that we intend to prove. We *can* infer the existence of the external world from the general features of the system of perceptions, as I think Hume does. The fact that some of our perceptions appear involuntary indicates the existence of the external world. But this conclusion

is too vague to warrant any inferences. Moreover, it does not solve the problem at hand -- how individual imaginations universally generate similar combinations of perceptions. Hume's answer to this problem is timid:

Here, then, is a kind of pre-established harmony between the course of nature and the succession of our ideas; and though the powers and forces, by which the former is governed, be wholly unknown to us; yet our thoughts and conceptions have still, we find, gone on in the same train with the other works of nature. Custom is that principle, by which this correspondence has been effected; so necessary to the subsistence of our species, and the regulation of our conduct, in every circumstance and occurrence of human life. Had not the presence of an object instantly excited the idea of those objects, commonly conjoined with it, all our knowledge must have been limited to the narrow sphere of our memory and senses; and we should never have been able to adjust means to ends, to employ our natural powers, either to the production of good, or avoiding of evil. (E, 54-55).

Hume finds that the question of pre-established harmony is so profound because it cannot be conclusively resolved. He believes that we are inevitably limited to knowing only one side of the issue. In principle, all we know is the succession of ideas, and thus, by definition, we are unable to have *conclusive* knowledge about the course of nature. We can guess, we can make probable judgments, and we can make projections about the nature of the mind-independent universe. And Hume believes that we have good reason to do that. But there is a pre-condition involved in attempting to make projections about the mind-independent world. Before we even attempt to make projections, we have to explain the principles that guarantee the regularity in the succession of our ideas.

In this thesis I argue that Hume's projectionism explains the fact that we take something internal, and see it as external. But his projectionism also explains the possibility of having a regular succession of our ideas. We can think about this part of Hume's project as a *convention*

to employ given projections in *recurrent* situations. Lewis defines convention in the following manner:

A regularity R in the behavior of members of a population P when they are agents in a recurrent situation S is a convention if and only if it is true that, and it is common knowledge in P that, in any instance of S among members of P, (1) everyone conforms to R; (2) everyone expects everyone else to conform to R; (3) everyone prefers to conform to R on condition that the others do, since S is a coordination problem and uniform conformity to R is a coordination equilibrium in S.²⁶

I believe that this definition properly captures the nature of Hume's account about the continuity in the succession of ideas (also see p.83f).

What is so significant about the *usefulness* of the views of the vulgar? It changes our understanding about the nature of theories. Theories are not *about* something, they do not properly explain particular mind-independent phenomena. A theory, on Hume's view, is a tool that allows an individual who accepts it to exert a particular control over the future. This essentially instrumentalist view of theories allows Hume to criticize, and yet endorse, the projections of the vulgar. The projections of the vulgar lack the proper conceptual structure, but they are quite adequate as tools for anticipating the future course of events:

When we transfer contrary experiments to the future, we can only repeat these contrary experiments with their particular proportions; which cou'd not produce assurance in any single event, unless the fancy melted together all those images that concur, and extracted from them one single idea or image, which is intense and lively in proportion to the number of experiments from which it is deriv'd, and their superiority above their antagonists. Our past experience presents no determinate object; and as our belief, however faint, fixes itself on a determinate object, 'tis evident that the belief arises not merely from the transference of past to future, but from some operation of the *fancy* conjoin'd with it. (T, 139-140)

The recognition that for Hume the projections of the vulgar are *instrumental* in nature gives us a chance to integrate Hume's theory of belief into his overall account of the vulgar.

We can identify the ‘correspondence’ view as the prevailing paradigm in which Hume’s theory of belief is discussed.²⁷ Allegedly, the theory of belief should face the question of what justification can be given to the assumption that our beliefs properly represent mind-independent events. Hume’s analysis of belief in terms of the vivacity of perceptions clearly fails to solve this problem. Now, the inadequacy of Hume’s view is usually traced to its reliance on rudimentary psychology, which prohibits him to establish a normative account of belief. And we must acknowledge that little could be said in defense of Hume’s position *if* this ‘correspondence’ paradigm is accepted. The ‘correspondence’ paradigm undeniably is both powerful and plausible. *But we don’t have to accept it.* And it seems that Hume rejected it.

Hume introduces his theory of belief with the following suggestion:

[I]t appears, that the *belief* or *assent*, which always attends the memory and 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. ‘Tis merely the force and liveliness of the perception, which constitutes *the first act of the judgment, and lays the foundation of that reasoning, which we build upon it*, when we trace the relation of cause and effect. (T, 86, emphasis added)

Hume’s description of belief as “the first act of judgment” shows that he is more concerned with the way in which beliefs *function*, than with what they represent. He finds that the vivacity in a particular arrangement of perceptions *serves* as “the first act of judgment”, and as the foundation for further conclusions that we are prepared to make. This instrumental interpretation of Hume’s theory of belief suggests that beliefs have little relation to their expected counterparts -- mind-independent states of affairs. In the context of Hume’s discussion about the projections of the vulgar, his theory of belief acquires the solely instrumental significance of showing that our

beliefs encapsulate the judgments that we are prepared to make about future events.

Our application of Hume's analysis of theories to his analysis of the vulgar beliefs has revealed two significant points. First, there is a *systematic* theoretical structure that defines the theories that the vulgar project upon the world: (1) the vulgar immediately mistake perceptions for external objects because of the use of abstract ideas; (2) the vulgar fail to establish a system of rules by which perceptions are related to each other; (3) the vulgar accept arbitrary associations among perceptions and habitually preserve them. Hume acknowledges that he:

cannot conceive how such trivial qualities of the fancy, conducted by such false suppositions, can ever lead to any solid and rational system. They are the coherence and consistency of our perceptions, which produce the opinion of their continu'd existence; tho' these qualities of perceptions have no perceivable connection with such an existence. The constancy of our perceptions has the most admirable effect, and yet is attended with the greatest difficulties. 'Tis a gross illusion to suppose, that our resembling perceptions are numerically the same; and 'tis this illusion, which leads us into the opinion that these perceptions are uninterrupted, and are still existent, even when they are not present to the senses. This is the case with the popular system. (T, 217)

Secondly, although the theoretical structure of the vulgar projections can be proven inadequate by rigorous examination, it is extremely useful in daily life. Hume believes that this usefulness introduces a new feature in the analysis of theories. Theories are tools by which individuals who adhere to them anticipate the future.

2.4. Objections and Replies

Let us complete this examination of Hume's analysis of the vulgar projections by facing two likely objections. First, it may be objected that this interpretation of Hume's theory is un-Humean. Hume himself identifies experience as one of the guiding principles in terms of which the vulgar perceive the world. While the issue of habits has been dealt with (p.35), Hume's analysis of experience still has to be accounted for. Secondly, it may be objected also that the analysis of the vulgar projections uses only their internal consistency and usefulness as the criteria of an adequate theory. But, clearly, another obvious criterion has been overlooked, namely, external confirmation. After all, a theory is acceptable if it is both internally coherent *and* fits the facts. We shall deal with each objection in turn.

Hume's analysis of the vulgar is multifaceted and as such can be presented from a number of perspectives. The emphasis in Hume's analysis of the vulgar shifts in his two major works. The claim that experience is the main principle that organizes the projections of the vulgar is prominently displayed in the first *Enquiry*, while the constructive imagination is at the forefront of the *Treatise*. This shift of emphasis appears to be only a matter of presentation. As the *Abstract* suggests (A, 643-644), Hume believes that the central issues of his work were not properly highlighted in the *Treatise* and his meaning was misrepresented. I shall therefore insist that the concept of experience in the first *Enquiry* is an encompassing term that presupposes the results of Hume's previous analysis of the constructive imagination. Hume avoided giving a detailed analysis of experience in the first *Enquiry* in order to simplify his overall argument. But clearly the situation is different now, and the concept of experience can no longer be taken

lightly. Is “experience” *immediate* experience, or rather a complex structure of relations among perceptions? We won’t find the answer to this question in the first *Enquiry* because the concept is used there as a placeholder, a promise that a more detailed account can be developed. By avoiding the contentious issue of experience, we can focus more closely on Hume’s arguments.

The second objection requires a more complex reply. In a much-quoted passage Hume maintains that the system of perceptions should be analyzed only by its internal coherence:

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 present nature justly, or be mere illusions of the senses. (T, 84)

Let us try to understand this claim in the context of Hume’s analysis of theories. Hume’s choice of words can serve as our initial point of reference. The claim that the “ultimate cause” of impressions cannot be explained by human reason does not entail another claim that it cannot be otherwise explained, for example, by imagination or faith. It is clear that the vulgar have no doubts that they perceive external objects, and Hume shows that this view is established by imagination. Hume’s aim in this passage is rather narrow. He wants to make explicit that the discussion about the origins of our sense impressions involves a tacit presupposition. He identifies three possibilities: (1) our perceptions about the world are caused by the objects that they represent; (2) our perceptions about the world are constructed by the perceiving mind; (3) our perceptions about the world are created by God. Hume believes that nothing less than absolute certainty would justify the choice between these alternatives. Certainty, according to

Hume, is a property of a *deductive* system of perceptions. We can decide that a given relation is certain only by comparing the ideas within a given system. He believes that arithmetic and algebra are the only sciences “in which we can carry on a chain of reasoning to any degree of intricacy, and yet preserve a perfect exactness and certainty.” (T, 71) Here we have absolutely certain axioms that can support and justify the chain of reasoning. Only absolutely certain axioms, according to Hume, can warrant the certainty of derived conclusions. Now, if the question about the origins of perceptions cannot be decided in that way, then we cannot justify with certainty the use of *any* of the given hypotheses about the origins of perceptions in deriving further conclusions.

Hume’s claim that the ultimate cause of perceptions cannot be explained by human reason involves two independent arguments:

Argument A:

The choice between alternative hypotheses about the origins of perceptions can be justified only if a given conclusion follows with certainty;

Certainty is a property of a deductive system of perceptions, *i.e.* the system of perceptions has a defined domain, and conclusions follow by necessity from these definitions;

If the definitions of perceptions within the deductive system of perceptions contain references to their origins, then we actually employ a presupposition the validity of which is being questioned.

If the definitions of perceptions within the deductive system of perceptions include no reference to the origins of perceptions, then we cannot decide this question with certainty. That is to say, the conclusion about the origins of perceptions cannot be entailed by their definitions.

Therefore, we cannot decide by reason what is the ultimate cause of perceptions.

But, as a matter of fact, we make decisions about the origins of perceptions. The issue gets to be resolved on the basis of faith, imagination, indoctrination, education, *etc.* This contingent fact that the question about the origins of our perceptions is *always* decided introduces another problem. How should we *employ* our individual opinions about the origins of perceptions?

Hume's appeal to certainty introduces the second argument that answers this problem.

Argument B:

New theorems within a deductive system of perceptions can be proven only on the basis of absolutely certain axioms;

Our presuppositions about the origins of perceptions are not certain;

Therefore, our presuppositions about the origins of perceptions cannot be used in designing proofs for new theorems.

We can reiterate Hume's argument that no considerations about the origins of perceptions can be used in operations with any deductive system of perceptions in the following manner. First, we cannot introduce the issue about the origins of perceptions into our definitions of perceptions because we cannot make a rational choice among competing possibilities. Secondly, we cannot invoke any presupposition about the origins of perceptions in the analysis of particular arrangements of perceptions because it will compromise the validity of the conclusions that are derived within a given system of perceptions. According to Hume, we cannot decide whether our theories fit the facts because factual claims tacitly presuppose some account about the origins of perceptions.

2.5. The Theories of the Philosophers

In the following discussion I shall examine and compare Hume's arguments about the false and true philosophy. I shall proceed in a manner similar to the analysis of the projections of the vulgar, according to our desiderata put upon any theory (p.31). First, I shall examine the definitions of impressions in the theories of philosophers. Then, I shall deal with the issue of the relation between the primary and secondary sets of perceptions. Finally, I shall examine the manner in which the perceptions of the secondary set are related to each other.

Let us consider the following example. Imagine a universe of discourse that consists of three elements: billiard ball A; billiard ball B; and billiard ball A in motion. We have three different perceptions of the primary set. We have the possibility of two billiard balls having a collision. We can talk about the anticipated results of this collision only by using the perceptions of the secondary set. In what follows I shall examine the nature of the transition between the primary and the secondary sets of perceptions in the projections of philosophers.

This thought experiment is well known from Hume's *Abstract*. And so is his conclusion:

Were a man, such as *Adam*, created in full vigour of understanding, without experience, he would never be able to infer motion in the second ball from the motion and impulse of the first. It is not any thing that reason sees in the cause, which make us *infer* the effect. Such an inference, were it possible, would amount to a demonstration, as being founded merely on the comparison of ideas. Of which there is this evident proof. 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)

Clearly, Hume's intention in the *Abstract* is to show that the vulgar easily overcome this theoretical difficulty by constructing upon their previous experience an account of the collision of two billiards balls. While in the *Abstract* Hume is solely preoccupied with the presentation of

the views of the vulgar, the same is not the case in the *Treatise*, where Hume wants to present an alternative to the view of the vulgar in philosophical theories. As he maintains: “There is a great difference betwixt such opinions as we form after a calm and profound reflection, and such as we embrace by a kind of instinct or natural impulse, on account of their suitableness and conformity to the mind.” (T, 214) Although we know Hume’s conclusion that “as long as our attention is bent upon the subject, the philosophical and study’d principle may prevail; but the moment we relax our thoughts, nature will display herself, and draw us back to our former opinion” (T, 214), we should make our utmost effort to explain how Hume gets to it, and how the position of philosophers relates to that of the vulgar.

It was already argued that Hume examines the projections of the vulgar from the perspective of a given standard. To apply the same standard to the projections of philosophers, I shall examine Hume’s example about the billiard balls in terms of the theories of philosophers.

Let us give appropriate definitions to our perceptions in the primary set. For expository purposes we can use two different definitions of these perceptions. First, billiard balls A and B are impenetrable. This first definition captures our daily intuitions of billiard balls as solid objects. Secondly, billiard balls A and B are penetrable. This second definition captures our daily intuitions of, for example, two transparencies with pictures of identical billiard balls upon them.

Let us now construct a theory about our universe. The primary set contains three perceptions and on its basis we can consider the following situations. First, we can consider billiard balls A and B standing still. Secondly, we can consider billiard ball A in motion and

billiard ball B standing still without any collision of the two. Finally, we can consider the collision between billiard ball A in motion and billiard ball B. To examine these situations, we make use of a particular feature of our minds, namely, the fact that the perceptions of the primary set are copied into the perceptions of the secondary set. In Hume's terms, we are talking about impressions in terms of ideas, or about given ideas in terms of the images of themselves in new ideas (T, 1-7). Thus, we have established a rule by which the perceptions of the primary set are related to those of the secondary set, *i.e.* they inevitably are replicated. Moreover, we make use of our capacity of imagination to operate with the perceptions of the secondary set. Thus, we can recreate the situations of our thought experiment in our minds.

Regardless of the given definitions, there are no theorems that we can develop in the first two situations. All we can say about these cases is that either billiard balls A and B indeed stand still, or billiard ball A is in motion without affecting billiard ball B. The third situation, however, is different. On the one hand, if we accept the first definition of perceptions and assume that balls A and B are impenetrable, then, upon their collision, we can exclude the possibility of the two balls merging. Without additional assumptions, however, we cannot predict what will happen to balls A and B after their collision. On the other hand, if we accept the second definition of the balls being penetrable, we cannot exclude the possibility that the movement of ball A towards ball B will not result in their becoming a single billiard ball, or, in other words, we can argue that either ball A or B will disappear. If two transparencies with identical images of billiard balls were positioned so that the two images merge, then only a single image will appear. Again, without additional assumptions we cannot predict what exactly will happen in

this experiment.

This thought experiment enables us to bring to the fore the first feature of the projections of the philosophers. Unlike the vulgar, the philosophers accept (1) that the universe of discourse is limited to perceptions; (2) that these perceptions should be defined; and (3) that the same definition is to be preserved in all theoretical operations with perceptions. But this immediately generates a problem of choice: *How* do we choose a definition, given the variety of possible definitions of perceptions?

We can introduce two more definitions of our perceptions of the billiard balls. The choice of initial definitions determines the scope of consequences that can be derived within a given theory. The third definition will be: ball A is impenetrable and yellow, while ball B is impenetrable and blue. The fourth definition will be: ball A is penetrable and yellow, while ball B is penetrable and blue. If we consider the situation where ball A is moving towards ball B, we can draw the following consequences. Given the third definition, we can again exclude the possibility of balls A and B merging, regardless of their colors. But, with the fourth definition, we cannot eliminate the possibility that the balls will merge, and also that the resulting single billiard ball will change its color to green.

How do we choose one definition given such a variety? What determines our initial division of the subject? The answer to these questions explains one feature that differentiates the false from the true philosophy. The *false* philosophy uncritically accepts the view of the vulgar about the uninterrupted and continued existence of what we perceive. Thus, for the false philosophy the initial choice of definitions is limited: Our perceptions are caused by bodies

which they represent. The *true* philosophy, on the other hand, *comes to the conclusion* that we cannot have an independent justification for the initial choice of definitions of entities about which we try to construct given theories. We can talk about our perceptions only after we have chosen a given definition. This choice itself will always be *unlimited*, but arbitrary.

Let us return to the discussion about the false philosophy. How can the false philosophy justify its choice to define our perceptions as representations of external, solid, impenetrable objects? Hume's reply to this question is well known. This view cannot be justified. Objects are not immediately given by our senses because "if the senses presented our impressions as external to, and independent of ourselves, both the objects and ourselves must be obvious to our senses, otherwise they cou'd not be compar'd by these faculties." (T, 189) Since "[e]very thing that enters the mind, being in *reality* a perception, 'tis impossible any thing shou'd to *feeling* appear different" (T, 190), we can conclude that the senses "give us no notion of continu'd existence, because they cannot operate beyond their extent, in which they really operate." (T, 191) Nor can reason supply any justification: "[A]s no beings are ever present to the mind but perceptions; it follows that we may observe a conjunction or a relation of cause and effect between different perceptions, but can never observe it between perceptions and objects." (T, 212) Thus, when the false philosophy chooses to define the perceptions as representations of external bodies, "it at once denies and establishes the vulgar supposition." (T, 218) The false philosophy acknowledges that perceptions are the proper subject of theories and, accordingly, denies the validity of the view of the vulgar that the elements of the primary set are extended objects. Yet, the false philosophy also argues that perceptions are representations of external

objects. This claim confirms the validity of the view of the vulgar. The false philosophy ends up committing the mistake of the vulgar system -- it cannot identify the extension of its theories. This mistake enables the false philosophy to alternate between the definitions of perceptions by switching, at will, the discussion from objects to perceptions.

Hume believes that no consistent theory can be generated upon such foundations. We have seen that the false philosophy defines perceptions as representations of objects: "they arbitrarily invent a new set of perceptions, to which they attribute these qualities [of identical and uninterrupted existence]. I say a new set of perceptions: For we may well suppose in general, but 'tis impossible for us distinctly conceive, objects to be in their nature any thing but exactly the same with perceptions." (T, 218) What happens to this added set of perceptions in the projections of the false philosophy? Two different definitions are assigned to perceptions that are qualitatively identical.

This point is discussed in Hume's example about the perception of solidity. (T, 230-231) As philosophers we accept that our universe of discourse is limited to perceptions. Thus, we can and should define a given impression as the perception of solidity. The false philosophers fail to appreciate that this definition effectively excludes any alternative definition, including that of the vulgar in which a given impression is defined as an object. (T, 214) The false philosophy maintains that the perception of solidity has an external entity that it represents. Thus a new perception is arbitrarily invented -- an impression that is defined as external solidity. Hume's argument has two steps. First, he establishes that the perception of solidity and the new perception of "external solidity" are qualitatively identical. "A man, who has the palsey in one

hand, has as perfect an idea of impenetrability, when he observes that hand to be supported by the table, as when he feels the same table with the other hand.” (T, 230) Secondly, because both perceptions are qualitatively identical, one has to prove that their definitions are not mutually exclusive. But that cannot be done. Hume constructs two examples that would illustrate each definition: a man pressing on a stone illustrates the first definition, while two stones pressing on each other illustrates the second. “In order, therefore, to make these two cases alike, ‘tis necessary to remove some part of the impression, which the man feels by his hand, or organ of sensation; and that being impossible in a simple impression, obliges us to remove the whole, and proves that this whole impression has no archetype or model in external objects.” (T, 231) Hume concludes that no representationalist account of the false philosophy can be rendered consistent.

But the true philosophy is in no better position than the false one. The true philosophy can conclude that by assigning to perceptions the qualities of external bodies, such as solidity, extension, impenetrability, the false philosophy employs two definitions that are mutually exclusive. This point indeed provides little encouragement to the true philosophy because it acknowledges that nothing external can anchor the definitions of the primary set of perceptions. “‘Tis impossible upon any system to defend either our understanding, or senses; and we but expose them further when we endeavour to justify them in that manner.” (T, 218) Hume believes that the conceptual validity of any theory requires a defined primary set of perceptions. But he cannot reveal the principle of rational choice between the alternative definitions of perceptions. We can define the perceptions of the primary set as ‘mere perceptions’, ‘mere objects’, or ‘blue and penetrable perceptions’, ‘yellow and impenetrable objects’. As long as the same definition is

preserved throughout the discourse, without generating contradicting theories, we have no criterion that would justify our choice between given alternatives. "When I view this table and that chimney, nothing is present to me but particular perceptions, which are of a like nature with all the other perceptions. This is the doctrine of philosophers. But this table, which is present to me, and that chimney, may and do exist separately. This is the doctrine of the vulgar, and implies no contradiction." (T, 634) The true philosopher is left with nothing but a claim that whatever is conceivable is also possible.

Let us now outline the manner in which the projections of philosophers establish relations among perceptions. The following lengthy quotation should set Hume's examination of philosophical theories in its context:

[W]e may observe a gradation of three opinions, that arise above each other, according as the persons, who form them, acquire new degrees of reason and knowledge. These opinions are that of the vulgar, that of a false philosophy, and that of the true; where we shall find upon enquiry, that the true philosophy approaches nearer to the sentiments of the vulgar, than to those of a mistaken knowledge. 'Tis natural for men, in their common and careless way of thinking, to imagine they perceive a connexion betwixt such objects as they have constantly found united together; and because custom has render'd it difficult to separate the ideas, they are apt to fancy such a separation to be in itself impossible and absurd. But philosophers, who abstract from the effects of custom, and compare the ideas of objects, immediately perceive the falsehood of these vulgar sentiments, and discover that there is no known connexion among objects. Every different object appears to them entirely distinct and separate; and they perceive, that 'tis not from a view of the nature and qualities of objects we infer one from another, but only when in several instances we observe them to have been constantly conjoin'd. But these philosophers, instead of drawing a just inference from this observation, and concluding, that we have no idea of power or agency, separate from the mind, and belonging to causes; I say, instead of drawing this conclusion, they frequently search for the qualities, in which this agency consists, and are displeas'd with every system, which their reason suggests to them, in order to explain it. They have sufficient force of genius to free them from the vulgar error, that there is a natural and perceivable connexion betwixt the several sensible qualities and actions of matter; but not sufficient to keep them from ever seeking for this connexion in matter, or causes. Had they fallen upon the just conclusion, they wou'd have return'd back to the situation of the vulgar, and wou'd have regarded all these disquisitions with

indolence and indifference. (T, 222-223)

This passage is significant because it shows that for Hume the projections of the vulgar *in their full complexity*, regardless of their theoretical errors, serve as the benchmark for the evaluation of the projections of philosophers. Hume argues that the philosophers try to overcome the mistakes of the vulgar by making the system of perceptions into a deductive theory. The projections of the vulgar merely present a succession of perceptions without any assurance that new conclusions within that system can be derived from the previous ones by logical necessity. According to Hume, the true philosophers recognize that the view of the vulgar cannot be transformed into a deductive system, while the false philosophers eagerly accept this impossible task.²⁸

Two points should be made explicit in this context. First, the true and the false philosophy share the view that a deductive system is the standard of an internally consistent theory. Thus, both camps agree on their assessment of the projections of the vulgar as inconsistent theories. Secondly, the true philosophers remain content with the claim that only algebra and arithmetic can be axiomatized. Hume's account of the true philosophy defends the claim that the naïve realism of the vulgar cannot be made consistent. The false philosophers, however, attempt to remedy the view of the vulgar, and according to Hume fail. In what follows I shall successively illustrate both claims.

The early description of philosophical projections shows the expectation that two perceptions can be connected to each other if and only if the resulting relation can be justified. The word 'relation' is here used "for that particular circumstance, in which, even upon the arbitrary union of two ideas in the fancy, we may think proper to compare them." (T, 13) Of

seven philosophical relations Hume finds that only four depend solely on ideas -- *resemblance*, *contrariety*, *degrees in quality*, and *proportions in quality and number*. He believes that the true philosophy, or a consistent theory, can be constructed only by making use of these relations because the connections established by them cannot be doubted. If we have a defined set of perceptions, then by the application of these relations, we can construct a system where "we can carry on a chain of reasoning to any degree of intricacy, and yet preserve a perfect exactness and certainty." (T, 71) It is only algebra and arithmetic that deserve the title of such a system.

The false philosophy, however, intends to construct a deductive system that includes three remaining philosophical relations -- *identity*, *situations in time and place*, and *causation*. Hume argues that this task is futile:

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. 'Tis the same case with *identity* and *causation*. Two objects, tho' perfectly resembling each other, and even appearing in the same place at different times, may be numerically different: And as the power, by which one object produces another, is never discoverable merely from their idea, 'tis evident *cause* and *effect* are relations, of which we receive information from experience, and not from any abstract reasoning and reflection. (T, 69)

Hume's conclusion about this matter is strongly worded and as such deserves to be emphasized:

There is no single phaenomenon, even the most simple, which can be accounted for from the qualities of the objects, as they appear to us; or which we cou'd foresee without the help of our memory and experience. (T, 69-70, emphasis added)

The task of the false philosophy is to construct a deductive system on the basis of the naïve realism of the vulgar. This task can be accomplished if and only if any conclusion within a given

deductive system is derived by necessity from given definitions. Hume observes that our perceptions -- whether we accept the definition of the vulgar and call them 'objects', or accept the definition of the true philosophers and call them 'perceptions' -- do not contain inherent qualities from which one can infer by necessity the ensuing relations of causation, identity and contiguity. Thus it is impossible to transform the view of the vulgar into a deductive system.

This conclusion, nevertheless, escapes the false philosophers. "Nothing is more dangerous to reason than the flights of the imagination, and nothing has been the occasion of more mistakes among philosophers. Men of bright fancies may in this respect be compar'd to those angels, whom the scripture represents as covering their eyes with their wings." (T, 267) Let us take a look at two examples.

Hume's analysis of the ancient philosophy is designed to exemplify the attempt to transform the vulgar notion of identity into a formal account that would allow one to make inferences about the relation of identity as derivations from a given definition. First, Hume describes the view of the vulgar. "When we gradually follow an object in its successive changes, the smooth progress of the thought makes us ascribe an identity to the succession; because 'tis by a similar act of the mind we consider an unchangeable object." (T, 220) But slight philosophical reflection about the matter shows that this identity is illusory. "When we compare its situation after a considerable change the progress of the thought is broke; and consequently we are presented with the idea of diversity." (T, 220) Clearly, the vulgar pay little attention to the contradiction and disregard it in their derivations. But the philosophers want to provide some justification of the view of the vulgar, and thus attempt to overcome the contradiction. To

reconcile this contradiction “the imagination is apt to feign something unknown and invisible, which it supposes to continue the same under all these variations; and this unintelligible something it calls a *substance, or original and first matter*.”(T, 220)

Given this new definition of substance as something in which any changing object inheres, philosophers are in a position to “justify” their derivations about the identity of objects. But the cost of their “success” is too high. The false philosophers change the vulgar view about perceptions by making it completely incomprehensible. Here is Hume’s conclusion:

We have no perfect idea of anything but of a perception. A substance is entirely different from a perception. We have, therefore, no idea of a substance. Inhesion in something is suppos’d to be requisite to support the existence of a perception. Nothing appears requisite to support an idea of a perception. We have, therefore, no idea of inhesion. What possibility then of answering that question, *Whether perceptions inhere in a material or immaterial substance*, when we do not so much as understand the meaning of the question? (T, 234)

Hume argues that there can be no solution to the philosophical problems about substance because the very introduction of the notion of substance is a mistake.

A similar argument can be made about the relation of causation as well. In a well-known passage Hume describes the motivation of philosophers: “Nothing is more curiously enquir’d after by the mind of man, that the causes of every phaenomenon; nor are we content with knowing the immediate causes, but push on our enquiries, till we arrive at the original and ultimate principle.” (T, 266) Why is such knowledge of the original and ultimate principles of causation important? Because it is the only basis on which philosophers can transform the projections of the vulgar into a deductive system. The vulgar, as a matter of fact, use the notion of causation and define causal connections by the association of perceptions. Philosophers try to

prove that the relation between the cause and effect is necessary. Hume maintains that there is no definition of causation that can avoid the charge of being circular, and that can establish the necessary connection between the cause and effect: "Shou'd any one leave this instance, and pretend to define a cause, by saying it is something productive of another, 'tis evident he wou'd say nothing. For what does he mean by production? Can he give any definition of it, that will not be the same with that of causation? If he can; I desire it may be produc'd. If he cannot; he runs in a circle, and gives a synonymous term instead of a definition." (T, 77) Again, Hume observes that the task of the false philosophy is ill conceived. It is not merely an attempt to define causation, *i.e.* to understand the nature of the association of causation as it is used by the vulgar. Instead, it is an attempt to define causation in a manner that will grant the possibility of generating a deductive system.

Does Hume abandon the view that a deductive system of perceptions is the only justifiable and internally consistent view? No, he does not. For Hume mathematics is an axiomatic system and as such it should be treated as the standard of a deductive system. The false philosophers try to turn the view of the vulgar into a similar axiomatic system. Hume believes that it is impossible to do so because the view of the vulgar makes use of the relations of identity, causation and contiguity. These relations cannot be axiomatized. In what follows I shall argue that Hume does not rest with the recognition that the gap between the view of the vulgar and a deductive system cannot be bridged. He investigates the middle ground between the two opposite positions. This searching process appears most clearly in Hume's analysis of geometry.

However, before we proceed to the examination of Hume's arguments about geometry, let us outline their conceptual significance. The middle ground between the rigid structure of an axiomatic system and the systematic, albeit inconsistent, view of the vulgar can be found by reconsidering the very nature of theories. Hume relaxes the distinction between definitions and derivations, or the primary and secondary sets of perceptions. He assigns value to the operational system as a whole. Within such an operational system Hume observes that there is a mutual relation between definitions and derivations. In a sense, given definitions justify the validity of derivations, while actual derivations justify given definitions. Thus, within a given theoretical system definitions are adjusted to give satisfactory support to ensuing derivations, which in turn certify the validity of definitions. Hume's reconsidered view about theories allows him to view the distinction between the theory of the vulgar and any deductive system of perceptions as that of a degree of adjustment between definitions and derivations.²⁹

Hume's discussion about geometry revolves around the issue of the indivisibility of the parts of extension. He argues that extension is a property of some perceptions.³⁰ The parts of extension, or the set of perceptions that have the property of extension, are not *infinitely* divisible. The property of extension belongs only to the perceptions of sight and touch. We cannot make any sense of the perceptions of sight and touch without viewing them as having a determined degree of color and solidity. The quality of extension is cumulative, and the aggregate of perceptions that have this property presents us with extended combinations of perceptions with various levels of complexity. Combinations of extended perceptions can be analyzed in terms of *minima sensibilia*. Beyond this limit no analysis will have any meaning. If

there is a limit beyond which our analysis will make no sense, then we have no choice but to agree that these perceptions are not infinitely divisible.

Hume expresses this argument in the following terms:

If a point be not consider'd as colour'd or tangible, it can convey to us no idea; and consequently the idea of extension, which is compos'd of the ideas of these points, can never possibly exist. But if the idea of extension really can exist, as we are conscious it does, its parts must also exist; and in order to that, must be consider'd as colour'd and tangible. We have therefore no idea of space or extension, but when we regard it as an object either of our sight or feeling. (T, 39)

Hume's presentation leaves unanswered the problem about the status of the idea of extension. My proposal to consider the idea of extension as the idea of a property that belongs to particular perceptions of sight and touch is consistent with the text. Hume maintains that the idea of extension can never possibly exist without actual perceptions whose property it is. Since we have the idea of a particular property, namely extension, we cannot avoid acknowledging the existence of the very perceptions to which this property belongs. To talk about the property of extension cannot mean anything other than to talk about those perceptions that have this property. Perceptions of sight and touch are the only perceptions that have the property of extension. These perceptions are not infinitely divisible because they would cease being perceptions of sight and touch without a determined degree in the properties of color and solidity.

Let us consider the argument that can be drawn against Hume's theory of extension. It relies upon a particular interpretation of geometry. (1) It is believed that, properly taken, only geometry is the science that captures the nature of extension.³¹ The mechanistic interpretation of the material world maintains that matter possesses only geometrical properties. Hume's mistake is to talk about extension in terms alien to geometry. (2) Moreover, geometry allegedly

demonstrates that extension is infinitely divisible. Thus, it is also wrong of Hume³² to claim that extension is not infinitely divisible.

Hume replies to the first objection by showing that the definitions used in geometry, as a matter of fact, are compatible to his theory of extension. A surface is defined “to be length and breadth without depth; A line to be length without breadth or depth: A point to be what has neither length, breadth nor depth.” (T, 42) Hume maintains that the meaning of these definitions is not self-evident. We can understand the meaning of a line, for example, because we tacitly rely on our acquaintance with given visual perceptions: “As the ultimate standard of these figures is deriv’d from nothing but the senses and imagination, ‘tis absurd to talk of any perfection beyond what these faculties can judge of.” (T, 51) Thus, Hume believes that geometry cannot live up to the perfection for which it is often praised. As a matter of fact, geometry merely allows us to be more precise in our examination of the property of extension. The meaning of this property, however, can be specified solely in terms of perceptions of sight and touch.

Let us demonstrate this conclusion by Hume’s analysis of two definitions.

Mathematicians pretend they give an exact definition of a right line, when they say, *it is the shortest way betwixt two points*. But in the first place I observe, that this is more properly the discovery of one of the properties of a right line, than a just definition of it. For I ask any one, if upon mention of a right line he thinks not immediately on such a particular appearance, and if ‘tis not by accident only that he considers this property? ... In common life ‘tis establish’d as a maxim, that the straightest way is always the shortest; which wou’d be as absurd 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, 49-50)

Here Hume argues that the vulgar view about extension, although based merely on the perceptions of sight and touch, is primary to geometrical definitions. As a matter of fact, we have an idea of a line. Geometrical analysis reveals yet another property of this idea, and thus

makes it more precise. This argument proves that the definition of a line is not a self-evident axiom. It is constructed as a clarified notion of the vulgar idea of a line.

A similar argument is offered regarding the definition of a surface:

The idea of a plain surface is as little susceptible of a precise standard as that of a right line; nor have we any other means of distinguishing such a surface, than its general appearance. 'Tis in vain, that mathematicians represent a plain surface as produc'd by the flowing of a right line. 'Twill be immediately objected, that our idea of a surface is as independent of this method of forming a surface, as our idea of an ellipse is that of a cone; that the idea of a right line is no more precise than that of a plain surface; that the right line may flow irregularly, and by that means form a figure quite different from a plane; and that therefore we must suppose it to flow along two lines, parallel to each other, and on the same plane; which is a description, that explains a thing by itself, and returns in a circle. (T, 50).

Thus, Hume shows that geometry reveals the properties of extension only insofar as extension is defined as the property of the perceptions of sight and touch.

Hume replies to the second objection, *i.e.* the claim that geometry can produce a demonstration about the infinite divisibility of extension, by explaining that geometrical demonstrations *in principle* cannot show that geometrical entities have the property of infinite divisibility. He proves this by presenting geometry as a unified theory that includes both definitions and demonstrations, or the primary and secondary sets of perceptions. Hume insists that geometrical demonstrations make sense only insofar as they do not undermine given definitions. Hume argues that in geometry not only are points indivisible, but also lines and surfaces. Definitions, or the elements of the primary set of perceptions, specify the universe of discourse. When we define geometrical entities, we specify their properties in a manner that can be clearly conceived.

Hume maintains that geometrical entities cannot be divisible *in infinitum* because infinite

divisibility of defined entities leads to a contradiction. Let us suppose that a given chain of deductions allows us to claim that geometrical entities have the property of infinite divisibility. In this case, we start our derivations from the presupposition that geometrical entities exist, and arrive at the conclusion that the same geometrical entities do not exist. “Let these ideas be suppos’d infinitely divisible; and then let the fancy endeavour to fix itself on the idea of the last surface, line or point; it immediately finds this idea to break into parts; and upon seizing the last of these parts, it looses its hold by a new division, and so on *in infinitum*, without any possibility of its arriving at a concluding idea” (T, 44). The claim that infinite divisibility cannot lead to any definition of a geometrical entity shows that we have no conception of geometrical entities that have the property of infinite divisibility. Hume insists that if something cannot be conceived, then it cannot exist. Thus, in our derivations we start with a defined geometrical entity. If we prove that this entity has the property of infinite divisibility, we effectively eliminate the given entity. This proof reduces the whole body of geometrical theory to nonsense. “Thus it appears, that the definitions of mathematics destroy the pretended demonstrations; and 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)

Hume’s analysis of geometry reveals a common feature of theories. The set of definitions determines the universe of discourse of a given theory. Moreover, the universe of discourse is not independently given. It is constructed in view of the derivations that it warrants. When we change the primary set of perceptions, we effectively introduce a completely different universe of

discourse that again can be understood solely on the basis of subsequent derivations. If we want to talk about extension, for example, we have no choice but to construct a theory in terms of which the notion of extension makes sense. Hume develops the following theory. Extension is a property of the perceptions of sight and touch. Thus, we can make sense of extension only in relation to extended colors and extended perceptions of solidity. If we eliminate the perceptions of sight and touch from our discourse, then our universe will contain no property of extension. Entities that have the property of extension are not infinitely divisible, because infinite divisibility eliminates the universe of discourse of the theory in which extension occurs. The situation is similar in geometry. Geometry operates with entities that are defined in a particular manner. Theoretical constructions within it will make sense if and only if they will not lead to conclusions that contradict the given universe of discourse.

Our analysis of the projections of philosophers has yielded the following results. (1) The projections of the true and the false philosophy can be described as deductive theories. The false philosophy tries to establish a single deductive theory while the true philosophy accepts the possibility of developing a variety of deductive theories. (2) The false philosophy fails to establish a consistent deductive theory because it effectively operates with two incompatible sets of definitions -- definitions of the vulgar and definitions of the philosophers. (3) Moreover, the false philosophy attempts to transform the projections of the vulgar into a deductive system. This is a futile task because the projections of the vulgar employ relations that cannot be axiomatized, namely, relations of *causation*, *identity* and *contiguity*. (4) The true philosophy makes use of the assumption that a deductive system can be established solely on the basis of

four relations between perceptions -- *resemblance, contrariety, degrees in quality, and proportions in quantity or number*. (5) The true philosophy cannot present a single and unified system of perceptions because it cannot develop any rational principle by which initial definitions are chosen. The choice of the entities that constitute the subject matter that is described within a given theory is arbitrary.

Hume's analysis of theories also highlights the necessity of making adjustments between the primary and the secondary sets of perceptions. This function can be described as the function of the usefulness of a theory. A theory is useful if given definitions warrant given derivations, and *vice versa*, if given derivations provide meaning to given definitions. Thus, (7) the theory of the false philosophy cannot be described as useful because it cannot be determined what conclusions can be derived from two incompatible sets of definitions. (8) The theories of the true philosophy can be considered useful, regardless of their plausibility, only if they present a well-adjusted and operational system, such as geometry.

2.6. *Competing Readings of the Nature of Conceptual Analysis in Hume's Philosophy*

In this chapter I have argued that Hume considers the projections of the vulgar, the false philosophy and the true philosophy as three completely different kinds of theories. Thus, there are no *philosophically significant* connections among them. Each theory generates its claims independently of the others. The full extent of my reading will be better understood if compared to two competing interpretations of Hume's arguments. The first is that of Donald Livingston who describes Hume's analysis as a dialectical process of moving from the projections of the vulgar to those of the true philosophy. The other interpretation highlights Hume's empiricism and maintains that he is the first philosopher who assigned the proper philosophical significance to immediate perception, and to the use of sense-data in our perception of the world.

Let us first discuss Livingston's³³ interpretation. He tries to establish two claims. First, he argues that the standard empiricist interpretation of Hume's work fails to appreciate the self-referential nature of Hume's analysis of philosophy.³⁴ I completely endorse this point and agree that Hume's analyses of the false and the true philosophy reveal something important about Hume's philosophy in general. But I disagree with Livingston's second claim in which he tries to explain the nature of Hume's philosophical project in terms of dialectical changes of the theories. Livingston errs in arguing that for Hume the true philosophy replaces the false philosophy and inevitably leads to a deep transformation of the intersubjective conditions that form the view of the vulgar.³⁵

Livingston's proposal to view Hume's work dialectically implies three conditions that Hume's philosophy cannot and does not meet. First, if Livingston were right, then the view of

the vulgar is not universal and permanent. For according to Livingston, it is possible, in principle, to turn the vulgar view into the true philosophy. I have insisted (p.44) that Hume's analysis of the theory of the vulgar exhausts Hume's account of human nature. If Livingston argues that the true philosophy makes improvements on the view of the vulgar, then he has to admit that human nature itself changes. If Livingston would try to undermine my objection by claiming that human nature and the projections of the vulgar are different subjects, then he would have to define both in a manner that allows changes in the projections of the vulgar while preserving the claim that human nature is permanent. I believe that such definitions cannot be presented. Secondly, if the true philosophy is generated by dialectical changes in the false philosophy, then Livingston has to admit that the true philosophy would not exist without the false philosophy. I have argued that, according to Hume, the projections of the true philosophy, as well as the projections of the vulgar, can operate in complete isolation. That is to say, new derivations in both types of projections are generated from given definitions of impressions. The vulgar assign definitions to their impressions intuitively, while the true philosophy adopts its definitions arbitrarily. And our minds simply perform two different types of theoretical operations. In case of the vulgar new beliefs are introduced by associations. The true philosophy makes deductive derivations from given definitions of impressions. There is no need to invent the account about dialectical transformations. Finally, Livingston argues that the dialectical changes of the true philosophy lead to improved social conditions. Does this mean that Hume sees these changes as inevitable?

Let me give an illustration of each point. Hume's belief about the permanent nature of

human understanding is well reported in the following passage:

It is universally acknowledged, that there is a great uniformity among the actions of men, in all nations and ages, and that human nature remains still the same, in its principles and operations. The same motives always produce the same actions: The same events follow from the same causes. Ambition, avarice, self-love, vanity, friendship, generosity, public spirit; these passions, mixed in various degrees, and distributed through society, have been and still are, the source of all actions and enterprizes, which have ever been observed among mankind. (E, 55)

Hume's position here can be understood if and only if by "human nature" we mean a particular type of theory, regardless of the actual beliefs that this theory generates. Namely, (1) human beings use abstract ideas and thus fail to specify the subject of their discourse; (2) human beings fail to establish the system of the principles by which perceptions are connected; (3) human beings establish connections between perceptions merely by association; and (4), whatever the content of the beliefs that this theory generates, beliefs *per se*, or beliefs as epistemic tools by which we anticipate the future, are the products of this theory. This theory establishes its usefulness because, for the most part, we have a common knowledge of what ideas can be inferred from given impressions. When Hume argues that human nature is permanent, he is talking about the 'anatomy' of human knowledge. No dialectical process can change this inconsistent, yet useful, kind of a theory.

To undermine the position that the false philosophy dialectically turns into the true philosophy, let us consider the following quotation. In these desperate lines Hume acknowledges that the true philosophy is a theory that can stand in complete isolation, and yet it can be operational. We can draw conclusions from any arbitrarily given definitions of impressions:

The intense view of these manifold contradictions and imperfections in human reason has so wrought upon me, and heated my brain, that I am ready to reject all belief and reasoning, and can look upon no opinion even as more probable or likely than another. Where am I,

or what? From what causes do I derive my experience, and to what condition shall I return? Whose favour shall I court, and whose anger must I dread? What beings surround me? and on whom have I any influence, or who have any influence on me? I am confounded with all these questions, and begin to fancy myself in the most deplorable condition imaginable, environ'd with the deepest darkness, and utterly depriv'd of the use of every member and faculty. (T, 268-9)

Hume's despair confirms that the true philosophy *cannot* avoid the conclusion that the choice of its subject is completely arbitrary.

The continuity in the development of the theories from the view of the vulgar to the true philosophy is also denied in the following summary statement of Hume's examination of the philosophical theories:

[W]e have finish'd our examination of the several systems of philosophy, both of the intellectual and natural world; and in our *miscellaneous way of reasoning* have been led into several topics; which will either illustrate and confirm some preceding part of this discourse, or prepare the way for our following opinions. 'Tis now time to return to a more close examination of our subject, and to proceed in the accurate anatomy of human nature, having fully explain'd the nature of our judgments and understanding. (T, 263, emphasis added)

Among the topics that Hume is drawn to discuss are those of external existence, personal identity, substance, and reason. In each case he successfully shows what derivations on a given subject are generated by each of the three theories. But to say that each theory leads to different and sometimes contrary claims falls short of insisting that these contrary claims dialectically introduce one another. Livingston assigns philosophical significance to the relations that for Hume are mere expository tools for his analysis of theories. These passages demonstrate that the true philosophy can and often does operate in isolation. The truth of a similar claim about the view of the vulgar is just too obvious. Thus, Livingston's argument that the true philosophy evolves from the view of the vulgar cannot be accepted.

Finally, Livingston observes that there is a connection between the self-referential nature of the true philosophy and improvements in social conditions. He argues that Hume insists upon the claim that the true philosophy fosters the development of civilization. It would be misleading, however, to assess this mere correlation as an important philosophical accomplishment. According to Hume, social changes are brought about by interactions among agents. We develop and implicitly accept useful conventions. These conventions reflect the conditions that a given group of social agents agree to fulfill in case others will do the same. Should we insist that in this interaction philosophers, more precisely the true philosophy, play a more important role than other social agents, such as politicians, carpenters, musicians, *etc.*? There is no doubt that Hume welcomes such changes. Yet there is no reason to believe that he finds a direct correlation between the true philosophy and the state of civilization.

Let me now briefly compare my position about Hume's conceptual analysis with the traditional readings that revolve around Hume's empiricism.³⁶ Two issues have to be discussed in this context. First, we have to assess whether Hume indeed assigns philosophical significance to immediate perception. Secondly, we have to examine the value of Hume's analysis of the projections of the vulgar, the false philosophy and the true philosophy. If we can defend the claim that the analysis of these three theories is essential for Hume's project, then we can argue that any interpretation that ignores it, including the empiricist reading of Hume, is deficient.

The claim that for Hume the projections of the vulgar are theories entails the following interpretation of passages in which Hume is seen as advocating the importance of immediate perception. When Hume insists that we are immediately acquainted with our impressions, he

refers to impressions as the results of the application of the theoretical principles that define the naïve realism of the vulgar. Our definitions of impressions are constructed in the following sense. Impressions have numerous properties -- existence, color, shape, solidity, the property of being the cause of something else, or being located next to some entity, *etc.* All this variety of properties cannot be assessed in one act of immediate perception. When we identify something as an impression, we present the result of a certain selection of properties. Impressions that are defined in this manner will have only those properties that can be used in subsequent inferences about them. Hume can generalize the claim that we all share a body of common knowledge because he believes that the projections of the vulgar will generate remarkably similar results regarding our perception of the external world. I argue that for Hume impressions are constructed entities, and as such cannot be immediately perceived. His appeal to acknowledge the existence of impressions is directed towards confident users of the theory of the vulgar.

When I am talking about impressions, I treat them as conventions. Hume recognizes that our impressions of external objects are constructed entities. Moreover, as conventions they are conditionally self-enforcing in the following sense: (1) Each agent has a reason to adopt given definitions of impressions because each expects the others to do likewise; (2) alternative definitions of impressions (given by philosophers) do not provide decisive reason to abandon the entrenched view of naïve realism. With this reading I extend to Hume's epistemology the theory of social contract, which has been successfully applied to his theory of justice and property by Lewis and Vanderschraaf.³⁷ Moreover, this application goes further than their path-breaking analysis of conventions. I have investigated the theoretical operations by which the very

conventions that we agree to endorse are constructed. This analysis complements the examination of conditions that allow agents to solve the problems of coordination and partial conflict.

The traditional reading of Hume as an empiricist presents a different interpretation of Hume's position about immediate perception. It is supposed that in immediate perception we are presented with the simplest, most fundamental, mental entities from which our experience of the external world is constructed. Immediate perception allegedly is a single act in which the mind acquires these entities. According to this reading, immediate perception delivers mental entities that are universally shared by perceiving agents. It is further supposed that Hume's philosophical empiricism is directed against competing philosophical positions, such as idealism and rationalism. Hume is regarded as rebelling against metaphysics by demanding that philosophical reflections be grounded in immediate perception, which is the only way to avoid the errors of other philosophical theories.³⁸

Let us design a test that will allow us to choose between these two interpretations. The decisive question in this regard is the following -- *does Hume ever present impressions completely void of any relations?* If he does, then we will have no choice but to accept the traditional reading of Hume's empiricism, that impressions are the *bare* building blocks of our experience, and relations are added to them by individual minds, thereby producing a network of ideas by which we understand the world. However, if Hume's analysis of impressions inevitably entails relations, then we will have to accept the interpretation presented in this chapter. According to this alternative interpretation, impressions are defined in relation to the ideas that

they generate. Ideas and impressions complement each other and function together in the system of perceptions. The operational system of perceptions that includes impressions and ideas, as a matter of fact, allows for derivations in terms of which we construct our beliefs about the world.

We can use Hume's discussion about the missing shade³⁹ to resolve the question because here Hume deals with what is traditionally accepted to be the simplest element of perception -- the perception of color. If we find that even Hume's discussion about our perception of color fails to present perceptions as bare data, then we can justifiably apply the same conclusion to more complex perceptions of objects, shapes, *etc.* Hume constructs his thought experiment about the missing shade on the basis of one axiom, namely, that impressions of colors resemble each other:

I believe it will readily be allow'd, that the several distinct ideas of colours, which enter by the eyes, or those of sounds, which are convey'd by the hearing, are really different from each other, tho' at the same time resembling. Now if this be true of different colours, it must be no less true of the different shades of the same colour, that each of them produces a distinct idea, independent of the rest. (T, 5-6)

We cannot deny that resemblance is a relation. Therefore, we *must* acknowledge that for Hume sense-impressions are not bare sense-data. In the example of the missing shade Hume illustrates the causal claim about the origins of ideas in impressions *without* presupposing that the qualities and properties of sense-impressions are known. If we abandon the expectation that sense-impressions are immediately known, then Hume's example should appear less puzzling. Indeed, in this example he talks about confident users of the view of the vulgar. In this view impressions are loosely defined and their definitions are adjusted to those ideas that can be derived from given impressions. In this thought experiment Hume derives the following conclusion:

Suppose therefore a person to have enjoyed his sight for thirty years, and to have become

perfectly well acquainted with colours of all kinds, excepting one particular shade of blue, for instance, which it never has been his fortune to meet with. Let all the different shades of that colour, except that single one, be plac'd before him, descending gradually from the deepest to the lightest; 'tis plain, that he will perceive a blank, where that shade is wanting. (T, 6)

This means that for Hume the projections of the vulgar are operational systems of perceptions that generate new claims not only about complex entities, such as historical facts and causal claims, but also about simple entities, such as colors.

I should clarify the claim that I am defending. Can we *imagine* that impressions are bare data? I think Hume would agree that we indeed could. Imagination, as Hume explains, is free to change ideas. He would disagree, however, with the more complex claim that impressions are bare data *in a system of perceptions*. That is impossible. If we know what our impressions are, then we, as a matter of fact, also know what conclusions can be derived within the given system. And if even if simple impressions of colors have inherent properties that determine what new derivations can be made on their basis, what should we expect from our complex impressions of objects? According to Hume, in the view of the vulgar the impressions will inevitably have the properties that allow us to associate ideas in at least three ways -- by causation, resemblance and contiguity.

This conclusion can be justified only if we pay proper attention to Hume's analysis of theories. According to Hume, the derivations of the view of the vulgar, the false and the true philosophy present us with complete and largely incompatible discourses. Of course, one can argue that all these views arise from the same set of sense-data. But this argument presents no threat to the claim that the meaning of impressions can be specified only within the context of a

given theory. Whenever we define an impression, we implicitly adopt a set of derivations that this definition warrants. If we change the definition of an impression, then the discourse of our theory changes with it. This position leaves no conceptual place for mere sense-data, or bare building blocks of experience.

Hume is a pluralist about theories. If we ignore this feature of his philosophy, and try to customize his arguments in a manner that allows for the construction of a unified deductive system, we will inevitably commit two mistakes. First, Hume's arguments about immediate perception will be taken out of their proper context, so that immediate perceptions will not be dealt with in the context of the projections of the vulgar, as Hume intended. Secondly, a large body of Hume's arguments, such as those in Sections viii-xiii, Part III, and Section ii, Part IV of Book I, of Hume's arguments about the projections of the vulgar and the theories of philosophers will be left with no interpretation at all. Traditional empiricist interpretations of Hume cannot escape from committing both these mistakes. I should emphasize that I am *not* arguing that the project of constructing a theory about the world on the basis of mere sense-data is somewhat inadequate. Rather, I am insisting that this project *is not* Hume's project at all.

2.7. *The Evaluation of Theories*

It was argued that for Hume the evaluation of projections could not be based merely upon the consistency of a system of perceptions. The usefulness of projections, or their ability to guide the actions of agents that endorse them, is a completely new criterion that Hume tries to apply in his analysis. I have argued that the usefulness of a theory can be thought of as the function by which the primary set of perceptions is related to the secondary set of perceptions. If the users of a particular system of perceptions, or the agents who endorse a given theory, do not share a common body of knowledge⁴⁰ that identifies the set of anticipated derivations from a given impression, then the system of perceptions cannot be described as useful. A system of perceptions is useful if and only if the primary set of perceptions is well adjusted with the secondary set of perceptions, *i.e.* we have tacitly accepted a given convention.

We have found that the projections of the vulgar are inconsistent. (1) The vulgar make use of abstract general ideas which, strictly speaking, can never identify the exact extension of a given theory. (2) The vulgar establish relations between the perceptions of the primary and secondary sets by association. The associated perceptions cannot be considered as justifiably related to each other because it cannot be shown that the relation is logically necessary. If a deductive system is taken to be the standard for the evaluation of theories, then the associated perceptions are related randomly. (3) One cannot make new derivations on the basis of associated perceptions. Since there is more than one principle of association, there are no grounds to accept the hypothesis that the same principle of association will be applied in the subsequent derivations. (4) Finally, the vulgar never try to establish a unified system of

perceptions. They easily accept new general rules, or hypotheses, without ever inquiring about their validity: for them, general rules are not approached as theorems. Moreover, they do not try to make a *system* of general rules. There is no doubt in Hume's mind that the view of the vulgar is an inconsistent theory that cannot be repaired.

The projections of the vulgar, nevertheless, are useful. (5) Although the use of abstract ideas prohibits the vulgar from establishing the *exact* extension of their theories, rough agreement about the extension of abstract ideas is widely shared. As a matter of fact, people know roughly what they are talking about and in most cases understand others. This is achieved because (6) the vulgar are flexible about making adjustments between the primary and secondary systems of perceptions, or impressions and ideas. Impressions are redefined in order to warrant the intended inferences. (7) The vulgar have beliefs. Beliefs presuppose the possibility of making certain inferences. A belief for Hume is an abbreviation of a given system of perceptions. It is "the first act of judgment, and lays the foundation of that reasoning, which we build upon it, when we trace the relation of cause and effect." (T, 86) In beliefs we have an abstract of a theory from which one can produce definitions and intended derivations upon request.

The false philosophy according to Hume lacks consistency and usefulness. It is inconsistent because it operates with two contrary sets of definitions. The false philosophy tries to establish a unified deductive system upon foundations that quite simply cannot yield such results. By accepting that perceptions are representations of objects, the false philosophy leaves open the possibility of adopting either of two contrary definitions -- 'perceptions are objects' or

'perceptions are perceptions' -- at will. Moreover, Hume argues that the theory of the false philosophy lacks usefulness because its primary system is continually re-defined, which renders it impossible to predict what ideas will result from given definitions of impressions.

The true philosophy, according to Hume, is a consistent theory that is useless. The true philosophy is a deductive system where the primary and secondary sets of perceptions are connected according to the following rules: (1) Impressions are defined and their definitions are preserved throughout the discourse; (2) The relation between impressions and ideas is established according to defined principles; (3) The relations among ideas are established by necessity on the basis of defined properties of impressions. Whenever the true philosophy is in a position to evaluate given definitions of impressions, it presents a flawless theory about a given discourse. The true philosophy, nevertheless, is not a useful theory because, as Hume realizes, its initial choice of definitions of given impressions will be arbitrary. This means that the theory of the true philosophy cannot develop criteria by which the initial choice of definitions is decided. Any proposition can serve as a definition of an impression. It is impossible to know beforehand, prior to the analysis, what conclusions can be derived from arbitrarily accepted definitions of impressions.

Chapter 3: A New System of the Sciences

3.1. Introduction

Hume argues that “the science of man is the only solid foundation for the other sciences” (T, Intro, xvi), and that “[t]here is no question of importance, whose decision is not compriz’d in the science of man; and there is none, which can be decided with any certainty, before we become acquainted with that science.” (T, Intro, xvi) With these claims Hume clearly demonstrates his confidence that the theory of ideas has methodological implications. In the previous chapter I have shown that Hume’s analysis of the projections of the vulgar is his science of man. The conceptual innovation in Hume’s analysis of theories lies in the introduction of the criterion of usefulness (p.31). In this chapter I shall argue that the proposed system of the sciences is an attempt to justify inductive generalizations as a valid method for the growth of knowledge on the basis of their usefulness.

Two of Hume’s predecessors, Locke and Berkeley, have contributed to his analysis. Their influence on Hume’s position will be discussed presently. For the moment, I shall briefly outline their main lines of the argument to explain the context in which Hume’s position was developed. The analysis of Locke and Berkeley throughout this chapter will not aim at presenting a historically accurate interpretation of their work. In this chapter I am concerned primarily with the intellectual development of Hume. Thus, the following analyses are meant to be attempts at re-constructing “Hume’s Locke” and “Hume’s Berkeley”, which by some interpreters might be seen as deviations from the “real Locke” and the “real Berkeley”.

Locke tries to provide a philosophical justification for the mechanistic sciences. His argument for their validity revolves around abstract complex ideas of modes and relations. He argues that inductive generalizations enable us to construct abstract general ideas. Well-constructed abstract general ideas are not only the nominal essences of words that we use in communication, but they also capture the real essences of mind-independent states of affairs. According to Locke, we can prove that abstract general ideas properly depict their ontological counterparts in the mind-independent universe. His argument runs as follows. Locke distinguishes between *conceptual* entities, such as matter, molecules, *etc.*, and *sensible* entities, such as perceived chairs and tables. For Locke, *sensible* entities are merely the phenomena of our perception. Only *conceptual* entities find place in Locke's ontology, in which he assigns the ontological status solely to primary qualities. Abstract general ideas provide us with *definitions* of conceptual entities and thus depict the real essences of mind-independent states of affairs. Thus, Locke's defense of the mechanistic sciences shows that, regardless of the limitations of our sense-perception, we can develop theoretical models that exactly depict the causal structure of the world. And new knowledge about yet unperceived mind-independent events can be deduced from the definitions of *conceptual* entities. I shall argue that for Locke the mechanistic sciences are purely deductive systems of definitions, and that we can construct these definitions of conceptual entities by using inductive generalizations.

Berkeley, on the other hand, maintains that the actual causal structure of the world cannot be revealed by inductive generalizations. Inductive generalizations for him have meaning only in relation to particular ideas from which they are derived. Inductive generalizations merely provide us with a systematic account of our experience. Berkeley

believes that Locke's attempt to prove that we capture mind-independent states of affairs by providing definitions of conceptual entities fails. For Berkeley, there are no conceptual entities. We have no basis to introduce knowledge about yet unperceived events by deductions from given definitions of entities. He maintains that the scientific models of the mechanistic sciences do not capture real essences of mind-independent states of affairs because mind-independent events themselves are fictions. If the mechanistic sciences do not model the mind-independent states of affairs, then they have no predictive power.

Hume's belief about the methodological implications of the theory of ideas builds upon these disputes between Locke and Berkeley. Hume shares Locke's sympathy for the mechanistic sciences, but he also agrees with Berkeley's critique of abstract general ideas. Hume's own position seems to be structured so as to avoid the impact of Berkeley's critique of Locke's defense of the mechanistic sciences. He develops a position in which inductive generalizations are meaningful not because they model mind-independent states of affairs, but because they allow us to construct testable hypotheses. Hume thereby avoids Locke's commitment to the reification of abstract general ideas. Moreover, Hume overcomes Berkeley's claim that the sciences have no predictive power. For Hume inductive generalizations allow us to anticipate new kinds of facts *within* a given system of projections. More precisely, inductive generalizations function as rules for making judgments, and Hume believes that all those individuals who endorse the same system of projections will be able to anticipate yet unperceived events because of their commitment to use the same projections in the future. Hume argues that inductive reasoning can be accepted as a valid method for the growth of knowledge because of their use. For Hume,

science itself ceases to be an inquiry concerning either real or nominal essences.¹ Instead, science is meaningful because it allows us to anticipate the future turn of events.

Hume develops a position that can be defined as projectionism. Immediate contact with the external world is too limited to warrant justifiable conclusions about its nature. Our minds supplement this limited information by constructing systems of perceptions in which we model relations that might hold in the universe. We can construct two kinds of systems of projections -- inductive and deductive. Judgments about the world can be made solely on the basis of these projections. Inductive and deductive theories, or so I shall argue, are systems of projections which allow us to make particular inferences about the mind-independent universe. The adequacy of these inferences is relative to the given system of projections. Within the inductive system of projections *I*, we can test the validity of any given projection because its negation is consistent within *I*. Thus, competing projections entail different contingencies that can be tested by experiment. Within the deductive system *D*, or the system of definitions, we can choose between competing projections by the analysis of the coherence of their consequences within *D*. A projection is valid within *D* only if it entails consistent assertions, while the opposite projection is invalid because it entails inconsistencies.

Hume is aware that there is a conceptual gap between our immediate contact with the world, which provides us with particular perceptions, and our systems of beliefs that provide us with general projections. The theory of ideas is designed to explain how this transformation from particularity to generality is achieved. The conclusion of this analysis renders Hume's projectionism extreme. He argues that we cannot justify the claim that our projections properly model the world since they acquire generality without

any relation to the external world. Our projections are general merely because our minds construct theories in a particular manner. The question whether the essence of some mind-independent state of affairs is properly depicted in our projections cannot be decided. The world might be different. This is not a mere truism for Hume. It draws attention to the fact that the value of scientific inquiry does not lie in the quest for truth. Hume wants to see scientific theories performing the same function as the view of the vulgar, namely, to guide our actions. Any projection, deductive or inductive, is constructed in a manner that remains completely unaffected by mind-independent states of affairs. It is important to recognize this feature in the examination of the nature of abstract general ideas. Since these ideas are used merely to construct a given system of perceptions, they do not acquire meaning by corresponding to something external. Abstract general ideas are meaningful simply because they generate beliefs. By making explicit how particular perceptions are related to each other in given projections, we do not necessarily model some state of affairs. We merely design a projection the validity of which can be either tested within *I*, or accepted as consistent within *D*. In either case, we have no choice but to accept given projections as *probable* explanations of given states of affairs.

The relation between Hume's theory of perceptions and his methodological concerns has been overlooked for at least two reasons. First, Hume's theory of ideas is usually treated simply as an epistemological theory about perception.² Allegedly, his theory of ideas can clarify their meaning, but it fails to explain mind-independent relations that are not affected by the act of perception. Thus, it is objected that Hume's theory of ideas fails to bridge the gap between the issues of meaning and truth.

Consequently, it is argued that Hume fails to appreciate the complexity of the question about the foundations of the sciences. Secondly, Hume confesses that his theory of perceptions can deal solely with the appearances of things.³ Without clear definitions of these appearances, or so it is argued, Hume's theory of perceptions fails to differentiate between psychological and epistemic features of perceptions. Thus, Hume is seen as lacking the conceptual resources to reach out of the narrow psychological limits of individual perception in order to face questions about truth.

These two objections gather strength from the assumption that scientific theories differ *in kind* from mere beliefs of the vulgar. Objectivity and truth are to be obtained in a controlled environment of scientific research. I shall present a different analysis of Hume, in which I shall show that Hume does not accept the assumption that scientific theories are different *in kind* from mere beliefs of the vulgar. I shall maintain that for Hume projections do not differ *in kind* since all of them serve to guide our actions.

My general interpretive strategy will be to show that Hume's theory of ideas is more than an account of the process of perception. It is designed to solve the problems that arise within the on-going methodological discussion about the nature of abstract general ideas, and their role in the theories of the experimental sciences. Hume tries to defend the mechanistic sciences against Berkeley's attack by re-defining the status of scientific theories themselves. Inductive generalizations, although lacking in certainty, constitute the only systematic and useful method that can generate new reliable *inferences* about the world, as it is perceived by the vulgar. This context allows us to argue against the claim that Hume's theory of perceptions lacks resources, or fails to address issues in philosophy of science. Hume's projectionism shows that any system of perceptions

cannot help but beget beliefs. Any belief, according to Hume, is “the first act of the judgment, and lays the foundation of that reasoning, which we build upon it, when we trace the relation of cause and effect.” (T, 86) Accordingly, even in scientific theories our beliefs should be seen not as models of mind-independent reality, but as functional entities that allow us to anticipate the future.

Let us consider it [the theory of belief] as a question in natural philosophy, which we must determine by experience and observation. I suppose there is an object presented, from which I draw a certain conclusion, and form to myself ideas, which I am said to believe or assent to. Here ‘tis evident, that however, that object, which is present to my senses, and that other, whose existence I infer by reasoning, may be thought to influence each other by their particular powers or qualities; yet as the phaenomenon of belief, which we at present examine, is merely internal, these powers and qualities, being entirely unknown, can have no hand in producing it. ‘Tis the present impression, which is to be consider’d as the true and real cause of the idea, and of the belief that attends it. (T, 101-2)

It is not easy to accept Hume’s conclusion that scientific theories do not differ *in kind* from any other system of perceptions. For this conclusion inevitably raises questions about the nature of science, its goals, and the epistemic status of its concepts. But this is the context in which Hume’s arguments have to be seen.

Hume’s theory of ideas implicitly contains an account of the nature of theoretical analysis that resembles Frank P. Ramsey’s⁴ views about the nature of general propositions.⁵ Let me give a concise description of Ramsey’s projectionism, and use it as a model for the subsequent discussion about the development of the methodological positions within the tradition of British Empiricism.

Braithwaite briefly describes Ramsey’s account in the following passage:

Ramsey and Schlick have done service to philosophy by emphasizing the peculiar features of generalizations which arise from the fact that sentences expressing them can only be understood in connection with the way in which they are used in deductive inference. It seems better to put the point which they wish to make by

admitting that generalizations are propositions, and by pointing out that these propositions play a different role in deductive systems from that played by propositions which are directly testable by experience, and that consequently the sentences expressing them have meaning in a different way.⁶

Ramsey presents an alternative classification of general propositions. Generalizations in deductive systems are not premises from which testable consequences can be deduced. They are rather *principles of inference* according to which the conclusions follow. The general proposition that “every A is B” is not a judgment, but *a rule of inference* by which upon seeing A I shall regard it as B.

This position on the nature of general propositions entails important consequences. It provides a viable alternative to traditional views about the nature of induction. We can briefly outline three general philosophical positions about the significance of inductive generalizations. (1) Inductive practices cannot generate genuine knowledge. They merely describe our experience in a systematic manner. Only conclusions derived from true premises are certain. Thus, inductive generalizations fail to address *ultimate metaphysical questions*. (2) Inductive practices, as a matter of fact, produce genuine knowledge about the world. Inductive generalizations allow us to discover the true nature of things. (3) Inductive practices allow us to anticipate the future and, thus, guide our actions. The question of whether they depict the structure of causal events is irrelevant because the meaning of inductive generalizations cannot be determined by experience. Generalizations have any meaning only as rules for constructing new judgments.⁷ I shall add labels to these three general epistemological positions. Our imaginary ‘instrumentalist’ will hold the first position; the ‘scientific realist’ will endorse the second; while the ‘projectionist’ will maintain the third position.

We can supplement this initial outline of competing views with an argument that Ramsey employs against Russell.⁸ Ramsey argues that universals are *judgments* that we are prepared to make, thereby differentiating his view from that of Russell, for whom universals, or *general facts*, are used to ascertain the nature of the world.⁹ As Braithwaite notes: “if the theoretical terms of a theory are logically constructed out of observable entities, the theory will be incapable of being modified to explain new sorts of facts.”¹⁰ Ramsey seeks to establish two claims: (3a) If theoretical terms are viewed merely as logical constructions out of observable entities, then we cannot help but tie down their empirical significance to the exact states of affairs from which they are constructed, in which case we would have no hope of making valid generalizations about *other* states of affairs. (3b) We can overcome this limitation only by endorsing an *alternative* interpretation of theories in terms of projectionism. This interpretation preserves the empirical validity of theoretical terms within a given system of projections, and establishes the utility of generalizations for anticipating the future, while avoiding the reification of theoretical models.

In the remainder of this chapter I shall argue that, on the basis of the outlined claims, we can model the development of arguments within the tradition of British Empiricism. Locke will be shown to endorse the scientific realism of (2). Berkeley will be seen as maintaining the instrumentalist position of (1), and the consequences of the analysis of the meaning of general propositions of (3a). Hume’s position can be viewed as an attempt to resolve the philosophical consequences of (3a) by the projectionism of (3) and (3b).

Clearly, the philosophical jargon used by the 18th century British Empiricists is undeveloped. But recent discussions about the nature of theoretical terms are roughly equivalent to their analyses of abstract general ideas. Their philosophical convictions about the nature of induction are implicit in their arguments about Newtonian physics. But isn't it dangerous to draw parallels between two strains of thought separated by nearly two centuries? Doesn't such an attempt invite the charge of historical inaccuracy?

When we talk about the historical accuracy of my proposal we have to address at least three questions. First, is the classification of philosophical positions into 'instrumentalism', 'scientific realism', and 'projectionism' applicable to the tradition of British Empiricism? Secondly, is there any continuity between the views of Hume, whose projectionism addresses the antagonism between Berkeley's instrumentalism and Locke's scientific realism, and Ramsey, whose projectionism overcomes Russell's logical atomism? Finally, we have to address the question about the proper interpretation of Ramsey's position.

There is no easy solution to the first question. In the remainder of this chapter I shall present textual evidence to my claim that the proposed classification of 'instrumentalism', 'scientific realism', and 'projectionism' indeed can be applied to the tradition of British Empiricism. In reply to the second question I confirm that I have not found any evidence that Ramsey understood Hume as a projectionist, and thus I cannot claim that there is a direct influence of Hume on Ramsey's views about theories. We can still explore, however, the resemblances between their views because both philosophers deal with the same set of philosophical problems -- the epistemological significance of probability,¹¹ the utility of abstraction and generalization,¹² and the nature of causation.¹³

The fact that both philosophers worked on similar problems certainly does not prove the continuity of their views. But it may explain why they came up with a similar solution to this set of problems, namely, that these problems are solved by projectionism. Finally, I have to specify the sources of my reading of Ramsey's work. The danger that one is facing in discussions about Ramsey comes from a long tradition of reading Ramsey's theory about theories as an attempt to eliminate theoretical terms.¹⁴ Although this interpretation makes an important conceptual contribution to the philosophy of science, I am convinced that is not an adequate historical reading of Ramsey's work. I endorse Braithwaite's¹⁵ analysis of Ramsey's projectionism, which is clarified by Majer,¹⁶ and Blackburn.¹⁷ According to this interpretation, Ramsey does not aim to eliminate theoretical terms, but instead aims to redefine the conditions of their meaningfulness.

3.2. The Ontology of Primary and Secondary Qualities

What is the domain of the sciences? What kinds of facts should the sciences explain? These questions have been particularly troublesome for the British Empiricists. The following is a broad description of the intellectual choices that Hume sought to reconcile. On the one hand, Locke believes that the sciences have to explain the world of primary qualities that can be clearly distinguished from the poorly constructed 'naïve realism' of the vulgar. The 'naïve realism' is constructed from the ideas of secondary qualities, which, according to Locke, are merely the subjective facts of perception. These facts supervene on primary qualities that supply the real facts about the mind-independent universe. Locke believes that any account of secondary qualities can and should be reduced to the variously combined powers of primary qualities. Thus any ontological position that is derived merely from the analysis of secondary qualities does not give an adequate account of the world.

Berkeley, on the other hand, argues that the reality of secondary qualities cannot be questioned. The facts are delivered in terms of mind-dependent secondary qualities. It has to be clarified immediately that for Berkeley the class of secondary qualities is more inclusive than for Locke. Berkeley believes that his account of secondary qualities absorbs even Locke's 'primary qualities'. But the classification of qualities is only the facade of the real disagreement between Berkeley and Locke. Their positions diverge about the nature of facts. Berkeley argues that the objects consisting of mind-independent primary qualities alone are mere fictions, and the analysis of fictions cannot generate any real knowledge. Locke believes that such conceptual objects define the domain of the sciences, and if we have any hope of obtaining genuine knowledge, then this knowledge

will have to describe the relations among conceptual entities. We must understand the origins of this dispute in order to see its significance for the methodological discussions of the time.

In *A Free Enquiry into the Vulgarly Received Notion of Nature*¹⁸ Robert Boyle describes two competing ontologies. First, the mechanistic sciences assume that:

[N]ature is the aggregate of the bodies that make up the world, framed as it is, considered as a principle by virtue whereof they act and suffer according to the laws of motion prescribed by the author of things. Which description may be thus paraphrased: that nature, in general, is the result of the universal matter or corporeal substance of the universe, considered as it is contrived into the present structure and constitution of the world, whereby all the bodies that compose it are enabled to act upon, and fitted to suffer from, one another, according to the settled laws of motion.¹⁹

In another, slightly shortened, version of the same definition Boyle says that: "I shall express what I called 'general nature' by 'cosmical mechanism' -- that is, a comprisal of all the mechanical affections (figure, size, motion, etc.) that belongs to the matter of the great system of the universe."²⁰ For Boyle the world is an aggregate of mind-independent primary qualities. It is a mechanism within which the parts of matter are moved around and brought together by mechanical laws. Figure, size, motion, *etc.* are the properties of matter, and the sciences should investigate the world by identifying the relations between these properties. The facts in this domain are defined *solely* in terms of primary qualities. Atoms and corpuscles are not *sensed* entities. Boyle believes that for the mechanical sciences the facts are *conceptual* entities. That is to say, the mechanical sciences deal with entities that can be conceived, or defined, solely in terms of primary qualities, but cannot, in principle, be perceived by the senses. The functional description of the

relations between the properties of primary qualities is accepted as a sufficient *scientific* explanation of these conceptual facts.

Boyle also gives a clear statement of the competing interpretation of the world that is *constructed* on the basis of secondary qualities. This alternative definition of Nature is a developed ontological position that identifies the facts in terms of objects as they appear to our senses, and provides their causal explanations:

Nature is a most wise being that does nothing in vain, does not miss of her ends, does always that which (of the things she can do) is best to be done, and this she does by the most direct or compendious way, neither employing any things superfluous, nor being wanting in things necessary; she teaches and inclines every one of her works to preserve itself. And, as in the microcosm (man) it is she that is the curer of diseases, so in the macrocosm (the world) for the conservation of the universe she abhors a vacuum, making particular bodies act contrary to their own inclinations and interests to prevent it for the public good.²¹

For Boyle, the facts that form the core of this ontological position are given by the common-sense perception of the world, and their explanation is based on the argument from design. This view about the world of secondary qualities is not merely an intuitive view of the vulgar. Its ontology is developed by the joint efforts of generations of philosophers *before* the rise of experimental philosophy.

Boyle's description of the two competing ontological positions about the domains of the sciences is important because it allows us to clarify the dispute between Locke and Berkeley. Berkeley's critique of Locke is often misunderstood because Berkeley's denial of the material world appears to be self-defeating. It is suggested that, if Berkeley denies the existence of matter, then there is nothing left for him to explain, because he destroys the possibility of having an ordinary world. It is argued that by replacing real 'things' with 'ideas' Berkeley introduces a fantastic world where, instead of dealing with ordinary

objects, we dwell in mental houses, eat mental food, and communicate with mental individuals.²² However, I shall try to show that this interpretation of Berkeley is unfounded because it takes for granted the inflated ontology that includes both primary *and* secondary qualities. Locke does not accept such an inflated ontology, and Berkeley does not criticize it. Locke's ontology of primary qualities is similar to that of Boyle. When we see that this narrow ontology also *undermines* common-sense realism, Berkeley's arguments will appear less problematic.

In a passage that echoes Boyle's analysis²³ Locke clearly states his allegiance with the mechanistic philosophy:

The particular Bulk, Number, Figure, and Motion of the parts of Fire, or Snow, are really in them, whether any ones Senses perceive them or no: and therefore they may be called real Qualities, because they really exist in those Bodies. But Light, Heat, Whiteness, or Coldness, are no more really in them, than Sickness or Pain is in Manna. Take away the Sensation of them; let not the Eyes see Light, or Colours, nor the ears hear Sounds; let the Palate not Taste, nor the Nose Smell, and all Colours, Tastes, Odors, and Sounds, as they are such particular Ideas, vanish and cease, and are reduced to their Causes, i.e. Bulk, Figure, and Motion of Parts.
(2.8.17)

Locke's ontology is clearly set against the common-sense realism. It is Boyle's 'cosmical mechanism' without any goals, intentions, or sensible qualities. For Locke the common-sense perception of the world is, *without any doubt*, mistaken. Locke believes that the argument from illusion proves that secondary qualities are mere appearances, which should be reduced to various combinations of powers in the 'cosmical mechanism'. Locke's reductionism robs secondary qualities of any ontological value.

Locke defines the domain of scientific theories very narrowly. The sciences should explain the relations between primary qualities:

I doubt not but if we could discover the Figure, Size, Texture, and Motion of the minute Constituent parts of any two Bodies, we should know without Trial several of their Operations one upon another, as we do now the Properties of a Square, or a Triangle. Did we know the Mechanical affections of the Particles of *Rhubarb*, *Hemlock*, *Opium*, and a *Man*, as a Watchmaker does those of a Watch, whereby it performs its Operations, and of a File which by rubbing on them will alter the Figure of any of the Wheels, we should be able to tell before Hand, that *Rhubarb* will purge, *Hemlock* kill, and *Opium* make a Man sleep; as well as a Watch-maker can, that a little piece of paper laid on the Balance, will keep the Watch from going, till it be removed. (4.3.25)

This quotation proves that for Locke the sciences are deductive systems of knowledge.

He even claims that in such systems we can introduce new knowledge “without Trial.”

No experiments are necessary for the discovery of new truths.

Locke further believes that no analysis of secondary qualities can generate scientific knowledge:

By the Colour, Figure, Taste, and Smell, and other sensible qualities, we have as clear, and distinct *Ideas* of Sage and Hemlock, as we have of a Circle and a Triangle: But having no *Ideas* of the particular primary Qualities of the minute parts of either of these Plants, nor of other bodies which we would apply to them, we cannot tell what effects they will produce; Nor when we see those effects, can we so much as guess, much less know, their manner of production. Thus having no *Ideas* of the particular mechanical Affections of the minute parts of Bodies, that are within our view and reach, we are ignorant of their Constitutions, Powers, and Operations. (4.3.26)

He is unwilling to sacrifice the certainty of scientific knowledge. Nothing but Newtonian physics is capable of generating an account of Real qualities of objects.

Locke’s ontology of primary qualities is restrictive. Common-sense perception presents us with a distorted view of the world. Sensible qualities can and should be reduced to the combination of mechanical particles that are endowed with various powers. Only the scientist can inquire beyond sense-experience and reveal the true

origins of appearances in the relations between primary qualities. This description of Locke also appears in Aaron who maintains:

Locke could not have been a mere sensationalist. For sense-experience of itself cannot provide us with the full truth about physical things. If it could, reasoning and theorizing would be superfluous and wisdom would lie in the passive acceptance of all that the senses give. But it cannot do so. Further inquiry becomes both possible and necessary. In other words, the real as it is is not just given in sense-experience, and so when the mind proceeds further by way of reasoning it is not of necessity leaving the real behind. It may very well be the case that it approaches nearer it. The scientist may have a truer conception of the physical world than has the unreflective man who contents himself with the evidence of the senses.²⁴

But Aaron does not go far enough in his description of Locke's intentions. Scientific knowledge for Locke can be acquired solely within the ontology of primary qualities that is *completely* different from the view presented in sense-experience. It even is so radically different that any analysis of secondary qualities will fail to reveal its nature. Locke differentiates between our complex ideas of substances and our complex ideas of modes and relations. According to Locke, our complex ideas of substances will inevitably fail to define the real essences of things because they are constructed from ideas of secondary qualities. These qualities themselves are mere appearances of the combinations of primary qualities and their powers. We do not know the *exact* relation between primary and secondary qualities. Consequently, we cannot judge the nature of primary qualities on the basis of secondary qualities. The argument from design cannot be used to define the real essences of things. We can know the exact relation between given primary qualities and the supervening secondary qualities, if and only if we have certain knowledge of primary qualities themselves. The ultimate question for Locke is how to define these primary qualities. I shall discuss Locke's analysis of the complex

ideas of modes and relations, and his solution to this problem in the next section. At the moment, let us summarize Locke's views about the ontology of primary qualities and juxtapose it with Berkeley's position about the ontology of secondary qualities.

The world for Locke is a 'cosmical mechanism' in which material objects interact with each other according to the set laws of motion.²⁵ The functions of this 'cosmical mechanism' can be explained by identifying the relations of primary qualities. These relations define the real essences of things. Things in Locke's ontology are *conceptual*, not sensed entities, and their combinations have particular powers. Some of these powers have an impact on our senses and thus generate ideas of secondary qualities. The relation between our ideas of secondary qualities and their causes is unknown. Thus we cannot use the argument from design to make justifiable inferences about the world on the basis of our analysis of secondary qualities. Ideas of secondary qualities should be eliminated from the purely atomistic conceptual model of the world because they merely supervene upon primary qualities.

In what follows I shall insist that Berkeley targets only this restrictive ontology of primary qualities. Berkeley criticizes Locke's belief that true knowledge can be acquired only by leaving *behind* the evidence of the senses. He wants to preserve the ontological value of sense perception and its epistemic significance in our *metaphysical* inquiries about the ultimate structure of the world. Berkeley thus tries to compete with Locke's ontology of 'cosmical mechanism' that treats our common-sense realism as an illusion. Berkeley denies the validity of the argument from illusion and maintains that each perception is not a way of seeing a given object, or an aspect of a particular thing, but is the very thing itself. The illusion does not lie in the act of perception. We cannot be

mistaken about what we see. We don't see appearances. We see things. Mistakes enter only when we make inferences from our present perceptions.

One preliminary remark is in order before we proceed to discuss Berkeley's position. Berkeley wants to defend the argument from design as the proper way to make inquiries about the constitution of the world. He believes that reality is not exhausted by independently existing real things. We don't perceive various aspects of one thing, but a succession of related things. Popkin illustrates Berkeley's position with the following example: "Every view of a table -- from one inch away, from on top, from underneath, from a mile away, etc. -- is not a different view of the same object, but a direct acquaintance with a separate and distinct object, each related lawfully to the others."²⁶ Berkeley's phenomenology demands an unperceived agent that establishes the regularity in this succession of related things. This causal agent can be defined only by the argument from design. Thus, Berkeley has no choice but to attack Locke's attempt to render the argument from design superfluous. According to Berkeley, Locke's claim that by describing the functions of primary qualities we explain the world is untenable, because the functions of so-called primary qualities merely *describe* the regularities in our perception. They do not *explain* these regularities. We can reach beyond the limits of individual perception only by using the argument from design. Yet, Berkeley also maintains that not every argument from design will do. The ontology of the vulgar uses the argument from design but remains mistaken in its identification of Nature as the true causal agent. Berkeley insists that the true causal agent can only be a perceiving subject. The vulgar notion of Nature takes for granted the fiction about the existence of matter, and thus fails to apply the argument from design properly.

In Berkeley's ontology the world is not a finite aggregate of things. Berkeley argues that the real things, the entities that are actually perceived, come in related clusters. For the purposes of communication individual perceivers introduce descriptive terms by which each cluster of objects is given a common name. According to Berkeley, such names are merely convenient descriptions of the succession of related things. Moreover, we can introduce any number of such descriptions. For example, the cluster of related objects can be called 'a table' by the vulgar, or 'an aggregate of molecules' by scientists. Given the variety of descriptions, it is tempting to assign ontological status to only one such description. Berkeley warns us, however, that it is a mistake to treat any description of things as if it has some ontological priority:

[A]lthough such phantoms as corporeal forces, absolute motions, and real spaces do pass in physics for causes and principles, yet are they in truth but hypotheses, nor can they be the objects of real science. They pass nevertheless in physics, conversant about things of sense, and confined to experiments and mechanics. But when we enter the province of *philosophia prima*, we discover another order of beings, mind and its acts, permanent being, not dependent on corporeal things, nor resulting, nor connected, nor contained; but containing, connecting, enlivening the whole frame, and imparting those motions, forms, qualities, and that order and symmetry, to all those transient phenomena which we term the Course of Nature. (Siris, 293)

Berkeley does not deny that the mechanistic sciences succeed in constructing a systematic account of ideas. He tries to undermine the claim that these descriptions properly define the world.

Berkeley's own definition of nature uses the argument from design²⁷ and thus has more in common with the vulgar view than with that of the mechanistic sciences. Berkeley maintains that:

The order and course of things, and the experiments we daily make, shew there is a Mind that governs and actuates this mundane system, as the proper real agent and

cause; and that the inferior instrumental cause is pure aether, fire, or the substance of light, which is applied and determined by an Infinite Mind in the macrocosm or universe, with unlimited power, and according to stated rules; as it is in the microcosm with limited power and skill by the human mind. We have no proof, either from experiment or reason, of any other agent or efficient cause than mind or spirit. When, therefore, we speak of corporeal causes, this is to be understood in a different, subordinate, and improper sense. (Siris, 154)

He agrees with the vulgar that a proper ontological definition of physical objects should contain teleological properties. The vulgar are mistaken because they try to incorporate the hypothesis of the existence of matter with teleological qualities of the real causal agent. For Berkeley, “[i]nstruments, occasions, and signs occur in, or rather make up, the whole visible Course of Nature. These, being no agents themselves, are under the direction of one Agent concerting all for one end, the supreme good.” (Siris, 258)

Berkeley maintains that Nature is not bare matter. “Those things that before seemed to constitute the whole of being, upon taking an intellectual view of things, prove to be but fleeting phantoms.” (Siris, 294) This conclusion is crucial for Berkeley, who has to prove that the mechanistic definition of Nature is false because it mistakes a mere description of regularities for their very essence. The methodological significance of Berkeley’s anti-abstractionism is brought to the fore when we recognize that his critique aims at reducing the mechanistic sciences to mere descriptive systems that fail to address the ultimate questions of reality. The mechanistic sciences for Berkeley have no real content because in their search for truth they move away from sense-experiences.

This outline of two competing positions shows that Locke and Berkeley endorse ontological views that are based purely on either the existence of primary or secondary qualities. On the one hand, Locke’s ontology of primary qualities is restrictive. He accepts the validity of the argument from illusion and argues that secondary qualities fail

to capture the true nature of things. Secondary qualities are mere appearances in us of primary qualities in objects. Facts for Locke are conceptual, not sensible, entities. Moreover, he argues that a functional description of the relations between the properties of primary qualities presents us with the real essences of things. Thus, he provides an alternative to the argument from design. Scientific knowledge reveals the truth about the world by giving an exhaustive description of all the possible relations between primary qualities of given conceptual entities. On the other hand, Berkeley presents the germinating ontology of secondary qualities. Berkeley sees no limits to the set of real objects. He argues against the argument from illusion by claiming that we perceive real things, not their appearances. The existence and reality of objects coincide with the act of perception. For Berkeley, the real problem is to explain the consistency by which the related clusters of real objects succeed each other. He believes that only the argument from design can generate such an explanation.

By trying to preserve the purity of their ontological positions Locke and Berkeley fail to examine the ontological position of the vulgar that incorporates accounts of both primary and secondary qualities. Locke maintains that the view of the vulgar is completely based on definitions of the substances of things. Since the vulgar account about substances is derived from secondary qualities, it fails to identify the conceptual facts that really constitute the world:

These [secondary qualities] being nothing, in truth, but powers to excite such *Ideas* in us, I must, in that sense, be understood, when I speak of secondary *Qualities*, as being in things; or of their *Ideas*, as being in the Objects, that excite them in us. Such ways of speaking, though accommodated to the vulgar Notions, without which, one cannot be well understood; yet truly signify nothing, but those Powers, which are in Things, to excite certain Sensations or *Ideas* in us. Since were there no fit Organs to receive the impressions Fire makes on the Sight and Touch; nor a

Mind joined to those Organs to receive the *Ideas* of Light and Heat, by those impressions from the Fire, or the Sun, there would yet be no more Light, or Heat in the World, than there would be Pain if there were no sensible Creature to feel it, though the Sun should continue just as it is now, and Mount *Aetna* flame higher than ever it did. (2.31.2)

The vulgar view generates illusions that can be explained only if the ontology of primary qualities is endorsed.

Ideas being thus distinguished and understood, we may be able to give an Account, how the same Water, at the same time, may produce the *Idea* of cold by one Hand, and of Heat by the other: Whereas it is impossible, that the same Water, if those *Ideas* were really in it, should at the same time be both Hot and Cold. For if we imagine *Warmth*, as it is in our Hands, to be *nothing but a certain sort and degree of Motion in the minute Particles of our Nerves, or Animal Spirits*, we may understand, how it is possible, that the same Water may at the same time produce the Sensation of Heat in one Hand, and Cold in the other. (2.8.21) ²⁸

Berkeley also fails to investigate the view of the vulgar. He believes that the ontology of primary qualities renders it irrelevant, and designs his ontology of secondary qualities to provide the necessary justification to the intuitions shared by the generality of men:

If by *material substance* is meant only sensible body, that which is seen and felt (and the unphilosophical part of the world, I dare say, mean no more), then I am more certain of matter's existence than you, or any other philosopher, pretend to be. If there be any thing which makes the generality of mankind averse from the notions I espouse, it is a misapprehension that I deny the reality of sensible things: but as it is you who are guilty of that and not I, it follows that in truth their aversion is against your notions, and not mine. I do therefore assert that I am as certain as of my own body, that there are bodies or corporeal substances (meaning the things I perceive by my senses); and that by granting this, the bulk of mankind will take no thought about, nor think themselves at all concerned in the fate of those unknown natures and philosophical quiddities, which some men are so fond of. (Dialogues, 237-38)

Berkeley believes that his immaterialism is a philosophically developed and clarified view of the vulgar.

Before Hume the view of the vulgar was not treated as a subject deserving attention. Locke and Berkeley believed that the view of the vulgar, on the one hand, and the scientific and metaphysical theories, on the other hand, differ *in kind*. Any scientific or metaphysical theory should be arranged as a deductive system. The ontologies of primary or secondary qualities are necessary to *explain* the meaning of actual thoughts. On such an ontological foundation we can design normative accounts of what *should have been meant* by any given belief of the vulgar. As will be argued presently, Hume completely changes this situation. He avoids ontological commitments altogether and treats the changing beliefs of the vulgar as the nexus of the analysis of meaning. There is no difference *in kind* between the deductive theories of the sciences and metaphysics, and the inductive view of the vulgar. Each system of perceptions, as a matter of fact, has its internal network of general ideas from which given conclusions or beliefs follow. For Hume any system of perceptions is *a calculus* of ordered beliefs²⁹ from which further beliefs can be derived. This approach differs in two important ways from previous attempts to design deductive systems of perceptions. First, Hume treats any given system of perceptions in a piece. He rejects the demand of foundationalists to construct knowledge on the basis of some irrefutable axioms. I shall argue that this position leads to pluralism about theories. If we cannot agree on a given set of axioms for the development of a deductive system of knowledge, then we have no grounds to reduce one system of perceptions to another. Any system of perceptions is to be treated as a complete functional entity. Secondly, the meaning of beliefs within a given system of perceptions does not depend on the order in which they are derived. According to Hume, general ideas from which new beliefs are derived have meaning only in virtue of these

derivations. As a matter of fact, no correspondence between abstract ideas and mind-independent states of affairs can be established. Nor need it be. Beliefs or hypotheses that are constructed from general ideas have meaning not in virtue of being derived from true and self-evident axioms, but because they can be tested.

3.3. Locke's Defense of the Mechanistic Sciences

Hume writes that in pretending “to explain the principles of human nature, we in effect propose a compleat system of the sciences, built on a foundation *almost* entirely new, and the only one upon which they can stand with any security.” (T, Intro, xvi, emphasis added) Hume does not take credit for being completely original in his bid to establish a new system of the sciences. He continues the work of Locke who ends the *Essay on Human Understanding* with a short chapter on the division of the sciences. In this section I shall attempt to re-construct Locke's position as it might have been seen by Hume. Locke claims that the sciences can be systematized only on the basis of our knowledge of the actual capacities of the mind:

All that can fall within the compass of human understanding being either, first, the nature of things, as they are in themselves, their relations, and their manner of operation: or, secondly, that which man himself ought to do, as a rational and voluntary agent, for the attainment of any end, especially happiness: or, thirdly, the ways and means whereby the knowledge of both the one and the other of these is attained and communicated: I think science may be divided properly into these three sorts. (4.21.1)

Thus, Locke admits a three-fold division of the sciences -- *physics*, or the knowledge of things; *ethics*, or the skill of the proper application of our powers for the attainment of useful and good things; and *logic*, or the doctrine of signs (also see p.178).

The question about the foundations of the sciences highlights the issue about the growth of knowledge. Here I shall interpret Locke's philosophical position in view of his attempt to defend the mechanistic sciences. This goal is clearly outlined in the *Epistle to the Reader*:

The commonwealth of learning is not at this time without master-builders, whose mighty designs in advancing the sciences will leave lasting monuments to the admiration of posterity: but every one must not hope to be a Boyle, or a Sydenham:

and in an age that produces such masters, as the great Huygenius, and the incomparable Mr. Newton, with some others of that strain; it is ambition enough to be employed as an under-labourer in clearing the ground a little, and removing some of the rubbish that lies in the very way to knowledge; which certainly had been very much more advanced in the world, if the endeavours of ingenious and industrious men had not been much cumbered with the learned but frivolous use of uncouth, affected, or unintelligible terms, introduced into the sciences. (Epistle, I)

In this section I shall show that for Hume Locke's achievement lies in proving that *despite* the limitations of our perception to sense-experience, we *can reach out* of the narrow limits of individual perception, and define mind-independent states of affairs. This is his main philosophical task in relation to the developing mechanistic sciences.

Locke constructs his defense around the ontology of primary qualities. Boyle's 'cosmical mechanism' defines an ontological view that is completely different from the perception of the world by common-sense realists. The ontology of 'cosmical mechanism' consists of *conceptual* entities, such as matter, atoms, molecules, *etc.*, while the common-sense perception of the world defines it in terms of *sensed* entities, such as chairs and tables. The difference extends even further. The ontology of primary qualities presents us with the *real* essences of the physical world, while the entities of common-sense perception can and should be reduced to combinations of primary qualities. Locke's argument that we can reach out of the narrow limits of sense-experience is based on the claim that we have no immediate and direct knowledge of the entities of the ontology of primary qualities. He shows that the elements of *true* ontology should be defined, and argues that *only* complex ideas of modes and relations can define these elements. By constructing the complex ideas of modes and relations, our minds fill in the blanks in this yet unknown world of primary qualities with such conceptual entities as figures, numbers, atoms, gravity, *etc.* The mechanistic sciences generate *real* knowledge

because they construct the concepts that define the *real* world, and thus “colonize” Boyle’s ‘cosmical mechanism’ with conceptual entities that are defined in terms of primary qualities. Locke believes that our complex ideas of modes and relations are the elements in a theory of unified science.

I shall defend this interpretation of Locke in three steps. First, I shall discuss Locke’s critique of syllogistic logic. According to Locke, the common-sense ontology of sensible objects is constructed by the use of syllogisms. If maxims and complex ideas of substances are used as premises, then the conclusion reifies the objects of sense-experience. Locke aims to show that syllogistic logic is invalid if applied in ontological discussions. Secondly, I shall examine Locke’s theory of abstraction, which will enable us to clarify the structural differences between the complex ideas of substances and the complex ideas of modes and relations. Finally, I shall illustrate Locke’s claim that complex ideas of modes and relations contain real knowledge. Complex ideas of modes and relations are real essences of objects in the ontology of primary qualities because they *define* the conceptual entities from which this ontology is constructed.

Locke’s new system of the sciences replaces the following position: “The common received opinion amongst the men of letters [is], that maxims were the foundation of all knowledge; and that the sciences were each of them built upon certain *praecognita*, from whence the understanding was to take its rise, and by which it was to conduct itself, in its inquiries into the matters belonging to that science.” (4.12.1) Locke argues against this ‘old’ axiomatic system of the sciences according to which “[t]here are a sort of propositions, which under the name of maxims and axioms have passed for

principles of science; and because they are self-evident, have been supposed innate.”

(4.7.1)

Locke finds that the ‘old’ axiomatic system has two components -- the maxims, and definitions of objects in terms of the complex ideas of substances. He maintains that if maxims and the definitions of substances are used as premises, then the conclusions derived from them will be false. The following argument gives us an idea of what Locke has in mind:

Let *Man* be that, concerning which you would by these first Principles demonstrate any thing, and we shall see, that so far as Demonstration is by these Principles, it is only verbal, and gives us no certain universal true Proposition, or knowledge of any Being existing without us. First, a Child having framed the *Idea* of a *Man*, it is probable, that his *Idea* is just like that Picture, which the Painter makes of the visible Appearances joined together; and such a Compilation of *Ideas* together in his Understanding, makes up the single complex *Idea* which he calls *Man*, whereof White or Flesh-colour in *England* being one, the Child can demonstrate to you, that a *Negro* is not a *Man*, because White-colour was one of the constant simple *Ideas* of the complex *Idea* he calls *Man*: And therefore he can demonstrate by the Principle, *It is impossible for the same Thing to be, and not to be*, that a *Negro* is not a *Man*; the foundation of his Certainty being not that universal Proposition, which, perhaps, he never heard nor thought of, but the clear distinct Perception he hath of his simple *Ideas* of Black and White, which he cannot be persuaded to take, nor can ever mistake one for another, whether he knows that Maxim or no: And to this Child, or any one who hath such an *Idea*, which he calls *Man*, you can never demonstrate that a *Man* hath a Soul, because his *Idea* of *Man* includes no such Notion or *Idea* in it. (4.7.16)

This simple, and old-fashioned, example represents arguments that, according to Locke, cannot generate new knowledge. Locke aims to undermine the narrow scholastic tradition that knowledge is acquired syllogistically by deducing truths from given maxims. Locke’s main objection against the use of maxims is related to the possibility of constructing false ontologies. He argues that “whilst Men take Words for Things, as usually they do, these Maxims may and do commonly serve to prove contradictory

Propositions.” (4.7.15) The maxims are commonly employed in arguments by which the complex ideas of substances are reified.

As an example, Locke discusses the idea of a vacuum. He writes that someone who “with *Des-Cartes*, shall frame in his Mind an *Idea* of what he calls *Body*, to be nothing but Extension, may easily demonstrate, that there is no *Vacuum*; i.e. no Space void of Body, by this Maxim, *What is, is.*” (4.7.12) The ontological implications of such faulty arguments are immense. They can support scores of ontologies without ever leading to the discovery of Boyle’s ‘cosmical mechanism’. Locke, the philosopher, believes that he can serve the cause of defending the ontology of primary qualities by undermining the validity of arguments used by its opponents. He wants to show, first, that maxims are irrelevant for the scientific inquiry, and, secondly, that definitions of essences in terms of the complex ideas of substances fail to capture the real nature of things. Thus, syllogistic arguments themselves cannot be used to discover new truths.

Locke broadly outlines how maxims have acquired their status as first principles of knowledge. He argues that a succession of syllogisms was adopted as the standard for scientific knowledge because “the Schools having made Disputation the Touchstone of Mens Abilities, and the Criterion of Knowledge, adjudg’d Victory to him that kept the Field: and he that had the last Word was concluded to have the better of the Argument.” (4.7.10) The last man standing in the dispute was the one whose arguments were right. As a matter of historical fact, such disputes usually ended when all arguments were reduced to some principles that disputants would acknowledge as self-evident. This combination of the belief that truth can be revealed only in a dialogue, and the fact that it was convenient for the participants to reduce the variety of arguments to some general

propositions, introduced the mistake of supposing maxims to be more than merely general principles. Locke's genealogy of this error reveals that "these Maxims getting the name of Principles, beyond which Men in dispute could not retreat, were by mistake taken to be the Originals and Sources, from whence all Knowledge began, and the Foundations whereon the Sciences were built." (4.7.10)

Locke does not deny the usefulness of maxims in putting an end to fruitless discussions. He objects to the added claim that they are the foundation of knowledge:

Would those who have this Traditional Admiration of these Propositions, that they think no Step can be made in Knowledge without the support of an *Axiom*, no Stone laid in the building of the Sciences without a general *Maxim*, but distinguish between the Method of acquiring Knowledge, and of communicating it; between the Method of raising any Science, and that of teaching it to others as far as it is advanced, they would see that those general *Maxims* were not the Foundations on which the first Discoverers raised their admirable Structures, not the Keys that unlocked and opened those Secrets of Knowledge. Though afterwards, when Schools were erected, and Sciences had their Professors to teach what others had found out, they often made use of *Maxims*, *i.e.* laid down certain propositions which were self-evident, or to be received true. (4.7.3)

Logical maxims are not false. They are merely irrelevant for the discovery of new truths.

Locke supports this claim with two arguments. First, maxims are not innate. Here I shall not examine Locke's position on innate ideas because for my purposes only the result of his analysis is important. If there are no innate ideas, and we cannot deny that Locke endorses this claim, then we should be looking for another principle, which makes maxims unique and self-evident principles of knowledge. And Locke believes that such a principle cannot be found. Secondly, Locke finds that there is no principle by which the number of maxims can be limited to any reasonably small scope of axioms that would be suitable for the construction of a deductive system of knowledge.

From an epistemological point of view, maxims are constructed in the same way as any other combination of ideas. The proposition “what is, is”, according to Locke, has meaning only in relation to ideas that it denotes. In this regard maxims are not different from any other proposition, for example “an apple is not an orange.” Both statements indicate the existence of a given combination of ideas. Locke warns us against mistaking words for things. Words merely identify the existence of a given collection of ideas. The nature and the internal structure of such a collection cannot be revealed by the analysis of language because words are arbitrarily chosen representations of ideas. The analysis of ideas, not language, gives us the key to understanding and knowledge.

If this argument is accepted, as Locke believes it should be, then all descriptive statements are shown to be meaningful only in relation to the ideas that they represent, *i.e.* their truth is determined by the *fact* that a certain collection of ideas exists, not by its content. Thus, if we have ideas of apples and oranges, then the claim that “an apple is not an orange” is true. If we have ideas of whole and part, then the claim that “the whole is bigger than a part” is also true. Locke maintains that we cannot defend the claim that maxims are different in some sense from other descriptive sentences. We have no criterion by which the number of true statements can be reduced to a manageable scope of axioms from which new truths are derived. Thus, maxims are irrelevant for the construction of new knowledge.

Let us now move to the discussion about the second component of what Locke believes to be the traditional syllogistic system of knowledge -- complex ideas of substances. His goal is to prove that the arguments that use maxims and complex ideas of

substances as premises cannot discover any new truth, and he argues that these ideas are necessarily inadequate:

The *complex Ideas of Substances are Ectypes, Copies* too; but not perfect ones, not *adequate*: which is very evident to the Mind, in that it plainly perceives whatever Collection of simple *Ideas* it makes of any Substance that exists, it cannot be sure that it exactly answers all that are in that Substance. Since not having tried all the Operations of all other Substances upon it, and found all the Alterations it would receive from, or cause in other Substances, it cannot have an exact *adequate* Collection of all its active and passive Capacities; and so *not* have an *adequate* complex *Idea* of the Powers of any Substance existing, and its Relations, which is that sort of complex *Idea* of Substances we have. (2.31.13)

The 'old' axiomatic method of deriving new knowledge is inevitably flawed because our complex ideas of substances present only copies of things. Locke is a sceptic about the adequacy of our complex ideas of substances because we cannot have any assurance that these descriptions properly represent the true nature of things. Therefore, we cannot use complex ideas of substances to derive new knowledge.

The complex ideas of substances cannot be used in theories not only because we cannot test them, but because they are constructed in a manner that makes their meaning ambiguous. Locke argues that the complex ideas of substances are defined as collections of several simple ideas, and that they are believed to provide exhaustive definitions of real substances. It is not commonly realized, however, that these definitions merely employ the appearances of primary qualities in our perception and, accordingly, fail to reveal the true essences of objects. The reason for this mistake lies in the fact that secondary qualities are believed to exist in objects. Locke has no quarrel with the claim that the collection of qualities that are really in objects should define their nature. The problem with the traditional view about substances lies in the fact that they fail to find the real properties of objects. Locke's distinction between primary and secondary qualities

shows that secondary qualities are merely the facts of our perception, not the properties of objects. Any collection of ideas of secondary qualities merely registers the results of some causal events, because secondary qualities can be reduced to various combinations of primary qualities. Since we have no direct knowledge of how primary qualities are related to secondary ones, we cannot make predictions about the future on the basis of some observed secondary qualities. Locke never doubts that our complex ideas of substances are distinct ideas because they are used for the purposes of communication. Their precise meaning, however, remains unsettled, and Locke objects to any attempt to use them in deductive systems of knowledge.

Locke's view about substances has two aspects. On the one hand, he criticizes the traditional explanation of a substance. On the other hand, he argues that true substances can be properly defined by the analysis of primary qualities. As we have seen, Locke maintains that in the traditional view objects are defined in terms of our complex ideas of substances. These definitions, however, merely compile certain ideas, without explaining anything about their relations. Although Locke maintains that in this way the real essences of things remain undefined, his analysis acknowledges the importance of the fact that ordinary definitions are *believed* to be significant. In the use of traditional definitions, the name 'substance' itself adds some significance to a given collection of ideas. (2.23.6) One collection of secondary qualities is preferred to another on the basis of a mere psychological distinction -- the belief that a given collection of secondary qualities defines a substance. According to Locke, without providing any account about the functional relations among primary qualities, this common view ends up being a collection of given ideas along with "the confused *Idea* of *something* to which they

belong, and in which they subsist.” (2.33.3) The commonly held view cannot avoid the accusation that it treats substance as “*something* besides the Extension, Figure, Solidity, Motion, Thinking, or other observable Ideas, though we know not what it is.” (2.33.2)

To identify the real substances of things and to reach out of the domain of the ideas of secondary qualities, we have to limit our analysis to ideas of primary qualities. Locke believes that we can construct definitions of real substances by explaining the *relations* between the real, or primary, qualities of objects. Moreover, the definitions of these real essences can and should be used in deductive systems of knowledge. The paradigm of such definitions can be found in Newtonian physics:

Mr. *Newton*, in his never enough to be admired Book, has demonstrated several Propositions, which are so many new Truths, before unknown to the World; and are farther Advances in Mathematical Knowledge: But, for the Discovery of these, it was not the general *Maxims*, *What is, is*; or *The whole is bigger than a part*, or the like, that help'd him. These were not the Clues that led him into the Discovery of the Truth and Certainty of those Propositions. Nor was it by them that he got the Knowledge of those Demonstrations; but by finding out intermediate *Ideas*, that shew'd the Agreement or Disagreement of the *Ideas*, as expressed in the Propositions he demonstrated. This is the greatest Exercise and Improvement of Humane Understanding in the enlarging of Knowledge, and advancing the Sciences; wherein they are far enough from receiving any Help from the Contemplation of these, or the like magnified *Maxims*. (4.7.11)

There is little doubt that Locke endorses Newtonian physics and believes that on its basis we can derive a proper description of the world.³⁰

The fundamental principles upon which a deductive mechanistic science should be built must be defined “by finding out intermediate ideas, that showed the agreement or disagreement of the ideas.” This is the method used by Newton and it provides an alternative to the traditional method of deriving new knowledge from the application of given self-evident axioms to mistaken definitions of substances. For Locke these

intermediate ideas are not the objects of immediate perception. They are conceptual entities, which we define and comprehend by abstraction.

Locke defines knowledge as nothing “but the perception of the connexion and agreement, or disagreement and repugnancy, of any of our ideas. In this alone it consists. Where this perception is, there is knowledge; and where it is not, there, though we may fancy, guess, or believe, yet we always come short of knowledge.” (4.1.2) By abstraction we can, as a matter of fact, explain how any two particular ideas are related. For Locke only abstraction can furnish us with knowledge. Moreover, this knowledge is not merely about the relations of ideas. It represents the real essences of things. Let us discuss, first, Locke’s theory of abstraction, and later illustrate the claim that abstraction alone reveals the true nature of primary qualities.

Locke’s theory of abstraction is difficult to grasp because it applies to various kinds of perceptions. He explicitly denies the validity of complex ideas of substances that are constructed by abstraction. He also maintains that maxims -- yet another product of abstract reasoning -- are irrelevant for the generation of new knowledge. Finally, he admits that by the analysis of primary qualities we can define the true nature of things. All these processes involve abstraction.

I shall argue that to develop an adequate view of Locke’s theory of abstraction we have to assign philosophical significance to his initial introduction of the concept. Locke defines abstraction as the faculty, or a skill of selective attention:

The same Colour being observed today in Chalk or Snow, which the Mind yesterday received from Milk, it considers that Appearance alone, makes it a representative of all of that kind; and having given it the name *Whiteness*, it by that sound signifies the same quality wheresoever to be imagin’d or met with; and thus Universals, whether Ideas of terms, are made. (2.11.9)

Locke is not concerned about giving an account of how we come to recognize resemblances. His belief that the skill of selective attention is a faculty emphasizes the point that we simply do recognize resemblances, and this fact should be approached as something given. Moreover, this skill inherently belongs to our understanding. The ability to abstract defines our perception:

This, I think, I may be positive in, That the power of *Abstracting* is not at all in them [animals]; and that the having of general Ideas, is that which puts a perfect distinction betwixt Man and Brutes; and which is an Excellency which the Faculties of Brutes do by no means attain. (2.11.10)

The philosophical significance of treating abstraction as a faculty arises from the fact that it can be applied to all mental entities. And Locke can argue that the application of abstraction in some cases fails to perform epistemically significant functions. Thus, Locke investigates the manner in which abstraction is applied to ideas of primary and secondary qualities. The application of abstraction to the ideas of secondary qualities generates complex ideas of substances. As we have seen, Locke argues that these complex ideas fail to reveal the true nature of things. Consequently, if the skill of abstraction is applied to the ideas of secondary qualities, then it fails to do any epistemic work. No new knowledge is generated. These complex ideas of substances are useful for communication, and possibly other tasks. Yet they have nothing to offer in the study of nature. If, however, the skill of abstraction is applied to our ideas of primary qualities, then we can and should expect that yet unknown truths will be discovered. The faculty of abstraction generates epistemically significant results only if it is used prudently, and applied to our ideas of primary qualities.

The following analogy should help to make this position clear. Let us suppose that we are trying to examine the ability of men to lift heavy things. This skill can be applied, among other things, in a competition between athletes, or in the daily household work of a farmer. One can easily draw an argument showing that the application of our capacity to lift generates useful results only in the case of the farmer. Some work is actually done if the farmer, for example, lifts hay. In the case of an athlete, nevertheless, no one doubts that his capacity to lift heavy objects is developed and applied. Yet one can argue that such lifting, although useful in some sense, fails to accomplish any work. By analogy, Locke can argue that the faculty of abstraction can generate epistemically meaningful results only if it is applied to ideas of primary qualities. There is no reason to doubt that in the case of secondary qualities we use the skill of selective attention and construct complex ideas of substances. We can, nevertheless, maintain that no epistemically significant work is done by this application. The application of abstraction to the ideas of secondary qualities cannot, in principle, produce new knowledge.³¹

We will be able to appreciate the significance of this interpretation of Locke's account of abstraction only by showing that it can present an alternative to the traditional account about the role of immediate perception in the tradition of British Empiricism. Let us briefly explore the 'traditional' interpretation, which insists that the act of immediate perception supplies indubitable knowledge of objects. What consequences does this view entail in the context of Locke's theory of abstraction? If it is assumed that immediate perception gives us an indubitable grasp of the objects that surround us, then our minds inevitably are furnished with complex entities, such as perceptions of chalk, or snow. Immediate perception presents us with complex ideas of things. The skill of

selective attention, according to this view, allows us to identify particular features of these complex mental entities. By selective attention we can construct an idea of whiteness, because we notice that complex ideas that are *already* present in our minds have this feature in common. The theory of perception by direct acquaintance treats the complex mental entities as fundamental units that are inevitably present in our minds. Abstraction here is viewed as playing only a secondary role, and is limited to the analysis of our complex ideas. According to this view, no perceiver can doubt that we are surrounded by ordinary objects. Abstraction, if properly applied, only specifies their precise nature.

Contrary to this view, I argue that for Locke the faculty of abstraction plays a much more significant role in our perception. We will be able to comprehend the role of abstraction only if it is made clear from the very beginning that Locke's ontology of primary qualities makes it impossible to defend 'common-sense realism'. Consider the following passage:

If that most instructive of our Senses, Seeing, were in any Man 1000, or 100 000 times more acute than it is now by the best Microscope, things several millions of times less than the smallest Object of his sight now, would then be visible to his naked Eyes, and so he would come nearer the Discovery of the Texture and Motion of the minute Parts of corporeal things; and in many of them, probably get *Ideas* of their internal Constitutions: But then he would be in a quite different world from other People: Nothing would appear the same to him, and others: the visible *Ideas* of every thing would be different. So that I doubt, Whether he, and the rest of Men, could discourse concerning the Objects of Sight; or have any Communication about Colours, their appearances being so wholly different. (2.23.12)

Locke's thought experiment about a man with "microscopical eyes" is intended to show the perception of someone who can see primary qualities in the same way as we ordinarily perceive secondary qualities. And his conclusion is remarkable. If our senses

could perceive the primary qualities of things, then our perceived world would be *literally* different than it is at present. This conclusion eliminates the possibility that immediate perception furnishes us with an adequate view of, let alone indubitable knowledge about, the nature of the physical world.

Locke endorses an ontology of primary qualities that denies the validity of common-sense realism. The real physical world is the 'cosmical mechanism' of primary qualities alone. Immediate perception fails to present an adequate ontological position because it is based on our perception of ideas of secondary qualities. Accordingly, common-sense realism cannot provide us with direct and indubitable knowledge about the world, which, according to Locke, can only be *constructed*. And we can have two different kinds of constructed entities -- complex ideas of substances, and complex ideas of modes and relations. Thus, for Locke our complex ideas of substances, which are the building blocks of common-sense realism, are not merely given by immediate perception. That is to say, the fact that we perceive ideas of objects, such as cats, chalk and snow, already presupposes that a certain construction has taken place, and we need to understand the nature of this construction.

The world of ordinary objects is defined in terms of complex ideas of substances. I shall show that the construction of abstract ideas *precedes* the construction of complex ideas of objects, or our complex ideas of substances. Thus, the succession of operations in the construction of common-sense realism is opposite to the view defended by the 'traditional' theory of immediate perception. As a matter of fact, Locke believes that our complex ideas of objects are secondary to simple abstract ideas. He explains the constructive process in the following example:

The Mind, as has been shown, has a power to abstract its *Ideas*, and so they become Essences, general Essences, whereby the Sorts of Things are distinguished. Now each abstract *Idea* being distinct, so that of any two the one can never be the other, the Mind will, by its intuitive Knowledge, perceive their difference; and therefore in Propositions, no two whole *Ideas* can ever be affirmed one of another. This we see in the common use of Language, which permits not any two abstract Words, or Names of abstract ideas, to be affirmed one of another. For how near of kin soever they may seem to be, and how certain soever it is, that Man is an Animal, or rational, or white, yet every one, at first hearing, perceives the falsehood of these Propositions; ... All our Affirmations then are only in concrete, which is the affirming, not one abstract Idea to be another, but one abstract Idea to be join'd to another; which abstract ideas of Substances, may be of any sort. (3.8.1)

The senses present us with ideas of secondary qualities. When the skill of selective attention is applied, we construct individual abstract ideas of properties. The succession of operations is of importance. Individual abstract ideas, such as a given shape, whiteness, or sweetness, are constructed in the mind *before* we have any notion of the objects to which these properties belong. The mind constructs ideas of objects from individual abstract ideas. These ideas of objects are complex ideas of substances that merely join given collections of individual properties to an idea of something in which they inhere.

This analysis makes it clear that for Locke our ability to abstract is fundamental to common-sense realism. No ideas of substances would exist if we had no individual abstract ideas of given properties. These properties are joined together, and the idea of the object in which they inhere is thereby constructed. Thus immediate perception for Locke *does not* provide indubitable knowledge of objects. Our recognition of properties is primary to our recognition of objects because even for common-sense realists the perception of objects, or our complex ideas of substances, presupposes an activity of the mind. Moreover, Locke finds that these complex ideas of substances do not adequately

define the real essences of things. The ontology of secondary qualities is based on the reification of complex ideas of substances. Locke shows that these complex ideas are constructed by bringing together individual abstract ideas under the idea of an 'unknown something' in which they inhere. Without explaining anything about the *relations* between individual abstract ideas, complex ideas of substances lack any explanatory or predictive power.

Locke, however, is not too pessimistic about this conclusion. He believes that proper definitions of real essences can be constructed. The application of the faculty of abstraction to the ideas of primary qualities generates constructions of a different sort. Let us examine Locke's example about the complex idea of a triangle. For Locke the idea of a triangle is a complex idea of the simple mode of space, and as such it constitutes the paradigm case for all complex ideas of modes and relations:

For the Mind, having a Power to repeat the *Idea* of any length directly stretched out, and join it to another in the same Direction, which is to double the length of that straight Line; or else join another with what Inclination it thinks fit, and so make what sort of Angle it pleases: And being also able to shorten any Line it imagines, by taking from it $1/2$, or $1/4$, or what part it pleases, without being able to come to an end of any such Divisions, it can make an Angle of any bigness: So also the Lines that are its sides, of what length it pleases, which joining again to other Lines of different lengths, and at different Angles, till it has wholly inclosed any Space, it is evident that it can multiply *Figures* both in their Shape and Capacity, *in infinitum*, all which are but so many different *simple Modes of Space*. (2.13.6)

In this construction the mind operates with a simple abstract idea of a line. The constructions are made by repeated operations using the same abstract idea. Different functional rules that define *all possible cases* of such repeated applications are adopted. In the case of a triangle, three successive applications of the simple abstract idea of a

straight line to its predecessor at different angles result in a figure that completely encloses some space.

Locke's account of the application of the faculty of abstraction to the ideas of primary qualities can be properly understood if the construction of complex ideas of modes and relations is seen as a calculus. Clear definitions of particular abstract ideas identify the entities upon which given operations can be performed. These operations are defined by given rules. The knowledge of the entities and operations that can be performed upon them enable us to make precise predictions about the results of any operation within this calculus. If properly constructed, complex ideas of modes and relations contain in themselves *everything* that defines all possible relations between two or more given ideas. According to Locke, knowledge is possible only about the relations between ideas. The complex ideas of modes and relations define these relations. Thus, they are the intermediate ideas that, according to Locke, generate the advancement of the sciences.

Locke juxtaposes complex ideas of modes and relations with complex ideas of substances. While the latter cannot be adequate representations of the real essences of things, Locke argues that the former are necessarily adequate:

Complex Ideas of Modes and Relations, are Originals, and Archetypes; are not Copies, nor made after the Pattern of any real Existence, to which the Mind intends them to be conformable, and exactly to answer. These being such Collections of simple Ideas, that the Mind it self puts together, and such Collections, that each of them contains in it precisely all that the Mind intends it should, they are Archetypes and Essences of Modes that may exist; and so are designed only for, and belong only to, such Modes, as when they do exist, have an exact conformity with those complex Ideas. The Ideas therefore of modes and relations cannot but be adequate.
(2.31.14)

Locke believes that he can prove by means of logical necessity that intermediate ideas of modes and relations present adequate definitions of real essences that *might* exist. Moreover, if he can prove that the defined real essences *do* exist, then our definitions will *exactly* model the real states of affairs. I shall argue that this is the *central* argument of Locke's theory of ideas.

Locke is aware of the danger that arises from his claim that complex ideas of modes and substances do not represent, but are themselves archetypes. If knowledge is indeed possible only about the relations between ideas, and if complex ideas of modes and relations embody the intermediate ideas by which new knowledge is generated, then one can argue that Locke still fails to talk about the world. Locke was sensitive to this charge:

I Doubt not but my Reader, by this time, may be apt to think, that I have been all this while only building a Castle in the Air; and be ready to say to me, To what purpose all this stir? Knowledge, say you, is only about the perception of the agreement or disagreement of our own *Ideas*: but who knows what those *Ideas* may be? Is there any thing so extravagant, as the Imaginations of Men's Brains? Where is the Head that has no *Chimeras* in it? ... But of *what use is all this fine Knowledge of Man's own Imaginations*, to a Man that enquires after the reality of Things? (4.4.1)

Although Locke can claim that our complex ideas of modes and relations account for all possible relations among given ideas, there is still some philosophical work to be done to prove that these relations model some real states of affairs in the world. Our minds can generate a calculus of necessary relations among any number of related ideas. But what makes them *significant* about the world?

Locke's reply to this question is not obvious. Aaron, for example, believes that Locke's attempt to answer the question about the conformity between our ideas and the

reality of things “was doomed to failure from the start.”³² Aaron maintains that Locke does not try to save himself by denying the reality of the distinction between ideas and things, and that his empiricism denies him any opportunity to bridge the gap. Aaron asks the question: In what way can we test their conformity? If Locke maintains that our ideas are the only entities with which our minds can operate, then any discussion about things will inevitably be a discussion about our *ideas* of things. The conformity between ontological and mental entities cannot be established, so this objection to Locke cannot be answered.

I shall argue, nevertheless, that Aaron’s argument cannot be applied in this case. Aaron treats the issue about the conformity between our ideas and things as an epistemological question about our knowledge of the external world, and reaches the conclusion that within Locke’s system we cannot have certain knowledge that our ideas conform to things. But this conclusion is presupposed in Locke’s distinction between primary and secondary qualities. For Locke the issue of conformity between our ideas and mind-independent states of affairs is ontological. Of course, we do not have direct knowledge of the world of primary qualities because for Locke the world of primary qualities is *completely* different from the world of secondary qualities. Locke’s strategy in the question about the conformity between our ideas and mind-independent states of affairs seems to be the following. He demonstrates in *Of the Reality of our Knowledge* (4.4) his concern about the mechanical sciences. Newton shows that we can construct theories in terms of complex ideas of modes and relations, in which they are necessarily related to each other. And Locke wants to design an argument to prove that these theories properly *model* the mind-independent states of affairs.

Let us now suppose that Locke is serious about his endorsement of Boyle's 'cosmical mechanism', or the ontology of primary qualities. We know that 'cosmical mechanism' depicts the *real* physical world, and Locke tells us that the fundamental elements in this world are conceptual, not sensed, entities. Now let us pose Aaron's question in this context -- how can we *test* the conformity between our ideas and things? Locke can ignore this question because *things* are not the elements of his ontology.

Locke's attempt to show that our complex ideas of modes and relations constitute real knowledge should be read in terms of his ontology of primary qualities. Nothing about Boyle's 'cosmical mechanism' is obvious and self-evident because we don't have an immediate acquaintance with primary qualities. Thus there is little that we know about the world of primary qualities, which is yet to be discovered. Locke wants to show that this unknown world is "colonized" by complex ideas of modes and relations of our theories in the mechanistic sciences, mathematics, and geometry. These complex ideas "*cannot want any conformity necessary to real Knowledge*. For that which is not designed to represent any thing but itself, can never be capable of a wrong representation, nor mislead us from the true apprehension of any thing, by its dislikeness of it." (4.4.5) Locke's ontology includes objects that are conceptual, not sensible, entities. His main argument lies in the claim that our complex ideas of modes and relations *define* these entities. And if complex ideas of modes and relations *define* the conceptual objects in the 'cosmical mechanism', then there could be no question about their conformity to them. By definition, conceptual entities themselves conform to ideas:

In all these sorts the Ideas themselves are considered as the *Archetypes*, and Things no otherwise regarded, but as they are conformable to them. So that we cannot but be infallibly certain, that all Knowledge we attain concerning these *Ideas* is real,

and reaches Things themselves. Because in all our Thoughts, Reasonings, and Discourse of this kind, we intend Things no farther, than as they are conformable to our *Ideas*. So that in these, we cannot miss of a certain undoubted reality. (4.4.5)

Locke's ontology of primary qualities conforms to our abstract complex ideas of modes and relations. We don't know much about the 'cosmical mechanism'. But whatever knowledge of the complex ideas of modes and relations we have, is *real* knowledge for Locke. Every well-constructed complex idea of modes and relations puts a new entity into Locke's ontology, which seems to be a project that, if completed, would deliver a theory of unified science.

Locke's distinction between primary and secondary qualities establishes the ontological claim that the real world should be defined in terms of conceptual entities. His critique of the use of maxims and complex ideas of substances undermines attempts to reify the ideas of objects that are constructed on the basis of sense-experience, and his theory of abstract ideas enables him to juxtapose our complex ideas of substances to our complex ideas of modes and relations. The former are constructed as representations of ontologically dubious sensible things, while the latter are shown to present a calculus by which any associated ideas can be treated as necessarily linked to each other. Finally, Locke maintains that complex ideas of modes and relations define the conceptual entities in the ontology of primary qualities. Thus, they present us with real knowledge about Boyle's 'cosmical mechanism'. And new knowledge is acquired "by finding out intermediate *Ideas*, that shew'd the Agreement or Disagreement of the *Ideas*, as expressed in the Propositions he [Newton] demonstrated. This is the greatest Exercise and Improvement of Humane Understanding in the enlarging of Knowledge, and advancing the Sciences." (4.7.11)

3.4. Berkeley's Anti-abstractionism

In the previous Section I have argued that Hume saw Locke choosing to endorse the narrow ontology of primary qualities in order to prove that we can have real knowledge despite the limitations of our sense-perception. For "Hume's Locke", real ontology consists solely of conceptual entities that are defined by abstract ideas. Thus, there is a perfect match between the conceptual entities in the ontology of primary qualities and our abstract complex ideas of modes and relations:

Is it true of the *Idea* of a *Triangle*, that its three Angles are equal to two right ones? It is true also of a *Triangle*, where-ever it really exists. Whatever other Figure exists, that is not exactly answerable to that *Idea* of a *Triangle*, is not at all concerned with that Proposition. And therefore he is certain all his Knowledge concerning such *Ideas*, is real Knowledge: because intending Things no further that they agree with those his *Ideas*, he is sure what he knows concerning those Figures, when they have barely an *Ideal Existence* in his Mind, will hold true of them also, when they have a real existence in Matter. (4.4.6)

Locke believes that we can cross the gap between our abstract ideas and *real* conceptual entities only because the ontology of the 'cosmical mechanism' cannot be revealed by our senses. The 'cosmical mechanism' is generally unknown because it cannot, *in principle*, be seen, touched, or heard. We *define* the elements of this ontology, and our knowledge constitutes the true essences of the entities in this ontology. Locke has no hesitation in arguing that, along with atoms and molecules, even such conceptual entities as numbers, and geometrical figures, belong to the otherwise inaccessible and little known world of primary qualities.

Berkeley finds that Locke's position entails three important consequences. First, for Locke the ontology of primary qualities is an aggregate of conceptual entities. The real world for Locke is the world of extension, motion, atoms, molecules, triangles, and

numbers. Secondly, Locke retains a 'substance ontology' for the entities in this ontology. Abstract complex ideas of modes and relations define the real essences of conceptual entities. Thirdly, Locke maintains that our knowledge of abstract entities allows us to establish a deductive system of knowledge. When we use abstract complex ideas of modes and relations as premises, we can make inferences about the causal structure of mind-independent states of affairs.

Berkeley wants to undermine these consequences. First, he objects to the epistemic principle of accepting the ontology of defined conceptual entities. Berkeley gives the name of 'the doctrine of abstraction' to the philosophical conviction that ontological theories should discuss only conceptual entities. He substitutes for it his ontology of immaterialism. Secondly, he attacks the 'substance ontology' account.³³ The search for 'inward essences' of things is replaced by a relational account of predication. According to Berkeley, predication is an act of the mind that unifies sense properties into given pre-determined collections. The analysis of vision as 'the universal language' shows that we learn and perceive the relational structure of the world according to the syntax of God's language. Finally, Berkeley argues that abstract ideas have meaning only in relation to the particular ideas from which they are derived, so that we cannot construct new knowledge about yet unperceived cases by derivations from such abstract ideas. Berkeley's anti-abstractionism is a complex position in which he addresses a variety of ontological and epistemic issues. I have here chosen to represent it as a reply to the philosophical consequences of Locke's position because the issue of the growth of knowledge highlights a genuine philosophical conflict between Locke's scientific realism, and Berkeley's metaphysics of common-sense realism.

Before examining Berkeley's critique of Locke's scientific realism, it is important to establish that beyond this critique, Berkeley defends a complete and consistent ontological view. In what follows I shall show that the differences between Locke and Berkeley are fundamental. Their ontological views, as well as their accounts of the theory of knowledge are incompatible. Berkeley's ontology of secondary qualities is an attempt to render consistent the common-sense perception of the world, while Locke's ontology of primary qualities validates the goal of the mechanistic sciences to define the world from scratch in terms of the 'cosmical mechanism', and thus to create a theory of unified science. Berkeley maintains that in perception we have immediate knowledge of ideas. This makes a theory of knowledge *redundant*.³⁴ Since we cannot help but know what we perceive, knowledge is *sui generis*, *i.e.* something that cannot be reduced to anything else. Locke's attempt to define the procedure of how we can attain knowledge is, according to Berkeley, an ill-conceived project. Knowledge is given, and it does not need to be constructed. Berkeley does not wish to rectify Locke's mistakes. He simply wants to show that Locke's position cannot be right. This juxtaposition of the positions of Locke and Berkeley will later enable me to see Hume's philosophy as a reconciliatory project.

The 'traditional' view about the tradition of British Empiricism finds much continuity between the views of Locke and Berkeley, and tends to overlook the fundamental differences between their ontological and epistemological views. I believe that it happens mainly because there is a consensus that Berkeley cannot present a reasonable alternative to the Newtonian paradigm. Berkeley's discussion in *Siris* about the fire as the invisible substance of light is regarded as eccentric. Jessop gives a telling

description of this problem: "To read Berkeley's scientific sections is humiliating, for here one of our ablest and most learned minds is writing things which the most mediocre student of to-day knows to be wrong."³⁵ Yet it is essential to present Berkeley's views as a consistent set of ontological and epistemic beliefs in order to give a proper interpretation of his anti-abstractionism. As will be seen later, Hume recognizes that Berkeley's scientific blunders are conceptually independent of his claim that generalization cannot warrant inferences about yet unperceived states of affairs. Thus abstract general ideas do not acquire meaning by denotation. Abstract general ideas are meaningful because they allow us to anticipate the future turn of events, and Hume wants to apply this recognition in his projectionism, *i.e.* he claims that scientific theories are mere projections.

Berkeley maintains that he is presenting a metaphysically clarified ontology of common-sense realism. This ontology includes three main tenets. First, our ideas do not represent external objects, but *are* the real objects themselves. With this anti-representational stance Berkeley introduces an alternative to Locke's claim that ontology should consist of defined conceptual entities. Berkeley's alternative ontology is a composite of *sensible* entities and minds. Secondly, ideas that are not perceived by finite minds must continue their existence in the Divine mind. Berkeley here adopts a radically revised version of Malebranche's doctrine about 'seeing all things in God', allowing him to acknowledge that the reality of objects does not depend on *individual* perceivers. Thirdly, Berkeley argues that knowledge is given in the act of perception. This renders superfluous any need to define the procedure for deriving knowledge. There is no further or derived knowledge to be had about our ideas. We can derive knowledge about

perceiving substances, but not about ideas. Ideas are brought together into complex entities for convenience, not for epistemologically significant reasons. These theses allow Berkeley to transform the expectation that an ontological position should include an account of a finite and settled number of entities that are related to each other by a given set of rules. Berkeley maintains that the world is a continuum, or a flux, in which every new idea presents us with a new real thing. Let us discuss these elements to get a better grasp of Berkeley's intentions.

The vulgar believe that they perceive *real* objects, and Berkeley grants the validity of this belief. The real world for Berkeley is the world of perceived objects -- stones, cherries, tables, *etc.* These entities are uniquely given in the act of perception. By opening our eyes we always perceive a new set of real objects. Winkler accounts for this vast ontology by "Berkeley's belief that experience is a text, authored by God in the language of ideas for the sake of our well-being."³⁶ Ideas do not refer to anything else.

Berkeley's spokesperson Philonous expresses this position in the following quotation:

I am of a vulgar cast, simple enough to believe my senses, and leave things as I find them. To be plain, it is my opinion, that the real things are those very things I see and feel, and perceive by my senses. These I know, and finding they answer all necessities and purposes of life, have no reason to be solicitous about any other unknown beings. A piece of sensible bread, for instance, would stay my stomach better than ten thousand times as much as that insensible, unintelligible, real bread you speak of. It is likewise my opinion, that colours and their sensible qualities are on the objects. I cannot for my life help thinking that snow is white, and fire hot. You indeed who by *snow* and *fire* mean certain external, unperceived, unperceiving substances, are in the right to deny whiteness or heat to be affections inherent in them. But I, who understands by these words the things I see and feel, am obliged to think like other folks. (Dialogues, 229)

Existence is defined by the act of perception. And our knowledge about things is given with the presence of ideas.

The vulgar, however, also believe that at different times they perceive the same object, *i.e.* that objects continue to exist without being perceived. Berkeley challenges this belief by his account of 'seeing all things in God'. We don't have to suppose that things have an independent existence because we can construct a consistent explanation of their existence in the Divine mind in case no finite minds perceive them. Berkeley is certain that it is impossible to render consistent the claim that we perceive real objects with the claim that objects continue to exist without being perceived. He chooses to endorse the former claim, and to provide a metaphysical explanation of the latter. The point of Berkeley's attack is this -- we should not accept the claim that objects continue to exist without being perceived because it is impossible to construct an explanation of the exact manner in which our ideas are originated by mind-independent material bodies. For if "we give materialists their external bodies, they by their own confession are never the nearer knowing how our ideas are produced: since they own themselves unable to comprehend in what manner body can act upon spirit, or how it is possible it should imprint any idea in the mind." (PHK, 19)

Locke was aware of this problem. In his critique of Malebranche's doctrine of 'seeing all things in God' Locke acknowledges:

We have the ideas of figures and colours by the operation of external objects on our senses, when the sun shows them us; but how the sun shows them us, or how the light of the sun produces them in us; what, and how the alterations is made in our souls; I know not. (Examination, 30)

Yet he challenges Malebranche's explanation:

I have ideas, that I know; but I would know what they are; and to that I am yet only told, that "I see them in God". I ask how I see them in God? And it is answered, by my "intimate union" with God, for he is every where present. I answer, if that were enough, bodies are also intimately united with God, for he is every where present;

besides, if that were enough, I should see all the ideas that are in God. No, but only those that he pleases to “discover”. *Tell me wherein this discovery lies*, besides barely making me see them, *and you explain the manner of my having ideas*: otherwise all that has been said amounts to no more but this, that I have those ideas that it pleases God I should have, but by ways that I know not; and of this mind I was before, and am not got one jot farther. (Examination, 25)

For Locke, the mere claim that scientific realism cannot present a consistent explanation about the origins of ideas does not constitute a valid objection against it. For Malebranche’s doctrine of ‘seeing all things in God’ *also* fails to provide a consistent explanation about the origins of our ideas. In this situation of equal ignorance, Locke endorses scientific realism. He grants the claim of the vulgar that real objects continue to exist without being perceived, but denies their belief that perception gives us a valid account of real objects.

Berkeley faces Locke’s challenge to Malebranche, and promises to give us an explanation of the manner in which God “discovers” his ideas to us. He maintains that we can construct a metaphysical explanation about the origins of ideas by avoiding any representationalism. As David Raynor convincingly argues, for Berkeley “God’s ideas and our ideas of sense are numerically identical.”³⁷ Berkeley defends the view that our sense-specific particular ideas are *literally* God’s ideas, so that there is no relation of representation between them. Ideas of individual perceivers stand in a type-token relation with God’s ideas:

I entirely agree with what the holy scripture saith, that “in God we live, and move, and have our being”. ... Take here in brief my meaning. It is evident, that the things I perceive are my own ideas, and that no idea can exist unless it be in a mind. Nor is it less plain that these ideas, or things by me perceived, either themselves or their archetypes, exist independently of my mind, since I know myself not to be their author, it being out of my power to determine at pleasure what particular ideas I shall be affected with upon opening my eyes or ears. They must therefore exist in some other mind, whose will it is they should be exhibited to me. The things, I say,

immediately perceived, are ideas or sensations, call them which you will.
(Dialogues, 222)

Berkeley believes that by the argument from design he can prove the existence of the Divine mind in which our perceptions, or their archetypes, inhere. When upon opening our eyes we see the same table, we perceive the same idea token as before. Two ideas are numerically different tokens of the same type. Things, or ideas, continue to exist in God's mind when individual perceivers don't perceive them. And when we perceive ideas, we perceive God's ideas.

The final element that we shall consider is Berkeley's belief that it is impossible to have a theory of knowledge. It is important to realize that Berkeley does not provide *any* theory of ideas. If he thought that Locke is mistaken about the details of his account of ideas, then it would be reasonable for Berkeley to make adjustments to Locke's theory of ideas. But his attack is more general. In Berkeley's eyes Locke's theory of ideas cannot be repaired because the whole project itself is ill conceived. Berkeley's ontology of secondary qualities confirms that there *could* be no theory of knowledge. Knowledge is not constructed. It is *sui generis*.³⁸ When we perceive, we cannot help but to know what we perceive. "Colour, figure, motion, extension and the like, considered as so many sensations in the mind, *are perfectly known*, there being nothing in them which is not perceived." (PHK, 86, *emphasis added*) According to Berkeley, knowledge of ideas is immediate and cannot be reduced to anything else.

Berkeley's account of perception can be understood only if we assign philosophical significance to the claim that knowledge of sense-specific ideas is primary to the attitudes that we adopt about various combinations of these ideas. Believing,

anticipating, trusting, *etc.* are modes of knowledge. Individual perceivers can and do construct collections of ideas. But our evaluation of these collections has no epistemic value.

We call a window one, a chimney one, and yet a house in which there are many windows and many chimneys hath an equal right to be called one, and many houses go to the making of one city. In these and the like instances it is evident the unit constantly relates to the particular draughts the mind makes of its ideas, to which it affixes names, and wherein it includes more or less as best suits its own ends and purposes. Whatever, therefore, the mind considers as one, that is a unit. Every combination of ideas is considered as one thing by the mind, and in token thereof is marked by one name. Now, this naming and combining together of ideas is perfectly arbitrary, and done by the mind in such sort as experience shews it to be most convenient. (NTV, 109)

Berkeley clearly insists that all combinations of ideas are arbitrary, and as such cannot be the source of derived knowledge. We can interpret immediately given knowledge in ways we find convenient. Yet we cannot, as Locke proposes, construct and derive new knowledge from a given set of rules by which particular ideas are related to each other.

In Berkeley we find an account of the world as an ever-changing continuum in which we simply don't have a chance to examine any given thing twice. Colors, tastes and textures are in objects of this fleeting world. Our knowledge of any present idea is immediate and perfect. We can perceive ideas of the same type at different times because they continue to exist in the Divine mind. This set of ontological and epistemological views stands in sharp contrast to that of Locke, who believes that the world is a given system of fixed and lasting conceptual entities. The objects of Locke's ontology contain no secondary qualities, and are thus hidden from our immediate perception. We can understand the nature of these objects only by an analysis of repeated observations.

Before we turn to an examination of Berkeley's critique of Locke, it is useful to give a summary of the argument thus far. The depth of conceptual disagreement between Berkeley and Locke has not generally been appreciated because Berkeley's view has rarely been approached as a complete and consistent ontology. I maintain that the views of the two philosophers are fundamentally different, and cannot be reconciled in their pure form. Berkeley can provide a complete and consistent alternative to Locke's ontology, but we do not have to endorse it and claim that it is a *plausible* alternative. Yet even the claim that it is a *possible* alternative raises problems for Locke's scientific realism. If we have to choose between two alternatives, we have to settle on the principles that determine our choice. Berkeley's anti-abstractionism is an attempt to examine the possibilities of making a rational choice between the two alternative ontologies. Berkeley believes that the issue of abstraction is central to an examination of the consequences of Locke's arguments. His analysis shows that Locke's endorsement of scientific realism is merely a matter of preference because this choice cannot be the result of a rational decision.

Berkeley argues that (1) there is no reason to suppose that ontological entities have to be conceptual, or abstract, entities. (2) He shows that Locke's endorsement of 'substance ontology' cannot be rendered consistent because of confusion about the meaning of abstract complex ideas of modes and relations. If they are taken to have meaning by denotation of ontological entities, then their meaning cannot be extended beyond the particular secondary ideas from which they are actually constructed. If, however, abstract complex ideas of modes and relations are taken to have meaning as a set of rules by which new ideas can be constructed, then abstract general ideas have no

actual ontological status. (3) Berkeley shows that abstract general ideas cannot be used to construct new knowledge because they merely register the regularities of perception, which means that no demonstrative knowledge of ideas is possible. We can have demonstrative knowledge only by arguments from design. Abstract general ideas are of no help with this task.

According to Berkeley, the 'doctrine of abstraction' accepts the ontology of defined conceptual entities. This interpretation of the 'doctrine of abstraction' is not specifically targeted against Locke. The principle is more general, and Berkeley recognizes that most modern philosophers, including Cartesians, accept this doctrine. Berkeley's attack against it is twofold. On the one hand, he brings to the fore the fact that there are no arguments to support this doctrine. It is merely a conviction that appears plausible in the absence of alternatives. On the other hand, he argues that this doctrine, if accepted, cannot be limited solely for scientific purposes. It is a general *principle* that allows us to choose *any* defined conceptual entity as the foundation of some ontology. According to Berkeley, this doctrine *in principle* puts idolatry on the same conceptual footing with scientific theories.

In his Notebooks Berkeley indicates that there is no acceptable reason for adopting the 'doctrine of abstraction'. He writes:

Ask a man I mean a Cartesian why he supposes this vast structure, this compages of Bodies. He shall be at a stand, he'll not have One word to say. wch sufficiently shews the folly of the hypothesis: (Entree 477) or rather why he supposes all ys Matter, for bodies & their qualities I do allow to exist independently of Our mind. (Entree 477a)

And Berkeley seems to be right. The argument that ontological entities can only be defined is endorsed because no alternative view was available. Before Berkeley, the

question whether the existence of matter can be justified was not even asked. The existence of matter was believed to be a self-evident truth. Berkeley's stubborn refusal to accept its validity has good foundations. If the existence of matter is a self-evident truth, then matter should be perceivable. If matter cannot be perceived, then its existence should be demonstrated by a proof of the relations of ideas. (PHK, 18) But it is neither perceivable nor can its existence be demonstrated.

Many philosophers have not taken this challenge seriously because they believe that the existence of commonly unperceived ontological entities, such as atoms and molecules, can be demonstrated with the help of a microscope. And they reason that, if we can grant existence to molecules, then we should also grant existence to matter.

But this argument fails to impress Berkeley for two reasons. First, the perception of molecules by microscope still does not address the question of why we should believe that ontological entities are defined conceptual entities. The gap between the meaning of the conceptual entity 'molecule', and a perceived visual idea of a molecule, is immense. Secondly, the visual idea of a molecule is isolated from our normal course of experience. The ideas that we get by using the microscope present us with a completely new world about which we have had no previous knowledge. Without additional information about the nature of molecular existence, we cannot justifiably assign any meaning to what we see.³⁹ For Berkeley, the gap between ordinary perception and the perception by the use of a microscope cannot be bridged.

Thus we can observe that Berkeley poses a fundamental question about the commonly shared belief about the existence of matter, and fails to receive a reply. It is logically possible that Berkeley is right. The world might be in a continual flux, and the

fact that the succession of visual and tactile ideas is given the name of a 'table' need not entail the claim that there exists a mind-independent material object 'Table'. It still might be the case that our perceptions of the table are numerically different but resembling ideas. Why should we believe in the existence of a Material Table? Berkeley concludes:

the things I see with my eyes and touch with my hands do exist, really exist, I make not the least question. The only thing whose existence we deny is that which philosophers call matter or corporeal substance. And in doing of this, there is no damage done to the rest of mankind, who, dare I say, will never miss it. (PHK, 35)

The second argument against the 'doctrine of abstraction' revolves around the status and generality of the belief that conceptual entities properly define what there is.

Berkeley writes that:

The existence of matter, or bodies unperceived, has not only been the main support of *atheists* and *fatalists*, but on the same principle doth *idolatry* likewise in all its various forms depend. Did men but consider that the sun, moon, and stars, and every other object of the senses, are only so many sensations in their minds, which have no other existence but barely being perceived, doubtless they would never fall down and worship their own *ideas*; but rather address their homage to that eternal invisible Mind which produces and sustains all things. (PHK, 94)

Berkeley maintains that the mechanistic sciences and primitive religions employ the same epistemic principle of accepting the ontology of defined conceptual entities. This resemblance, according to Berkeley, cannot be undermined by the experimental nature of the mechanistic sciences. Experiments merely *confirm* the existence of a given succession of ideas. They cannot prove the ontological consequences that arise from the reification of abstract general ideas.

Berkeley's examination of the 'doctrine of abstraction' presents a grim picture of representationalism. The mechanistic sciences reify their concepts for no rational reason. Moreover, they do not understand that the use of such ontological moves likens sciences

to any imaginable superstition. Berkeley believes that immaterialism presents a sound alternative to the ontological implications of the mechanistic sciences.

Locke's account of substances is the second area of concern for Berkeley. As we have seen, Locke differentiates between two kinds of complex ideas. On the one hand, the complex ideas of substances merely compile together the ideas of secondary qualities without explaining anything about their relations. And Locke also denies the explanatory significance of the claim that such collections of ideas inhere in 'substance'. Neither our collections of ideas, nor the imaginary philosophical fiction of *substrata*, explain anything. Our complex ideas of substances are based on individual experiences and as such remain *arbitrary* collections of ideas. No new knowledge can be derived from them because the collections of ideas that constitute them are inevitably incomplete. Thus Locke also denies the view that substances can be properly defined on the basis of mere observations. On the other hand, Locke endorses the complex ideas of modes and relations. These ideas implicitly contain a set of rules by which every possible relation between given simple ideas is defined. For example, the complex idea of a triangle presents us with a calculus by which we can construct each and every possible triangle. Locke believes that the complex ideas of modes and relations, if properly constructed, clearly exhibit the real essences of things. We have seen Berkeley's critique of Locke's attempt to reify the complex ideas of modes and relations. Now let us examine what Berkeley has to say about the meaning of these ideas.

Berkeley argues that Locke confuses two different ways in which we can assign meaning to complex ideas of modes and relations. On the one hand, if we grant Locke's claim that our complex ideas of modes and relations perfectly match the conceptual

entities of his ontology, then they become meaningful by being models of given mind-independent states of affairs in the defined ontology of Boyle's 'cosmical mechanism'. And there should be little doubt in Locke's confidence that the abstract general idea of a triangle, for example, defines all triangles, whenever and wherever they might exist. On the other hand, Locke insists that our complex ideas of modes and relations contain the set of rules the application of which will inevitably lead to a construction of a given complex idea. The comprehension of the procedure by which a given complex idea is constructed allows us to have knowledge about all possible relations in which it can be used. Berkeley believes that Locke is confused about two possible ways in which our abstract general ideas acquire meaning. Locke fails to recognize that in describing the complex ideas of modes and relations as a calculus for constructing new ideas he implicitly relies on a completely different way in which general ideas become meaningful. Abstract general ideas are capable of generating beliefs about the relations among these ideas, and thus they acquire meaning as rules for making inferences. Berkeley argues that Locke cannot hold on to two incompatible views about the meaning of abstract general ideas at the same time. He has to choose whether (1) abstract general ideas define substances of mind-independent states of affairs, or (2) abstract general ideas are rules for making new inferences.

Berkeley demonstrates the difference between these two ways in which meaning can be assigned to abstract ideas by challenging Locke's ontology. The dispute revolves around the status of inferences that are made on the basis of abstract general ideas. According to Locke, all the properties of primary qualities can be deduced from their abstract general ideas. Primary qualities, such as extension, figure, solidity, *etc.*, are

conceptual entities that constitute Locke's ontology. Therefore, from abstract general ideas we can deduce knowledge about new sorts of facts. From the complex idea of three lines enclosing a space, we can deduce all properties of any triangle, regardless of whether it is perceived and even exists in nature. This, for Locke, is the standard of scientific knowledge: "I doubt not but if we could discover the Figure, Size, Texture, and Motion of the minute Constituent parts of any two Bodies, we should know without Trial several of their operations one upon another, as we do now the Properties of a Square, or a Triangle." (4.3.25) In principle, scientific knowledge entails the possibility of making inferences about new unperceived facts with certainty.

What did Berkeley find wrong with Locke's account? Locke's claim that the inferences from abstract general ideas are necessary relies on a tacit assumption that the world will continue to operate uniformly, and Berkeley refuses to grant the validity of this assumption. In doing so he anticipates the problem of induction:

[B]y a diligent observation of the phenomena within our view, we may discover the general laws of Nature, and from thence deduce the other phenomena, I do not say *demonstrate*; for all deductions of that kind depend on a supposition that the Author of Nature always operates uniformly, and in a constant observance of those rules we take for principle: which we cannot evidently know. (PHK, 107)

Furthermore, Berkeley shows that Locke's inferences do not entail the logical impossibility of an alternative explanation. According to Berkeley, Locke's account about the status of derived knowledge cannot be justified. The conclusions derived from abstract general ideas cannot be necessary, because Locke cannot logically eliminate the possibility of an alternative causal explanation. The causal explanations of the mechanistic sciences do not fully present the nature of causal relations between perceptions. Explanations in terms of so-called primary qualities identify only sufficient

conditions of these relations. They fail to account for the only necessary condition of the causal relation -- God, "*in whom we live, move and have our being.*" (PHK, 68)

The mistake about the status of derivations from abstract general ideas lies in their implicit connection to Locke's ontology. Berkeley maintains that Locke treats such inferences as demonstrations because of his account of substances. If the essences of things exist, then their consequences should be necessary. The existence of such essences *excludes* the possibility of anything else being the case in virtue of the fact that the scope of ontological entities is defined. Locke has no choice but to argue that the primary qualities and their combinations exhaustively define the domain of ontological entities.

Nothing else has existence:

One great inducement of our pronouncing our selves ignorant of the nature of things, is the current opinion that every thing includes within it self the cause of its properties: or that there is in each object an inward essence, which is the source whence its discernible qualities flow, and whereon they depend. Some have pretended to account for appearances by occult qualities, but of late they are mostly resolved into mechanical causes, to wit, the figure, motion, weight, and such like qualities of insensible particles. ... I need not say, how many *hypotheses* and speculations are left out, and how much the study of Nature is abridged by this doctrine. (PHK, 102)

Berkeley believes that there is only one remedy against the knot of mistakes that arises from belief in the existence of substances. He proposes a complete revision of the notion of substance.

Fred Wilson argues that in Berkeley we have "*a new ontology, in which predication no longer represents the relation between a property and a substance but rather the relation between a property and a whole of which it is a part.*"⁴⁰ Berkeley develops a relational account about the nature of complex or general ideas in which he argues that they are constructed of particular sense-specific ideas. More importantly,

Berkeley argues that we can specify neither the number, nor the order of particular ideas that constitute general complex ideas. Thus, depending on the circumstances the general idea of a cherry, for example, can be constructed from five, four or even only one particular idea. And it is completely irrelevant in what order these particular ideas are presented. This account about the relations between simple and complex ideas resembles Locke's analysis of the complex ideas of modes and relations in terms of a calculus. It is the foundation of Berkeley's account about the nature of universality.

Berkeley admits that *universality* is "not consisting in the absolute, positive nature or conception of any thing, but in the relation it bears to the particulars signified or represented by it: by virtue whereof it is that things, names, or notions, being in their own nature particular, are rendered *universal*." (PHK, Intro 15). The relation that a particular general idea bears to its constituent elements for Berkeley defines the nature of universality. In other words, he believes that when we consider a given collection of particular ideas as a general idea, we tacitly acknowledge the existence of a set of rules by which particular elements constitute the unity. The set of such rules is not an algorithm. There is no procedure for putting simple ideas together. We have immediate knowledge of things that we perceive, and with this knowledge we tacitly acquire a complex set of rules that establishes the relations between properties and a whole of which they are a part.

The sets of rules by which particular ideas fit together in forming complex or general ideas can be pre-established by the Divine mind, or artificially created by individual perceivers:

I think we may fairly conclude that the proper objects of vision constitute an universal language of the Author of nature, whereby we are instructed how to regulate our actions in order to attain those things that are necessary to the preservation and well-being of our bodies, as also to avoid whatever might be hurtful and destructive of them. It is by their information that we are principally guided in all the transactions and concerns of life. And the manner wherein they signify and mark unto us the objects which are at a distance is the same with that of languages and signs of human appointment, which do not suggest the things signified by any likeness or identity of nature, but only by a habitual connexion that experience has made us to observe between them. (NTV, 147)

God presents sense-specific ideas in given clusters in a manner that allows us to identify the continuity, or a pattern, in their relations. Whenever we see the shape and color of a cherry, for example, we also perceive a distinct scent. The shapes of a cherry can vary in sizes. But we are still capable of identifying a pattern because the changes are proportional to the rest of ideas. Our experience allows us to identify the set of rules by which particular ideas are meant to fit together. Another example by Berkeley's Philonous will make the connection more precise:

[W]hen I hear a coach drive along the streets, immediately I perceive only the sound; but from the experience I have had that such a sound is connected with a coach, I am said to hear a coach. It is nevertheless evident, that in truth and strictness, nothing can be *heard* but *sound*: and the coach is not then properly perceived by sense, but suggested from experience. So likewise when we are said to see a red-hot bar of iron; the solidity and heat of the iron are not the objects of sight, but suggested to the imagination by the colour and figure, which are properly perceived by that sense. In short, these things alone are actually and strictly perceived by any sense, which would have been perceived, in case that same sense had then been first conferred on us. As for other things, it is plain they are only suggested to the mind by experience grounded on former perceptions. (Dialogues, 204).

By identifying a given pattern in the appearances of ideas, we also acquire knowledge about the relations between our ideas. The use of the set of rules that establish this relation does not require the application of any procedure. Any one particular idea of the

related collection immediately leads to the general idea in question, and triggers the anticipation of related particular ideas.

Berkeley maintains that we can and should think about all general ideas in terms of a calculus that establishes the relations between a set of sense-specific ideas. He explains the meaning of scientific concepts in the following manner:

When it is said *the change of motion is proportional to the impressed force*, or that *whatever has extension is divisible*; these propositions are to be understood of motion and extension in general, and nevertheless it will not follow that they suggest to my thoughts an idea of motion without a body moved, or any determinate direction and velocity, or that I must conceive an abstract general idea of extension, which is neither line, surface nor solid, neither great nor small, black, white, nor red, nor of any other determinate colour. It is only implied that whatever motion I consider, whether swift or slow, perpendicular, horizontal or oblique, or in whatever object, the axiom concerning it holds equally true. As does the other of every particular extension, it matters not whether line, surface or solid, whether of this or that magnitude or figure. (PHK, Intro. 11)

The word 'axiom' in this case identifies *the rule of inference* by which, upon seeing any particular idea A, we should regard it as belonging to a complex idea B.

Berkeley believes that Locke's mistake of retaining the substance ontology leads to the confusion about the meaning of general ideas. The nature of this mistake can be understood only by examining the status of actual inferences. For Locke the inferences from abstract general ideas necessarily entail their conclusions. Berkeley objects to this view by confronting Locke with the problem of induction. The inferences are necessary only if we confirm the validity of the assumption about the uniformity of events and their causes. Berkeley finds no logical reason to endorse this tacit assumption. This leads him to reconsider the status of inferences. He proposes a theory of universality in which the meaning of general statements is explained in terms of a calculus for the construction of

complex ideas. General abstract ideas have no absolute meaning. They are meaningful only as rules for inference.

The final element in Locke's legacy is the possibility of establishing a deductive system of knowledge. He believes that meticulous analysis will introduce new abstract general ideas that, in turn, will define new conceptual entities. Thus, we shall slowly fill in the gaps in our knowledge of conceptual entities, and establish a theory of unified science. The result of this conceptual work will be a complete deductive system of knowledge. Berkeley argues that this project is doomed. We cannot have demonstrative knowledge about ideas because our ideas change. The only demonstrations that Berkeley accepts are the arguments from design, by which we can prove the existence of perceiving substances.

The significance of this discussion will be fully explained in the next Chapter where I shall examine Hume's account of probability. At the moment, it suffices to indicate that neither Berkeley nor Locke is able to incorporate the notion of probability into their theories of knowledge. On the one hand, Berkeley argues that no theory of knowledge is possible. We have direct knowledge of sense-specific particular ideas that leaves no conceptual space for probability. Berkeley's account of the meaning of general ideas as rules for inference also fails to address the question of probability. When a calculus is applied, we simply cannot fail to use a set of related ideas in accordance with given implicit rules. The order in which the related ideas are presented remains of no importance. Moreover, we don't have to perceive all related particular ideas to use a given general idea. Probability, as a concept, is not significant in Berkeley's pragmatic vision of the mind. Locke, on the other hand, believes that there is a difference in kind

between probability and knowledge. We have certain knowledge about complex ideas of modes and relations, while probability is associated with inferences from our complex ideas of substances. The sciences cannot rely on probability, so it plays no important epistemological role in Locke's system. Probability is merely an immature state of conception that must be replaced by knowledge.

Berkeley attacks Locke's belief that there is a difference *in kind* between scientific knowledge and our everyday perception of the world. Locke argues that scientific knowledge differs from our everyday perception in two ways. First, the concepts used by the sciences are complex ideas of modes and relations. They are formed by abstraction, and properly define all possible relations between ideas in question. The concepts of daily experience are complex ideas of substances that contain a random collection of particular ideas. Secondly, scientific concepts deal solely with primary qualities and their relations, while common-sense concepts try to grasp the nature of objects as collections of secondary qualities.

Berkeley shows that so-called scientific concepts are similar in nature to the general ideas of the everyday perception of the world. General ideas for Berkeley are rules of inference by which given particular ideas are judged to belong to a related cluster of ideas. The meaning of general ideas is given in their use. Berkeley argues that in our everyday experience we develop and use general ideas that contain a pre-determined set of rules for making inferences. Thus, the fact that we perceive objects in a uniform manner is explained in the following manner. God presents various collections of related sense-specific ideas. These ideas are presented in clusters, and the repetition of such related ideas allows us to grasp their relations. When we start using general ideas, we

cannot help but know what ideas *belong* together, regardless of the fact that their number and the order of their appearance might change. According to Berkeley, general ideas of our daily use differ from so-called scientific concepts only in the origins of the set for making inferences. While the nature of our general ideas is universal because their meaning is pre-determined, scientific concepts embody artificial conventions about the rules for making inferences. The number of such conventions has no limits. The conventions of ordinary language are similar in nature to the conventions for the use of such concepts as absolute space, and primary qualities. In both cases we are not to assume the absolute existence of the denoted entities. Concepts identify a tacit agreement for considering given properties as belonging to a related cluster, or a whole.

The immediate objects of the everyday perception are sense-specific ideas. Their reality is unquestionable. But these ideas are fleeting. Every single moment confers upon us a new set of real ideas. Without any pre-established order in the appearances of ideas, we would be eternally lost in the chaos of new ideas. But the order in the appearances of ideas makes it possible to identify regularities, or form general ideas. These general ideas of objects are neither immediately perceived, nor have an absolute existence. They serve to guide our actions, so the vulgar belief that objects exist as collections of sensible qualities is pragmatically justified. There is no gain from the reification of such abstract general ideas as matter, motion, primary qualities, *etc.* These concepts do not help us to guide our actions.

Berkeley argues that we cannot claim that our knowledge is a deductive system, if we cannot assign absolute existence to abstract general ideas. We have an immediate knowledge of sense-specific ideas. Each sense-specific idea is particular. Thus we

cannot have any universal knowledge about our ideas. Nevertheless, our use of general ideas gives us some grasp of the overall nature of the clusters or collections of sensible qualities. Our ability to construct and operate with general ideas is sufficient to develop various psychological attitudes towards a given set of ideas. We can believe that a given state of affairs will take place. We can anticipate it, or hope that it will not take place.⁴¹ We cannot, however, have certainty about any as-yet-unperceived ideas. Berkeley believes that existence is given to us by the way of fleeting ideas that are arranged in some relatively stable clusters. With no absolute existence, we cannot have absolute and universal knowledge. We cannot have deductive knowledge about the sensible world of flux.

The problem of induction arises naturally in this ontological framework. Any attempt to argue with certainty about some future state of affairs demands an added condition, namely, the principle of the uniformity of nature. But what assurances can we have about the future? What reason can we have to believe that no changes will take place?

Berkeley draws a distinction between our knowledge of ideas and spirits. He maintains “it is I suppose plain, that our souls are not to be known in the same manner as senseless inactive objects, or by the way of *idea*. *Spirits* and *ideas* are things so wholly different, that we say, they exist, they are known, or the like, these words must not be thought to signify any thing common to both natures.” (PHK, 142) The difference between our knowledge of ideas and spirits lies in the arguments that we use to define them. As we have seen, Berkeley believes that we cannot construct knowledge about

ideas. But this is not the case in relation to spirits, and Berkeley endorses the argument from design to infer the existence of divine and finite minds.

The existence of the perceiving agent for Berkeley is a matter of logical necessity. He states: "We perceive a continual succession of ideas, some are new excited, others are changed and totally disappear. There is *therefore* some cause of these ideas whereon they depend, and which produces and changes them." (*PHK*, 26, *emphasis added*) Our knowledge about perceiving substances is not acquired by abstraction. We cannot have sense-perceptions of the mind. Berkeley's argument for the existence of the perceiving agent is founded on the metaphysical maxim that every event must have a cause.⁴² For Berkeley, ideas cannot exist without perceiving agency. Berkeley is certain that the existence of individual minds is self-evident from the fact that we think, or operate with given ideas. Now, since some of our ideas are involuntary, we have grounds for inferring the existence of the divine mind.

Let us now return to the question about the deductive system of knowledge. We saw that Berkeley refuses to grant the possibility of such a system because there is nothing permanent about our ideas. They make up an ever-changing continuum the precise nature of which cannot be known with certainty. But if Berkeley can infer the existence of the Divine mind, then he can argue that the uniformity of experience lies in God's permanent nature. Once we add this premise about the uniformity of God's intentions, we shall be able to develop a deductive system of knowledge. But Berkeley refutes this argument as well. For God can decide to *change* the regular succession of ideas. Moreover, Berkeley believes that his account about the reality of immediate perception is entirely compatible with miracles having been performed:

What must we think of Moses's rod, was it not really turned into a serpent, or was there only a change of ideas in the minds of the spectators? And can it be supposed, that our Saviour did no more at the marriage-feast in Cana, than impose on the sight, and smell, and taste of the guests, so as to create in them the appearance or idea only of wine? The same can be said of all other miracles: which, in consequence to the foregoing principles, must be looked upon only as so many cheats, or illusions of fancy. To this I reply, that the rod was changed into a real serpent, and the water into real wine. ... I shall only observe, that if at the table all who were present should see, and smell, and taste, and drink wine, and find the effects of it, with me there could be no doubt of its reality. So that, at bottom, the scruple concerning real miracles hath no place at all on ours, but only on the received principles, and consequently maketh rather *for*, than *against* what has been said. (PHK, 84)

The assumption that God must continue to present our ideas in related clusters cannot be granted because it eliminates the possibility of miracles.

In this section I examined Berkeley's anti-abstractionism as a complex reply to philosophical theories of a particular kind. Berkeley attempts to refute theories that share the following three characteristics. First, they endorse the claim that an ontological position can be defined as an aggregate of conceptual entities. Secondly, they retain a substance ontology according to which the properties of an object follow by necessity from its substance. The unity of an object derives from its substance. Thirdly, these theories share the belief that knowledge of substances allows us to establish a deductive system of knowledge. Locke's philosophical views can be firmly placed among the theories that Berkeley criticizes, and it was used as an example of such theories. I have shown that Berkeley's arguments revolve around his metaphysics, and his new theory of generality, enabling him to present an alternative to Locke's ontology of primary qualities.

3.5. Projectionism as an Alternative Interpretation of Science

In sections 3.3 and 3.4 of this chapter I have already discussed Locke's scientific realism and Berkeley's instrumentalism. In the following sections I shall present Hume's response to these competing views on the nature of scientific inquiry.

Let us start with an outline as to how these positions can be specified. The following three theses provide the resources that will enable us to identify the nature of each position:

- (1) The Ontological Thesis: there exist unobservable (*i.e.* conceptual) properties and entities in the world. These properties and entities are independent of our perception, and of our beliefs.
- (2) The Epistemological Thesis: science identifies and describes these conceptual properties and entities.
- (3) The Variance Thesis: we can describe our experience in a variety of ways. Scientific theories identify different conceptual entities over time. Moreover, scientific theories are not unique in attempting to define unobservable entities. Similar definitions are provided by primitive religions, mythology, literature, *etc.*⁴³

Let us now map the conceptual relations between these views.

The position of scientific realism can be broadly characterized by the first two theses. Locke accepts the existence of primary qualities, and argues that scientific inquiries should aim to define them in terms of abstract complex ideas of modes and relations. Our claims are true or false in virtue of their correspondence to mind-independent states of affairs. We define these unobservable states of affairs in terms of abstract general ideas. Thus, we commit ourselves to the ontological existence of these ideas, and confirm that the truth-conditions of our judgments are given in terms of abstract general ideas.

The instrumentalism of Berkeley is defined by the third thesis.⁴⁴ Berkeley maintains that we can develop numerous ways of describing the regularities in the

succession of ideas because we have the capacity of selective attention. Selective attention enables us to use certain particular ideas as representations of some set of related ideas. This theory of universality forms the foundation of Berkeley's reply to the epistemological thesis. He argues that scientific inquiry cannot claim that it reveals the ultimate causal structure of the world. By constructing any given account about the regularity of our perception, scientific theories also tacitly accept that the succession of our perceptions in the past will be uniform in the future. Berkeley finds that this tacit claim cannot be accepted because of his ontological commitments. That is to say, Berkeley endorses the argument from design, and maintains that the regularity in the succession of our perceptions supports the doctrine of 'seeing all things in God'. We cannot justifiably assume that God will not perform miracles. Therefore, the epistemological thesis fails. According to Berkeley, science merely provides a systematic account of our perceptions.

Hume's projectionism is a position that endorses both the epistemological and the variance theses. He is a pluralist about theories that enables him to accept the variance thesis. In the previous chapter I have shown that Hume provides the analysis of three main types of theories -- the view of the vulgar, the false and the true philosophy. But Hume also endorses the epistemological thesis that the scientific theories examine the properties of given conceptual entities. He does not endorse the ontological thesis that these conceptual entities have a mind-independent existence. Conceptual entities for Hume are abstract general ideas that constitute the core of any functioning system of perceptions. And he believes that Berkeley is wrong to merely identify their nature. We have to examine their *exact* functions within a given system of perceptions. Thus, Hume

refuses to accept Locke's belief that the sciences describe real, or primary qualities. But he also avoids Berkeley's claim that science is nothing but an economical and systematic description of experience. Hume believes that our knowledge of the exact functions of given abstract general ideas enables us to anticipate new kinds of facts within a functional system of perceptions.

For Hume, the theories that we endorse enable us to make projections of given theoretical properties. Any system of perceptions is *a calculus* of ordered beliefs from which further beliefs can be derived. Hume treats any given system of perceptions as a functional unity. Our projections acquire meaning within a functional theory, *i.e.* we understand the meaning of conceptual properties in virtue of the beliefs that they generate, and we justify our beliefs by assuming that these conceptual properties exist.⁴⁵ Blackburn clearly expresses this point by saying that "[o]nce the mind has 'spread itself on the world', it also regards itself as reading things off the world it has projected."⁴⁶

The position of projectionism has its enemies. And insofar I am trying to show Hume as a projectionist, I have to address also the most common criticism of this position. It is argued that projectionism cannot succeed because it fails to differentiate between the issues of meaning and truth. If all our beliefs are projections, then allegedly nothing can be false.⁴⁷ I believe that Hume's pluralism about theories allows him to address this objection in the following manner. The theoretical properties and entities that are projected onto the world are constructed within our theories. Their meaning cannot be decided by correspondence because we simply cannot verify the relation between our ideas and some mind-independent states of affairs. Indeed, our knowledge is

not certain and Hume is happy to settle for probability. In his account projections acquire meaning as rules for making inferences.⁴⁸

The following summary of my argument in the previous chapter will show that Hume has plenty of conceptual tools for the evaluation of different kinds of projections. First, there is never a lack of competing projections within given inductive systems of perceptions, such as the view of the vulgar. We can derive a number of projections on the basis of the same principles about any given matter of fact. Hume believes that the vulgar share a basic understanding about the nature of the phenomena that they perceive. The vulgar can test, and agree upon, the results of given experiments only because of this shared system of beliefs. As its users, they can anticipate what inferences follow from given impressions because they tacitly agree on the set of *possible* inferences in any given case. If one among the *possible* projections is materialized, then the vulgar, without any scrutiny, endorse the commitment to read the world in terms of that projection. As a matter of fact, the consistency of accepted projections plays little role within the inductive system of the vulgar. For them, projections acquire meaning only because they enable us to construct hypotheses about future states of affairs. Thus, projections are meaningful because they guide our actions, and their truth cannot be tested. We cannot make conclusive decisions about the truth or falsity of any projection, but we can make decisions about the probability of given projections.

Secondly, Hume's analysis of the false philosophy, or representationalism, shows that it attempts to turn the inductive theory of the vulgar into a deductive system of perceptions. His critique of this attempt revolves around the claim that the false philosophy cannot be rendered consistent because it uses two sets of definitions for the

same phenomena. It endorses the vulgar definitions about the existence of mind-independent sensible entities, and supplements them with definitions of sense-perceptions. Thus the false philosophy can switch between these definitions at will. To preserve the appearance of a deductive theory, the false philosophy must embrace dubious ontological commitments. No discussion about projections makes sense within the theory of the false philosophy because it invents the correspondence to mind-independent states of affairs as the criterion of truth. We should not be disappointed, however, with this result because Hume assigns no value to the false philosophy. It is a theory that in principle cannot be rendered consistent. Moreover, it is not even a useful theory because the possibility of switching definitions makes it impossible to predict what inferences will follow from given definitions of perceptions.

Thirdly, Hume's analysis of the true philosophy allows for the existence of competing projections as derivations within different deductive systems of knowledge. Hume's conclusion that deductive systems of perceptions are merely systems of arbitrarily chosen definitions enables him to escape from the temptation to establish *one* encompassing deductive system of knowledge. Different definitions generate different projections within competing theories. We can claim the superiority of one projection over another only if we earn it by the analysis of the consequences that given definitions entail. Competing deductive systems of perceptions neither describe nor discover the theoretical properties and entities. They *construct* them according to given definitions. We should prefer projections that are constructed in a manner that can be rendered consistent within a given system of definitions. If two different projections can be constructed within different coherent systems of definitions, then we have no other

resources for preferring one above the other. Both projections might properly *define* the unperceivable properties. Yet, the projections of the deductive systems of perceptions cannot be *tested* because any alternative projection is inconsistent with a given system of definitions.

The claim that projectionism condemns us to eliminate normativity from our evaluations is false. Hume's theory about theories enables him to address the question of normativity without accepting the correspondence theory of truth. In the inductive system of perceptions we can choose between competing projections on the basis of confirmed experiments, while in the deductive systems of perceptions we can make a decision on the basis of the consistency of projections within a given system of definitions. In both cases projections have meaning as the rules for making inferences.

Let us now return to our examination as to how Hume's projectionism relates to Locke and Berkeley. The deciding issue here is the *status* of the view of the vulgar. Hume is very sceptical about the ontological commitments of both Berkeley and Locke, and he believes that, because of these commitments, both fail to pay the proper attention to the complexity and richness of the view of the vulgar.

The ontological positions of Locke and Berkeley can both be characterized as theories of the true philosophy within Hume's classification of theories. Locke's ontology of primary qualities is completely removed from the ontology of sensible objects. The definitions of primary qualities can be organized into a coherent fixed system, or a 'cosmical mechanism'. Yet, because this set of definitions is completely incompatible with the view of the vulgar, we cannot test its validity. We have to accept it solely on the basis of its coherence. But the same is equally true of Berkeley's ontology

of secondary qualities. If we define our perceptions as real objects, then we can design a coherent system of definitions, according to which the world is a continuum of related fleeting objects produced by God. Hume understands that we cannot rationally choose between these two views because each presents a consistent set of arbitrarily chosen definitions:

This is a topic, therefore, in which the profounder and more philosophical sceptics will always triumph, when they endeavour to introduce an universal doubt into all subjects of human knowledge and enquiry. Do you follow the instincts and propensities of nature, may they say, in assenting to the veracity of sense? But these lead you to believe, that the very perception or sensible image is the external object [Berkeley]. Do you disclaim this principle, in order to embrace a more rational opinion, that the perceptions are only representations of something external [Locke]? You here depart from your natural propensities and more obvious sentiments; and yet are not able to satisfy your reason, which can never find any convincing argument from experience to prove, that the perceptions are connected to any external objects. (E, 105-6)

Hume's point is clear: the ontological theories of Berkeley and Locke cannot be tested. This conclusion allows Hume to focus on the examination of the view of the vulgar, which must be taken as the benchmark in philosophical analysis.

In what follows I shall examine in detail the relations within the outlined framework of the ontological, the epistemological and the variance theses (see p. 164). First, I shall show that Hume implicitly endorses the variance thesis in his theory of abstract ideas. Secondly, an examination of Hume's attitude towards metaphysics will clarify his objections against the ontological thesis. Thirdly, I shall show that the fact that Hume's science of human nature applies solely to the view of the vulgar explains how projectionism can function without any ontological commitments.

3.6. Hume's Theory of Abstract Ideas

In the *Treatise* Hume completely endorses Berkeley's analysis of abstract ideas:

A great philosopher has disputed the receiv'd opinion in this particular, and has asserted, that all general ideas are nothing but particular ones, annexed to a certain term, which gives them a more extensive signification, and makes them recall upon that occasion other individuals, which are similar to them. As I look upon this to be one of the greatest and most valuable discoveries that has been made of late years in the republic of letters, I shall here endeavour to confirm it by some arguments, which I hope will put it beyond all doubt and controversy. (T, 17)

We have already seen (p. 159-63) how the controversy about Berkeley's anti-abstractionism is stirred by the fact that it provides an instrumentalist interpretation of science. According to Berkeley, the sciences do not explain mind-independent states of affairs. They do not discover the ultimate 'hidden causes', but merely present a systematic account of our experience.

Now it is my contention to show that for Hume the strength of Berkeley's anti-abstractionist arguments will only be fully recognized if it can be shown that these results *do not* undermine the value of the sciences. The sciences enable us to make inferences from known to unknown cases, and this predictive value alone makes scientific theories significant for the conduct of life. The task before Hume is to re-define the nature of science, which he believes can be accomplished by his projectionism. Hume has to make explicit the claim that abstract ideas are more than mere tools for organizing our experience. They also function as projections within given systems of perceptions, *i.e.* the users of these systems employ abstract ideas under the illusion that they properly define unperceivable properties.

Hume explains, "thou' the capacity of the mind be not infinite, yet we can at once form a notion of all possible degrees of quantity and quality, in such a manner at least, as,

however imperfect, may serve all the purposes of reflection and conversation.” (T, 18)

He agrees that, strictly speaking, Berkeley’s analysis of abstraction reveals that abstract general ideas have meaning only in relation to the set of related particular ideas that they represent. Therefore, the attempt of the sciences to define conceptual entities as being independent of the particular ideas from which they are constructed is futile. But Hume wants to add that abstract general ideas are also projections. We should recognize that in their employment we, as a matter of fact, operate with them *as if* they depict the meaning of given unperceivable properties. Abstract ideas are “in themselves individual, however they become general in their representation. The image in the mind is only that of a particular object, tho’ the application of it in our reasoning be the same, as if it were universal.” (T, 20) Hume advocates that we change how we understand scientific analysis, so that it is a self-referential activity. This will enable us to recognize *all* aspects of our employment of abstract general ideas, even the illusion that they properly define unperceivable properties.

Hume’s proposal to turn the scientific inquiry into a self-referential examination of theories is of a piece with his insight that the theory of meaning is conditioned by the employment of ideas. The employment of ideas has two elements -- an examination of the conceptual relations within a given system of perceptions, and an examination of our psychological attitudes about the application of given theories. The former question requires the analysis of theories, while the latter introduces the analysis of projections. We have to examine given theories and record the different ways in which particular ideas acquire universal signification. The examination of actual derivations within a given calculus enables scientists to understand both how given particular ideas acquire

the properties which lead to their employment *as if* they were general ideas, *and* the projections that are made by using them.

Hume explains this procedure in the following example:

[W]hen we mention any great number, such as a thousand, the mind has generally no adequate idea of it, but only a power of producing such an idea, by its adequate idea of the decimals, under which the number is comprehended. This imperfection, however, in our ideas, is never felt in our reasonings; which seems to be an instance parallel to the present one of universal ideas. (T, 22-23)

Hume insists that the idea of any great number can be *sufficiently* explained by actual derivations within a fully functional theoretical structure, such as the calculus in mathematics. The fact that we have no *adequate ideas* of large numbers does not undermine our ability to use these ideas *as if* we had distinct ideas of large numbers. Moreover, it does not undermine our ability to project the properties of numbers in our analyses.

Hume uses the same pattern also for the examination of the deductive theories of philosophers:

I shall employ the same principles to explain that *distinction of reason*, which is so much talk'd of, and so little understood, in the schools. ... To remove this difficulty we must have recourse to the foregoing explication of abstract ideas. 'Tis certain that the mind wou'd never have dream'd of distinguishing a figure from the body figur'd, as being in reality neither distinguishable, nor different, nor separable; did it not observe, that even in this simplicity there might be contain'd many different resemblances and relations. (T, 24-25, emphasis added)

As a matter of fact, we can and do derive several different ideas from any given impression. But how is this possible? "[W]e consider the figure and colour together, since they are in effect the same and indistinguishable; but still view them in different aspects, according to the resemblances, of which they are susceptible." (T, 25) According to Hume, we understand the meaning of our impressions by means of the actual

derivations that they warrant. Impressions do not exhibit any given, pre-determined properties.

[W]e accompany our ideas with *a kind of reflection*, of which custom renders us, in a great measure, insensible. 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 and substance. (T, 25, emphasis added)

If we may extrapolate from this example, the job of a scientist, according to Hume, is to investigate what *exactly* are the different aspects and resemblances of impressions that establish relations within any given theory.

The application of this position to the view of the vulgar is somewhat more difficult. If we argue that we can adequately define the meaning of a given idea by describing its employment within a system of perceptions, then we must oppose the view that is often attributed to Hume, namely, that the vulgar by an act of immediate perception *intuitively* grasp the *pre-determined* meaning of individual impressions.⁴⁹ Unless we can successfully oppose this traditional view, we would have to concede that the meaning of impressions can, in principle, be revealed by means *other than* the analysis of their functions within a system of perceptions. In the previous chapter I sought to overcome one obstacle that appeared to render futile my opposition to the widely-held position that Hume's theory of the mind is founded on the concept of immediate acquaintance. I there showed that the view of the vulgar is best understood as a theory, so that we can at least claim that there is a particular system in which perceptions of the vulgar are inevitably employed, *i.e.* the view of the vulgar is not merely passively acquired representation of mind independent regularities. Now we have just

considered an example in which Hume shows that the full meaning of impressions within the view of the vulgar can be defined only by the analysis of their functions within actual derivations. I am suggesting that what Hume says about this example should be generalized. That is to say, we have to accept that for Hume the full meaning of ideas can be detected *solely* by the analysis of their employment within given systems of perceptions.

We can support this claim by the following considerations. The view of the vulgar is the most widely used theory. Because it is so widespread, we routinely tend to overlook the fact that the meaning of perceptions is acquired. We don't have to remind ourselves of the origins of concepts used in the common-sense perception of the world because our acquaintance with their meaning is *presupposed* in their use:

I believe that every one, who examines the situation of his mind in reasoning, will agree with me, that we do not annex distinct and compleat ideas to every term we make use of, and that in talking of *government, church, negotiation, conquest*, we seldom spread out in our minds all the simple ideas, of which these complex ones are compos'd. 'Tis however observable, that notwithstanding this imperfection we may avoid talking nonsense on these subjects, and may perceive any repugnance among the ideas, as well as if we had a 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, emphasis added)

Moreover, we can test whether two cognitive agents share the same understanding of the meaning of a given concept by appealing to the tacit knowledge of inferences that the given idea warrants. For example, we can test the meaning of the idea of 'conquest' by constructing two incompatible claims. The shared body of tacit knowledge enables the users of the view of the vulgar to choose between the alternatives. Thus, the claim that

the meaning of concepts within the view of the vulgar is intuitively given does not follow from the fact that the use of concepts within that view presupposes our acquaintance with their meaning. The meaning of the idea of 'conquest' in the view of the vulgar can be defined in exactly the same manner as the meaning of the idea 'thousand' is defined in mathematics. Both terms are rendered meaningful by their actual employment within a given system of perceptions, and we readily employ these ideas regardless of the fact that their exact meaning cannot be specified.

The issues that revolve around Hume's analysis of abstraction are intimately connected. It will take some patience to untangle this conceptual cluster. Let us first try to give a concise description of Hume's position on the connection between his analysis of abstraction and the new system of the sciences. We should view him as facing the following legacy of Berkeley's anti-abstractionism:

- (1) Berkeley's analysis of abstraction reveals that general ideas acquire meaning as representations of a given related set of particular ideas;
- (2) This conclusion undermines the traditional view about the sciences, according to which the sciences discover and define unperceivable properties of the world;
- (3) According to Berkeley, the sciences merely supply a regular account of experience.

Hume believes that Berkeley's instrumentalism treats the analysis of the employment of ideas too narrowly, so he suggests that:

- (4) We should consider all aspects of the manner in which abstract ideas are employed. When we do so we recognize that the illusion about the explanatory significance of abstract ideas is an integral part of their meaning. Abstract ideas are used as projections.
- (5) This result can be applied to the examination of the sciences in the following manner. Instead of trying to *define* unperceived entities and properties, scientific theories should examine *how* ideas function within a calculus of related projections.

It appears that Hume's examination of the theory of the vulgar and the theories of philosophers is guided by this methodological insight. Particular ideas acquire meaning

only within the context of their actual employment. When we know exactly how perceptions function, then and only then do we *fully* understand their meaning.

This interpretation of Hume's analysis of abstract ideas challenges more entrenched interpretations of his philosophy. Let us now consider a competing interpretation of the same issue. According to this widely held interpretation, Hume presents a unified theory of the mind that relies on immediate perception. We are immediately acquainted with our impressions, which provide us with the building blocks of *all* subsequent operations of the mind. Impressions are copied in our ideas. The process of copying is a wired-in and unintentional cognitive operation that introduces new and unattached cognitive entities that are assembled together by the associations of resemblance, contiguity and causation. This view of Hume's theory of perception in turn leads to two conclusions about the goals and the scope of Hume's theory. First, Hume's philosophy is seen as a direct attack against metaphysics. For doesn't Hume maintain that any ideas that cannot be traced back to impressions are meaningless? And isn't this an attack on metaphysics? Secondly, the foundation of each and every mental activity is traced back to the intuitive perception of the vulgar. And this intuitive perception is seen as alone providing the criterion that establishes the meaningfulness of concepts.

In what follows I shall show that this 'traditional' interpretation of Hume's theory of the mind is inadequate. I shall examine each conclusion in turn, which will enable me to supply further details of Hume's projectionism.

3.7. Hume's Philosophy and Metaphysics

The transformation that Hume makes in the system of the sciences continues Locke's attempt to undermine the view that all sciences can be reduced to a set of maxims, or self-evident principles. Hume's "science of human nature" is *not* the 'first philosophy'. Hume's science of human nature examines only one theory, or the manner in which impressions are related to ideas *in the view of the vulgar*. He tries to show that in our daily lives we comprehend the world in terms of three kinds of associations – resemblance, contiguity, and causation. But Hume's science of man has nothing to do with particular sciences. The special sciences will have their own theories to examine, which need not include the associations by resemblance, contiguity or causation. For Hume the new system of the sciences is merely the aggregate of all theoretical constructions that are used by men. Locke believed that his examination of our understanding establishes three different domains in which our sciences can be employed (see p.116). Hume makes Locke's claim more specific by arguing that we should examine the theoretical constructions themselves because they provide meaning to things that we project unto the world. We are not to examine *mind, matter, substance, God*, or any other subject on its own. We can have scientific knowledge about the properties of any idea only in relation to the inferences that it generates. In this way, *actual* theories themselves and their employment become the subject matter of the sciences:

'Tis evident, that all the sciences have a relation, greater or less, to human nature; and that however wide any of them may seem to run from it, they still return back by one passage or another. Even *Mathematics, Natural Philosophy, and Natural Religion*, are in some measure dependent on the science of Man; since they lie under the cognizance of men, and are judged of by their powers and faculties. 'Tis impossible to tell what changes and improvements we might make in these sciences were we thoroughly acquainted with the extent and force of human understanding,

and cou'd explain the nature of ideas we employ, and of the operations we perform in our reasonings (T, Intro. xv, emphasis added)

The new system of the sciences is unified only insofar as the theories, which we use in discussing various subjects, are employed by men. There are no significant lateral connections between Hume's study of the view of the vulgar, on the one hand, and Mathematics, Natural Philosophy, and Natural Religion, on the other hand. Hume believes that the ultimate task of the new system of the sciences is to enumerate and examine *all* particular theories that are actually employed by men. He sees his role in this great project to be first and foremost in providing an analysis of the theory of the vulgar.

Hume's intention of establishing a new system of the sciences is closely related to his analysis of abstraction. He agrees with Berkeley that it is impossible to assign any meaning by denotation to abstract general ideas as Locke and others have tried. If we cannot assign any meaning by denotation to abstract general ideas, then we have no hope of defining unperceivable entities, such as absolute time and space, matter, triangles in general *etc.* If we cannot define unperceivable entities, then we cannot justifiably explain new kinds of facts. Berkeley does not deny that particular ideas in the actual operations of the mind acquire a universality that remains relative to a given system of perceptions, *i.e.* we can use the idea of a particular triangle to represent different kinds of triangles. Particular ideas in given contexts can represent a given set of other ideas. But Berkeley does not believe that given systems of ideas enable us to make inferences from known cases to unknown states of affairs. That is to say, Berkeley does not believe that the use of general ideas warrants the claim that the future will resemble the past. Hume modifies Berkeley's analysis of abstract ideas by insisting that, as a matter of fact, within

functional systems of perceptions particular ideas are also used to make projections. Hume recognizes that particular ideas are used to represent a given set of related ideas, *and* that the users of these systems are under the illusion that these ideas define unperceivable entities. Hume believes that this added feature of the meaning of general ideas enables us to anticipate new kinds of facts because of our commitment to use the same projections in the future. Berkeley's claim that the future might not resemble the past is thus rendered irrelevant in a particular context. Whatever the future will bring, we shall define it in terms of given projections. Thus we can make inferences from known cases to unknown states of affairs. We cannot, however, make any absolutely certain ontological commitments about the existence of the defined unperceivable entities. Our derivations within any given system of projections are merely probable.

Is Hume's position a challenge to metaphysics? We have to be very careful when we try to answer this question. Hume recognizes that his discussion about metaphysical theories involves at least two elements. First, metaphysical theories are theories. Secondly, metaphysical theories are believed to be fundamental in relation to other theories. In what follows I shall show that Hume does not hesitate to investigate the theoretical features of metaphysical systems, and even proposes and defends metaphysical maxims of his own. Certainly, Hume believed that metaphysical theories deserve to be examined and philosophers don't have to shy away from metaphysical debates. He objects, however, to the claim that metaphysical theories are *philosophia prima*. This is an attack on reductionism. Hume, as a pluralist, believes that all theories are of the same nature (see p.31). But in his eyes any failure to establish a consistent metaphysical theory, or indeed any success in accomplishing this task, has *no* implications for any other

theory. As he once remarked: "If my philosophy, therefore, makes no addition to the arguments of religion, I have at least the satisfaction to think it takes nothing from them, but that every thing remains precisely as before." (T, 250-1) Hume's new system of the sciences does not at all eliminate metaphysics. What he does do, however, is place metaphysical theories on the same footing as other theories, such as the sciences and the view of the vulgar.

Let us provide an illustration of the claim that Hume is a metaphysician in the sense of treating metaphysics as yet another theory, and that he has been given less credit than he deserves for his ability to deal with metaphysical issues. In what follows I shall examine Hume's attempt to defend a metaphysical maxim. I shall show that the pattern of this argument illustrates Hume's views about theories and explains the dynamics of the transition from particularity to generality when a particular perception, that merely has the property of existence, is used as if it was an abstract idea in its application within a given system of perceptions.

In *Of the immateriality of the soul* Hume writes:

I deliver a maxim, which is condemn'd by several metaphysicians, and is esteem'd contrary to the most certain principles of human reason. This maxim is *that an object may exist, and yet be no where*: and I assert, that this is not only possible, but that the greatest part of beings do and must exist after this manner. (T, 235)

The wording of this passage deserves attention. There is no irony in it. Hume truly believes that one can construct an argument that makes this position consistent. Let us follow his arguments. Hume presents the arguments of the true philosophy -- these arguments cannot be answered and yet they cannot be believed either. If one *has to* deal with the issue about the origins of ideas, then the only position that can be rendered

consistent is the view that perceptions have the property of existence. The property of existence does not entail any other property. It is neither *external* existence, nor *extended* existence. Perceptions merely exist. This cannot be denied. Any additional properties are relational, and can be comprehended only in relation to other perceptions. Moreover, the relation within the system of perceptions *defines* these added properties. If we have to add additional properties to the original property of existence in any given perception, then we should be prepared to explain their relations within the system of perceptions.

Hume treats metaphysics as a system of definitions. What is it for an object to be nowhere? This calls for a *definition*, which Hume then gives: "An object may be said to be no where, when its parts are not so situated with respect to each other, as to form any figure or quantity; nor the whole with respect to other bodies so as to answer to our notions of contiguity or distance." (T, 235-6) Hume's argument is in fact simply a manipulation with certain definitions. We cannot doubt something that is in existence -- "what is, is." Now, if we want to add other properties, such as the property of quantity, figure, contiguity, extension, *etc.*, to our initial perception, we have to define them. Hume argues that all properties, with the single exception of the property of existence, can be defined only in the system of perceptions. Now, it is obviously possible for a perception to be in a system of perceptions within which the definitions of extension and quantity would not apply. In such a system we cannot justifiably claim that a given perception has, for example, the property of extension. Thus, it is possible for the object *merely* to exist:

[T]his evidently is the case with all our perceptions and objects, except those of the sight and feeling. A moral reflection cannot be plac'd on the right or on the left hand of a passion, nor can a smell or sound be either of a circular or a square figure.

These objects and perceptions, so far from requiring any particular place, are absolutely incompatible with it, and even the imagination cannot attribute it to them. (T, 236)

Hume believes that his position is clearly illustrated by the perceptions of taste, smell and sound. Nobody in his right mind would argue that the taste of a fig (T, 236-7) is located, for example, on the right side of the kernel.

More important questions, however, arise if Hume wants to claim that the metaphysical maxim -- that an object may exist and yet be nowhere -- is universally applicable to all perceptions. Hume has to apply the same method to the ideas of the sight and touch, as well as to the existence of perceptions *outside* the mind. Let us first discuss the latter issue. Is it possible for the perceptions to exist outside of one's mind? Hume faces this question in the spirit of the true philosophy. We have to define what is the property of 'being in one's mind', and examine if this property is universally applicable to all perceptions:

[W]e may observe, that what we call a mind, is nothing but a heap or collection of different perceptions, united together by certain relations, and suppos'd, tho' falsely, to be endow'd with a perfect simplicity and identity. Now as every perception is distinguishable from another, and may be consider'd as separately existent; it evidently follows, that there is no absurdity in separating any particular perception from the mind; that is, in breaking off all its relations, with that connected mass of perceptions, which constitute a thinking being. (T, 207)

Hume maintains that in the system of definitions one can maintain that perceptions can exist outside of one's mind. Can we think of a perception as merely existent? Yes. Can we think of a perception being outside of any system of perceptions? Yes. Let us apply the definition of the mind in the present case. *If* a perception can be thought of as completely independent of any system of perceptions, and *if* we define the mind as a

system of perceptions, *then* we can also justifiably claim that perceptions may exist independently of one's mind.

With this metaphysical position Hume reaches a conclusion that simply does not fit with the ontological view of the false philosophy. How is it possible for a perception to exist independently of the mind? If it is not in the mind, where is it? Hume is quite aware that any attempt to clarify this position would lead to yet more surprising claims. He does not, nevertheless, turn down this metaphysical discussion because he wants to use it to prove an important philosophical conclusion, namely, that no ontological position -- neither the 'naïve' realism of the vulgar nor the representationalism of the false philosophy -- should be accepted before a philosophical examination of the contents of the mind. Ontological beliefs are *results* of constructive efforts of the mind. Whatever we believe to be the case about the world, as a matter of fact, is derived within a given system of perceptions, and later projected unto the world. The vulgar hold the view of 'naive realism' because it is generated by the resources of a given system of perceptions. Similarly, the claims about the 'double' existence of objects are derived from the theory of the false philosophy. Hume's conclusion also eliminates the usual expectation that ontological claims are necessary. Ontological claims are merely probable. If something is conceivable, it is also possible. Particular impressions acquire meaning solely within a given system of perceptions. Ontological claims can be defended only by the examination of the relations within the system of perceptions in terms of which given claims are constructed.

Hume has no objections against philosophers who construct and defend metaphysical theories. As a matter of fact, he himself comes up with such a theory. He

attacks only the expectation that any metaphysical theory can claim the status of the 'first' philosophy: "There are no foundations for any conclusion *a priori*, either concerning the operations or duration of any object, of which 'tis possible for the human mind to form a conception. Any object may be imagin'd to become entirely inactive, or to be annihilated in a moment; and 'tis an evident principle, *that whatever we can imagine, is possible.*" (T, 250) Hume's position entails the claim that the conclusions generated by every imaginable system of perceptions are possible. Ontological claims here are *theorems*.

Let us now observe what ontological claims can be derived from Hume's maxim that it is possible for an object to exist and yet be nowhere. Hume argues that his metaphysics enables him to defend the belief of the vulgar that objects have continued and independent existence. To do this he requires two definitions. First, "existence outside the mind" is defined as the continued and independent existence of objects:

'Tis certain, that almost all mankind, and even philosophers themselves, for the greatest part of their lives, take their perceptions to be their only objects, and suppose, that the very being which is intimately present to the mind, is the real body or material existence. 'Tis also certain, that this very perception or object is suppos'd to have a continu'd uninterrupted being, and neither to be annihilated by our absence, nor to be brought into existence by our presence. When we are absent from it, we say it still exists, but we don't feel, we do not see it. (T, 206-207)

Secondly, objects are defined as particular collections of perceptions:

If the name of *perception* renders not this separation from a mind absurd and contradictory, the name of *object*, standing for the same thing, can never render their conjunction impossible. External objects are seen, and felt, and become present to the mind; that is, they acquire such a relation to a connected heap of perceptions, as to influence them very considerably in augmenting their number by present reflexions and passions, and in storing the memory with ideas. The same continu'd and uninterrupted Being may, therefore, be sometimes present to the mind, and sometimes absent from it, without any real or essential change in the Being itself. An interrupted appearance to the senses implies not necessarily an interruption in the existence. The supposition of the continu'd existence of sensible objects or perceptions involves no contradiction. (T, 207-8)

According to Hume, there is at least one element in the view of the vulgar that does not involve a contradiction, namely, the claim that objects have continued and uninterrupted existence. But this conclusion cannot be extended to all conclusions generated within the theoretical framework of this theory.

Hume describes the world of the vulgar as consisting of both 'internal' and 'external' existences. Hume observes that the vulgar establish clear boundaries between the 'internal' existences, such as pains, pleasures and sounds, and the 'external' existences, such as sensible objects in general. Moreover, the vulgar attach their perceptions of smell, taste and colours to their perceptions of objects, or 'external' existences. The vulgar assign continued and uninterrupted existence solely to the perceptions of 'external' existences. The theory of the vulgar generates the belief that the objects exist even if nobody perceives them. The perceptions of 'internal' existence, however, are believed to be completely dependent on the act of perception. Here the vulgar construct the claim that pains and passions, for example, disappear when they are not actually perceived. Hume believes that one element of this view, namely, the claim that objects have continued and uninterrupted existence, is consistent. Yet, he is also aware that the fully developed view of the vulgar will remain inconsistent (p. 53).

The view of the vulgar is different from that of the false philosophy, which assigns to the qualitatively identical set of perceptions both internal *and* external, or a 'double' existence. Here the same perception of an object is believed to have an uninterrupted and continued 'external' existence as well as an interrupted 'internal'

existence (p. 63). Hume argues that this position can be neither justified nor rendered consistent:

[A]s no beings are ever present to the mind but perceptions; it follows that we may observe a conjunction or a relation of cause and effect between different perceptions, but can never observe it between perceptions and objects. 'Tis impossible, therefore, that from the existence or any of the qualities of the former, we can ever form any conclusion concerning the existence of the latter, or ever satisfy our reason in this particular. (T, 212)

The 'double' existence in the view of the false philosophy applies only to a limited set of perceptions, *i.e.* perceptions of primary qualities. Sounds, colours and taste, as well as the perceptions of pains and passions are assigned here only 'internal' existence. Much like the vulgar, the false philosophy generates beliefs that 'internal' existences are completely dependent on the fact of perception, and literally disappear if they are not perceived. (T, 197)

What competing position can Hume offer? I shall argue that Hume observes that neither the view of the vulgar, nor the false philosophy offers any sound assessment of the relations between the perceptions of the 'internal' existence. He finds that there is no contradiction in assigning an uninterrupted and continued existence to the perceptions of the 'internal' existences as well. Emotions, pains and, especially, passions can and should be allowed to possess the same status as perceptions of 'external' existences. Hume finds that there are two arguments used to differentiate between 'external' and 'internal' existences. 'External' existences are supposed to be involuntary and more forceful. He argues that neither of these arguments should be endorsed:

We may observe, then, that 'tis neither upon account of the involuntariness of certain impressions, as is commonly suppos'd, nor of their superior force and violence, that we attribute to them a reality, and continu'd existence, which we refuse to others, that are voluntary and feeble. For 'tis evident our pains and

pleasures, our passions and affections, which we never suppose to have any existence beyond our perception, operate with greater force, and are equally involuntary, as the impressions of figure and extension, colour and sound, which we suppose to be permanent beings. (T, 194)

By trying to show that the vulgar belief about the uninterrupted 'external' existence of objects does not entail a contradiction, Hume defines the procedure by which we can define a reality and mind-independent existence. But he observes that our 'internal' existences could well be *real* in the same metaphysical sense as are 'external' existences in the view of the vulgar. We can provide any metaphysical justification to the claim about the independent and uninterrupted 'external' existence of objects only if we construct a system of definitions by using the maxim that an object may exist and yet be nowhere. We can consider this belief of the vulgar to be consistent if and only if we adopt Hume's metaphysics. And Hume is aware that the same metaphysical argument could assign the status of uninterrupted and independent existence also to our 'internal' existences, such as passions and pains. If the vulgar can assign uninterrupted and continued existence to a given set of perceptions, there is no *a priori* reason that can prohibit the true philosopher from assigning uninterrupted and continued existence to another set of perceptions. Ontological claims are not necessary. Their probability depends on features of a system that generates these beliefs. The true philosophy can provide a solid defense for the claim that our passions continue to exist even if they are not perceived.

Hume develops a metaphysical theory in terms of which he can talk about the uninterrupted existence of both 'external' and 'internal' perceptions. In Hume's

metaphysics passions have the same status of uninterrupted and continued existences, as do physical objects in the view of the vulgar:

When I view this table and that chimney, nothing is present to me but particular perceptions, which are of a like nature will all the other perceptions. This is the doctrine of philosophers. But this table, which is present to me, and that chimney, may and do exist separately. This is the doctrine of the vulgar, and implies no contradiction. *There is no contradiction, therefore, in extending the same doctrine to all the perceptions.* (T, 634, emphasis added)

Hume argues that we can understand the meaning of “perceptions” without presupposing that they inhere in either a material or immaterial substance. The expectation that the nature of perceptions is properly understood by defining the substance in which they inhere should be abandoned. The meaning of perceptions can be understood only by considering the manner in which perceptions form particular systems.

This analysis of Hume’s metaphysical arguments proves that for him our perceptions acquire meaning *solely* in terms of the functions that they perform in given systems of perceptions. This claim strongly suggests that the ‘traditional’ view (see p.177) of Hume’s theory of the mind is inadequate. If I am right, then Hume *does not* present a unified theory of the mind that relies on immediate perception because for him the meaning of our perceptions can be specified only by the functions that they perform in a given system of perceptions. Thus our perceptions have no pre-established meaning that is somehow given by the act of immediate perception. Moreover, it appears that Hume *does not* believe that we are immediately acquainted with our impressions, which provide us with the building blocks of *all* subsequent operations of the mind. For him, qualitatively identical perceptions acquire different meanings within different systems of perceptions.

Hume's attitude towards metaphysics is complex. He is ready to do metaphysics, but unwilling to endorse its status as 'first' philosophy. He realizes that metaphysics can be a deductive discipline. If we define a set of axioms, then it is, in principle, possible to derive consistent theorems from them. Yet, he also believes that theorems in metaphysics are derived from *postulated* assumptions. This latter point destroys the ambition of metaphysicians to claim that their theories are derived from *self-evident* axioms that reveal the ultimate foundations of the universe. Without this added feature metaphysical theories lose their special status in relation to other systems of perceptions. And Hume can safely maintain that ontological claims derived within a given metaphysical system will leave unaffected the ontological claims derived within any other system of perceptions.

3.8. The Object of the Science of Human Nature

In this section I shall highlight another aspect of my disagreement with the following position (see p.177) about the nature of Hume's philosophy. According to this position, (1) Hume's philosophy is an attack on metaphysics, and (2) Hume allegedly employs the intuitive acquaintance with our impressions as the only criterion that establishes the meaningfulness of concepts. In the previous section I have shown that Hume's attitude towards metaphysics is more complex than previously thought. And our understanding of the complexity of Hume's position should redefine our attitude towards Hume's alleged attack on metaphysics. In this section I shall discuss the second element of the view that for Hume the impressions of the vulgar are the building blocks of experience, *i.e.* I shall attack the expectation that Hume provides a unified theory of the mind. If I can show that Hume can be seen as a pluralist about theories, then we will have further evidence that he might not endorse the theory of meaning by denotation. As previously, I believe that my analysis will bring to the fore new elements of Hume's projectionism.

Hume's science of human nature is an application of his projectionism. He introduces the association of ideas by pointing out that the mental properties from which the association of ideas is derived are not permanent. These properties can change from one theory to another. Hume's pluralism about theories is here presupposed. For when Hume is discussing the associations of ideas, he has in mind only the view of the vulgar. The uniting principle of ideas in the view of the vulgar is for him to become the subject *solely* for his science of human nature. Hume's examination reveals that the 'naïve

realism' of the vulgar will always assign to *perceptions* the properties that generate at least three associations:

Were all ideas entirely loose and unconnected, chance alone wou'd join them; and 'tis impossible the same simple ideas should fall regularly into complex ones (as they commonly do) without some bond of union among them, some associating quality, by which one idea naturally introduces another. This uniting principle among ideas is not to be consider'd as an inseparable connexion; for that has been already excluded from the imagination: nor yet are we to conclude, that without it the mind cannot join two ideas; for nothing is more free than that faculty: but we are only to regard it as a gentle force, which commonly prevails; ... nature in a manner pointing out to every one those simple ideas which are most proper to be united into a complex one. The qualities, from which this association arises, and by which the mind is after this manner covey'd from one idea to another, are three, *viz.* Resemblance, Contiguity in time or place, and Cause and Effect. (T, 10-1)

Without a doubt this is the core of Hume's science of man. But most importantly, Hume's discussion about the science of man does not entail any consequences for other theories, such as the true and the false philosophy. These theories can assign to perceptions properties that might differ from the associations of resemblance, contiguity and causation.

I shall discuss two issues that require clarification. First, there is some confusion about the domain of Hume's science of man. Does Hume believe that resemblance, contiguity and causation are at the bottom of *all* cognitive activities of the mind? Secondly, I shall examine Hume's analysis of the simplicity and complexity of perceptions. Should we deal with this issue in ontological terms? That is, should we consider a perception to be simple or complex if and only if it has one or many properties? Or, is it rather a *functional* characterization by which we describe the *use* of a given perception within a system of perceptions? That is, should we consider a

perception to be simple or complex by enumerating the functions that it performs in a given system of perceptions?

The confusion about the domain of Hume's science of man arises from the assumption that Hume has a unified theory of the mind, which incorporates two elements of Hume's account of perception -- the so-called Copy Principle and the association of ideas. In chapter 2 I have shown that Hume employs a particular standard in his discussion about the projections of the vulgar, the false and the true philosophy. According to my argument, the Copy Principle belongs to the conceptual tools for Hume's analysis of theories, and the association of ideas defines only the projections of the vulgar. Thus, the Copy Principle and the association of ideas are conceptually independent elements of Hume's theory of perceptions. Let me recast my position.

On the one hand, the initial distinction of perceptions into impressions and ideas, as well as the definition of the Copy Principle by which impressions and ideas are related, applies to Hume's theory about theories. We can discuss various constructions of the mind, such as the theory of the vulgar and the theories of the philosophers, only if we have agreed on the fundamental structure of our examination. Hume believes that our mind can deal solely with perceptions. The domain of our theories is thus limited to a particularly defined set of impressions. This framework excludes any considerations about unperceived entities from the discourse, and allows us to examine how particular ideas acquire the properties which make them function *as if* they are general ideas, which define some unperceived, and even unperceivable, entities.

On the other hand, the associations of ideas presents us with a finished product -- Hume's explanation of the view of the vulgar. We are aware of particular ideas. These

particular ideas, however, are transformed by the associations of resemblance, contiguity and causation into many systems that generate beliefs about one's identity, the existence of external objects, the history of the Roman Empire, *etc.* All these beliefs are constructed by the same set of operations. As Hume explains:

[The mind] having found, in many instances, that any two kinds of objects, flame and heat, snow and cold, have always been conjoined together; if flame or snow be presented anew to the senses, the mind is carried by custom to expect heat or cold, and to *believe*, that such a quality does exist, and will discover itself upon a nearer approach. This belief is the necessary result of placing the mind in such circumstances. It is an operation of the soul, when we are so situated, as unavoidable as to feel the passion of love, when we receive benefits; or hatred, when we meet with injuries. All these [cognitive] operations are a species of natural instincts, which no reasoning or process of the thought and understanding is able, either to produce, or to prevent. (E, 30)

Yet, the set of beliefs of the vulgar is not identical with the set of all possible beliefs. We have scientific and philosophical convictions that clearly are not part of the view of the vulgar. For Hume, the conclusions within these latter disciplines follow by necessity from derivations within deductive systems of perceptions. Hume fails to set clear boundaries between the domain of the theory of the vulgar and other theories, such as the false philosophy and the true philosophy, so we have to be extremely careful in interpreting Hume's position.

My claim that, for Hume, the Copy Principle and the association of ideas are conceptually independent principles can receive support from two sources. First, consider the *organization* of Hume's arguments about perception. Part I of the Book I of the *Treatise* is quite eclectic. Hume here introduces the elements of his philosophy and discusses a variety of topics -- abstract ideas, modes and substances, relations of ideas, the associations of ideas, *etc.* Moreover, he also sketches his initial position about the

role of imagination and memory in our cognition. How should we approach Hume's arguments here? Most scholars would argue that in Part I Hume attempts to define the *nature* of ideas, *i.e.* to explain their *essence*. Accordingly, it is often assumed that Part I outlines Hume's theory of the mind. But why should we expect that in Part I Hume gives a unified account of the mind? Isn't it possible that Hume here merely provides a list of the elements of his philosophical analysis? Why should we rule out the possibility that Hume's further examinations of various constructions of the mind provide different explanations to different systems of perceptions? Hume gives this Part of the *Treatise* a very loose title "Of ideas; their origin, composition, abstraction, connexion, & c." -- which suggests that his intention here indeed is merely to provide a *list* of elements that he will later use in his arguments. The choice of an interpretive strategy at this point is of importance. For if we believe that Hume in Part I of the *Treatise* presents a *unified theory* of the mind, then we have to *define* it. Moreover, by defining Hume's theory of the mind, we have to show how his analyses of various theories can be reduced to this fundamental set of operations. Thus, if we believe that Hume has a *unified theory* of the mind, then we have no choice but to argue that *all* constructions of the mind can be reduced to the application of the associations of ideas. On the other hand, if we believe that Hume merely supplies the initial description of the essential elements of his subsequent arguments, then the question as to what Hume's theory of the mind is never arises. And we don't have to expect that scientific, or metaphysical theories should be reduced to the application of the associations of ideas.

I am maintaining that the latter option should be adopted, so that the need to define Hume's account of the mind *in general* does not arise. Hume has no *unified*

theory of the mind. For Hume the mind is a collection of different systems of perceptions. After all, Hume tells us that we can go to a study and, for some period of time, become immersed completely into the study of philosophical issues. (T, 270-1) Moreover, Hume tells us also that the systems of perceptions that constitute the mind can change over time. (T, 261) And if we are faithful to Hume's claim that "the true idea of the human mind, is to consider it as a system of different perceptions, or different existences, which are link'd together by the relation of cause and effect, and mutually produce, influence, and modify each other," (T, 261) then we cannot rule out the possibility that the same mind can be defined by two different systems of perceptions over time. By considering the systems of perceptions that define our minds as replaceable modules we can make a plausible case for the claim that Hume is a pluralist about theories. I believe that the opposite claim that Hume has a *unified theory* of the mind arises from a basic misunderstanding of the organization of Hume's arguments, and puts us on the wrong footing.

The conceptual difference between the Copy Principle and the association of ideas is transparent in Hume's presentation of his position in both the *Abstract* and the *Enquiry*. For that reason we should prefer these sources when we are discussing Hume's views about our systems of perceptions. Thus, in the *Abstract* Hume describes his argument in the *Treatise* as follows:

Our author begins with some definitions. He calls a *perception* whatever can be present to the mind, whether we employ our senses, or are actuated with passion, or exercise our thought and reflection. ... The first proposition he advances, is, that all our ideas, or weak perceptions, are derived from our impressions, or strong perceptions, and that we never think of any thing which we have not seen without us, or felt in our own minds. ... Our author thinks, that no discovery could have been made more happily for deciding all controversies concerning ideas than this,

that impressions always take the precedence of them, and that every idea with which the imagination is furnished, first makes its appearance in a correspondent impression. (A, 647-8)

There is no mention of a *unified theory* of the mind. Hume simply outlines the framework for his subsequent analyses of theories. Similarly, in the *Enquiries* Hume clearly differentiates between the Copy Principle and the association of ideas by discussing them separately in Sections II and III.

Secondly, the claim that the theory about the association of ideas applies solely to the view of the vulgar can be confirmed by the examination of the meaning of 'matters of fact'. For Hume, 'matters of fact' are not mind-independent relations between objects, or states of affairs.⁵⁰ He believes that 'matters of fact' form a subset in the set of all possible theoretical constructions of the vulgar. More precisely, 'matters of fact' are the theoretical constructions of the vulgar that are believed to be true, *i.e.* they are projections. Realizing this enables us to make yet another step towards the confirmation that Hume is a *pluralist* about theories. If 'matters of fact' do not identify mind-independent relations within the world, then we can draw a sharp distinction between ontological claims that are constructed as theorems within the theory of the vulgar and within the sciences. If for Hume 'matters of fact' are merely the constructions of the vulgar, then they fail to provide any objective and uniform grounds for the subsequent analyses of mind-independent states of affairs in sciences and philosophy. The only science that deals with 'matters of fact', or the theoretical constructions of the vulgar, is the science of man. And this science does not describe 'matters of fact'. It explains the principles by which the vulgar construct their 'matters of fact'. Other theoretical structures, such as the scientific theories, and the theories of the true philosophy, are not

tioned to what Hume defines as 'matters of fact'. Consequently, the "science of man" is peculiar to the theory of the vulgar, and is *not* a unified and encompassing theory of the mind.

In support of this conclusion consider the following passage:

Suppose a person present with me, who advances propositions, to which I do not assent, *that Ceasar dy'd in his bed, that silver is more fusible then lead, or mercury heavier than gold*; 'tis evident, that notwithstanding my incredulity, I clearly understand his meaning; and form all the same ideas, which he forms. My imagination is endow'd with the same powers as his; nor is it possible for him to conceive any idea, which I cannot conceive; or conjoin any, which I cannot conjoin. I therefore ask, Wherein consists the difference betwixt believing and disbelieving any proposition? (T, 95)

In this thought-experiment Hume shows (1) that there is an inherent cognitive mechanism that generates all of the cognitive constructions of the vulgar; and (2) that within the set of all possible constructions of perceptions that can be derived from the theory of the vulgar, there is a subset that contains only projections.

Now we can see what is wrong with the traditional assumption that Hume has a unified theory of the mind: it entails that there is *only one way* in which our minds form particular systems, or that the associations of ideas are at the bottom of each and every system of perceptions. This implication can be shown to be false. For Hume clearly states that a deductive system of perceptions is an alternative to the view of the vulgar.

The answer [to the question of the immediately preceding quotation] is easy with regard to propositions, that are prov'd by intuition or demonstration. In that case, the person, who assents, not only conceives the ideas according to the proposition, but is necessarily determin'd to conceive them in that particular manner, either immediately or by the interposition of other ideas. Whatever is absurd is unintelligible; nor is it possible for the imagination to conceive any thing contrary to a demonstration. (T, 95)

As we have already seen, this is the case with the theory of the true philosophy. But Hume is clear that the view of the vulgar stands in sharp contrast to *any* deductive system of perceptions:

But as in reasonings from causation, and concerning matters of fact, this absolute necessity cannot take place, and the imagination is free to conceive both sides of the question, I still ask, *Wherein consists the difference betwixt incredulity and belief?* since in both cases the conception of the idea is equally possible and requisite. (T, 95)

This distinction suggests that, according to Hume, 'matters of fact' are derivations *only* within the view of the vulgar.

Now let us show that the 'matters of fact' form a subset within the set of possible derivations from the theory of the vulgar. Within this theory we can derive contrary propositions, such as "Ceasar was killed", and "Caesar died in his bed". We construct both propositions by the same operations. Thus, the question about our preferences in choosing one proposition over another cannot be solved in the same manner as in a deductive system. We cannot decide which proposition should be accepted merely by appealing to the criterion of consistency. Yet, as a matter of fact, we accept one proposition and deny the other. Hume argues that our choice in such cases is based upon how these propositions *appear* to the mind:

If one person sits down to read a book as a romance, and another as a true history, they plainly receive the same ideas, and in the same order; nor does the incredulity of the one, and the belief of the other hinder them from putting the very same sense upon the author. His words produce the same ideas in both; tho' his testimony has not the same influence on them. The latter has a more lively conception of all the incidents. He enters deeper into the concerns of the persons: represents to himself their actions, and characters, and friendships, and enmities: He even goes so far as to form a notion of their features, and air, and person. While the former, who gives no credit to the testimony of the author, has a more faint and languid conception of all these particulars. (T, 97-8)

The same system of perceptions is a projection, or a 'matter of fact', for an individual who believes it, while it remains a fiction for someone who understands it clearly, yet, with some degree of indifference. For Hume, 'matters of fact' are not tied to the mind-independent world, but to a system of perceptions that is constructed by the application of the theory of the vulgar.

Let us be clear as to what this conclusion implies. First, if 'matters of fact' are projections that form a subset of the possible cognitive constructions derived by the application of the theory of the vulgar, then we don't have to expect that metaphysics and indeed scientific theories in general, supervene upon the projections of the vulgar. Hume's metaphysical maxim that "objects may exist, and yet be nowhere", for example, is consistent and as such can be true about the world. Yet, according to this reading, it is not in the relation of supervenience with the 'matters of fact'. 'Matters of fact' *themselves*, or projections constructed by the view of the vulgar, might be true about the world. The philosophically significant point here is that, for Hume, 'matters of fact' do not identify a collection of mind-independent states of affairs. Therefore, he undermines the conceptual possibility of reductionism. Secondly, if the distinction between mind-independent states of affairs and Hume's definition of 'matters of fact' is granted, then we can be more confident about Hume's pluralism about theories. The associations of ideas should not be considered as being at the bottom of *all* cognitive activities of men. It is merely the *most common* way in which the mind interprets the world. But it is not the *only* way in which our minds operate. Hume's pluralism about theories preserves the importance and validity of deductive systems of perceptions.

But how does Hume bridge the gap between mind-independent states of affairs and our projections that can be rendered meaningful only in terms of their functions within a given system of perceptions? To answer this question we need to clarify Hume's position about the nature of immediate experience. The claim that the Copy Principle and the associations of ideas perform different conceptual functions shows that Hume does not aim to establish a unified theory of the mind. This claim also makes redundant any attempt to define Hume's theory of the mind on the basis of our immediate acquaintance with impressions. If the traditional view about the role of immediate perception in Hume's account of our systems of perceptions cannot be accepted, then we have to specify his position about the nature of the relation between our minds and the mind-independent states of affairs. If the vulgar constructions of 'matters of fact' do not anchor our perceptions to the mind-independent world, what does?

It is clear that Hume does not eliminate the possibility of any particular perception existing independently, *i.e.* outside of any system of perceptions, because he believes that there is no contradiction in claiming that perceptions have uninterrupted and continued existence (p.186). It might be false that any perception exists outside a system of perceptions, but it is not logically impossible. I have also argued (p.189) that passions can be similarly regarded as having uninterrupted and continued existence. Hume argues that the perceptions that exist independently of any system of perceptions are mind-independent perceptions (p.183). Thus, if we want to understand how our minds are anchored to the mind-independent states of affairs, we have to talk about these perceptions, which, according to Hume, exist independently of any system of perceptions. There is no doubt that we can have acquaintance with perceptions outside any system of

perceptions. We can know that such perceptions exist. But can we know what properties they have?

How can we proceed in describing perceptions that exist outside of any system of perceptions? One way of making progress would be to argue that the property of existence implicitly contains an account of the substance of a given entity. But Hume denies this option. He argues that no conclusion can be derived from the claim that a given perception exists. The idea of existence “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.” (T, 66-7) Existence for Hume is given by the act of perception and thus cannot bridge the gap between the mind-independent states of affairs and our projections.

How can we then decide the question about the properties of our ideas that are immediately perceived? Let us examine what conclusions about the properties of mind-independent perceptions are generated by given projections. According to the ‘naïve realism’ of the vulgar, we perceive extended objects, but according to the theory of the false philosophy, we perceive infinitely divisible extension, or matter. The view of the vulgar generates ontological claims about extended objects. Can we apply the ontological conclusions of the vulgar in describing the properties of what is immediately perceived? Can we claim that we have *immediate* perception of extended objects? Hume’s answer is clear. Extended objects are *not* immediately perceived:

This idea [of the table], then, is borrow’d from, and represents some impression, which this moment appears to the senses. But my senses convey to me only the impressions of colour’d points, dispos’d in a certain manner. If the eye is sensible of any thing farther, I desire it may be pointed out to me. But if it be possible to shew any thing farther, we may conclude with certainty, that the idea of extension is

nothing but a copy of these colour'd points, and of the manner of their appearance.
(T, 34)

We immediately perceive colored points and particular manners of their appearance, not extended objects. This analysis shows that the vulgar account of the "impression" of the table as an "extended object" cannot be identified with immediate perception. Hume shows that this "impression" is already a constructed entity. We can identify the properties of extension, colour, form, impenetrability, *etc.* in our "impressions" if and only if these "impressions" have been constructed in a manner that warrants derivations about such properties within a given system of perceptions. When we see an 'extended table', we tacitly presuppose the system of perceptions in which 'extension' functions *as if* it defines an unperceivable property of extension (see also p.31). This means that the vulgar can provide any description of perceptions solely in terms of the system of perceptions that they construct.

But can we talk about immediate perception independently of any system of perceptions? It is clear that the ontological claims of the vulgar cannot provide us with adequate guidance here. Nor can the false philosophy. Hume argues that we cannot adequately describe our immediate perceptions by using the claims of the false philosophy either. The false philosophy defines matter as infinitely divisible substance, and argues that our immediate perception is a perception of matter. This theory generates the projection of the existence of an infinitely divisible substance. But Hume argues that this definition of matter has no intrinsic relation to our notion of existence. We cannot say that we immediately perceive matter, if we cannot show that there is a relation between our notion of existence and that of the matter. As Hume writes:

When you tell me of the thousandth part of a grain of sand, I have a distinct idea of these numbers and of their different proportions; but the images, which I form in my mind to represent the things themselves, are nothing different from each other, not inferior to that image, by which I represent the grain of sand itself, which is suppos'd so vastly to exceed them. What consists of parts is distinguishable into them, and what is distinguishable is separable. But whatever we may imagine of the thing, the idea of a grain of sand is not distinguishable, nor separable into twenty, much less into a thousand, ten thousand, or an infinite number of different ideas. (T, 27)

There are limits to what is immediately perceivable and existence can be assigned only to such *minima sensibilia*.

Let us now give a description of what, according to Hume, can be said about immediate perception. Perceptions that we are immediately acquainted with (1) exist; (2) exist independently of any system of perceptions; and (3) are *minima sensibilia*.⁵¹ How useful is this description? It has mainly classificatory function for Hume. According to this description Hume can divide ideas into “genuine” perceptions, i.e. *minima sensibilia*, and their “manners of appearance”, i.e. the interpretations that we assign to *minima sensibilia* in terms of any given system of perceptions. Thus in Hume’s example about the vulgar perception of an ‘extended table’ (p.197), we can talk about a particular collection of colored points, and their “manner of appearance” as an ‘extended table’ in the constructions of the vulgar. Most importantly, the same collection of colored points might have a different “manner of appearance” relative to the theory of the false philosophy, for example.

This description of immediate perception warrants no claims about the properties of “genuine” perceptions. All we can know about our *minima sensibilia* is that they exist. *Minima sensibilia* truly are the only simple perceptions. For Hume the criterion of simplicity lies in the functional description of properties. If a given perception has only

one property, namely, the property of existence, then it can be described as a simple perception. According to Hume, the idea that has only the property of existence is unique because it cannot generate any derivations. If definitions of properties can be designed only on the basis of their function within a system of perceptions, then the property of existence cannot be defined:

Our foregoing reasoning [of abstract ideas] concerning the *distinction* of ideas without any real *difference* will not here serve us in any stead. That kind of distinction is founded on the different resemblances, which the same simple idea may have to several different ideas. But no object can be presented resembling some object with respect to its existence, and different from others in the same particular; since every object, that is presented, must necessarily be existent. (T, 67)

The process of selective attention allows us to consider a given impression as a representation of a related set of ideas. But selective attention cannot be applied to the idea of existence because there is no variation. No idea can be more or less existent. We simply cannot find any standard against which the existence of ideas can be compared. Selective attention is possible only with a system of perceptions. If and only if we find that a given idea resembles other ideas in a system of perceptions, can we apply the *distinction of reason*, which would reveal “separate resemblances, in what formerly seem’d, and really is, perfectly inseparable.” (T, 25) Only the property of existence can be understood without any relation to the ordered system of perceptions.

Hume acknowledges that no other property of perceptions can be understood in isolation from the system of perceptions in which it functions. Complex perceptions have more than one property. The properties of complex perceptions, such as extension, number, solidity, colour, *etc.*, can be described solely in relation to a given system of perceptions.

This 'narrow' reading of Hume's position on immediate perception stands in sharp contrast with the traditional empiricist interpretation. It is often argued that immediate perception provides us with a broad range of sense data.⁵² But according to my 'narrow' interpretation of immediate perception, Hume acknowledges that only the property of existence is immediately perceived. For Hume any property that is added to the initial property of existence inevitably positions a given impression within a system of perceptions. That is to say, whenever we describe any property of a given impression, we are tacitly invoking a certain system of perceptions within which such properties are actually employed, and which shows that "even in this simplicity [of mere existence] there might be contain'd many different resemblances and relations." (T, 25) Because we have no immediate awareness of any other property but that of the existence of simple perceptions, their remaining properties can be defined solely on the basis of their functions within various systems of perceptions.

3.9. Hume's Projectionism

In the Introduction I introduced Hume's projectionism with the following quotation from Blackburn:

In this [Hume's] picture the world – that which makes proper judgment true or false – impinges on the human mind. This, in turn, has various reactions: we form habits of judgment, and attitudes, and modify our theories, and perhaps do other things. But then, and this is the crucial mechanism, the mind can express such a reaction by “spreading itself on the world”. That is, we regard the world as richer or fuller through possessing properties and things which are in fact mere projections of the mind's own reactions: there is no reason for the world to contain a fact corresponding to any given projection. So the world, on such a metaphysic, might be much thinner than commonsense supposes it.⁵³

In this chapter I have discussed the elements of this view, which now need to be summarized.

I have shown that Hume can explain the nature of the immediate contact with the world. The world impinges on the human mind as *minima sensibilia*, which anchor our perception to the world. But this recognition does not provide Hume with any relief. He defines *minima sensibilia* as simple perceptions because initially they have only the property of existence, and the property of existence on its own is incapable of generating any inferences. We cannot apply our capacity of selective attention to the property of existence because existence belongs to *all* ideas of the mind. Every simple idea has the property of existence. Thus, our immediate contact with the world is *very* narrow, and it does not allow us to make *any* judgments. It provides no resources by which we can define the properties of complex impressions. All such information has to be supplied by the mind.

We *form* habits of judgment and attitudes, and *modify* our theories without any explicit guidance from the mind-independent universe. Each and every belief, and every

system of perceptions, is the product of the mind. Even our perception of extended objects as being 'extended objects' already presupposes a constructive effort of the mind.

The main tool in these constructive efforts is the capacity of selective attention:

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 were 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 that disposition of points, or manner of appearance, in which they agree. Nay even when the resemblance is carry'd beyond the objects of the sense, and the impressions of touch are found to be similar to those of sight in the disposition of their parts; this does not hinder the abstract idea from representing both, upon account of their resemblance. All abstract ideas are really nothing but particular ones, consider'd in a certain light; but being annex'd to general terms, they are able to represent a vast variety, and comprehend objects, which, as they are alike in some particulars, are in others vastly wide of each other. (T, 34)

Even the most mundane objects of the common-sense perception are, according to Hume, abstract ideas. The meaning of abstract ideas cannot be determined by correspondence. Abstract ideas acquire meaning as rules for making inferences within a given system of perceptions.

I have shown above (see p.176) that Hume completely endorses Berkeley's analysis of abstract ideas. This analysis of general ideas provides the grounds for Berkeley's instrumentalism: in his system abstract ideas merely provide a systematic account of the regularities of our experience. No scientific theory can justify the claim that abstract ideas properly define unperceivable properties because the meaning of abstract ideas can be defined only by reference to the functional properties of a given system of perceptions. The claim that abstract ideas acquire meaning by their use, not by

denotation, leads to Berkeley's scepticism about our ability to account for new kinds of facts on the basis of abstract ideas. On the basis of our previous experience we cannot predict with certainty future states of affairs. But we do make predictions, and do so by employing a *hidden* hypothesis about the uniformity of experience. Berkeley refuses to grant the validity of this hypothesis.

I have been trying to show that Hume tries to reconcile Berkeley's instrumentalism with the ability of science to make inferences from known to unknown cases. Hume believes that it can be achieved by his projectionism. The mind "spreads itself over the world." Thus for Hume, the meaning of abstract ideas is not merely defined by the functions of ideas within a particular system of perceptions, as it was for Berkeley. For Hume, the meaning of abstract ideas is fully defined only when these functions are considered *together with the psychological attitudes of the users of a given system of perceptions*. We employ particular ideas as if they were universal. This feature of Hume's projectionism entails that the users of a given system of projections are committed to using the same system in future theoretical constructions. Accordingly, the users of projections are committed to interpret yet unperceived objects and properties by using the resources of the theories that they endorse.

But the commitment to use the same explanatory framework in the future still does not save science from Berkeley's attack. We can make inferences from known to unknown cases within different systems of projections. And our commitment to apply the same explanatory framework in the future allows for the possibility that projections cannot be proven wrong. Hume's analysis of theories explains the possibility of choosing between competing projections.

Deductive systems of perceptions for Hume are systems of definitions. Within any deductive system *D* theorems follow by necessity. Thus, we can choose between competing projections by the analysis of the coherence of their consequences within *D*. A projection is valid within *D* only if it entails consistent assertions, while any alternative projection is invalid because it entails inconsistencies.

Inductive systems of perceptions allow us to test the competing projections by experiments. Within any inductive system of projections *I*, we can test the validity of a given projection because its negation is consistent within *I*. Thus, competing projections entail different contingencies that can be tested. Hume can thereby assert that inductive generalizations are valid means for the growth of knowledge within a given system of projections.

Chapter 4: Hume on Probability

4.1. Introduction

There can be no doubt that Hume recognized the philosophical significance of probability. In the *Abstract* he proudly draws attention to his account of probability contained in the *Treatise*:

The celebrated *Monsieur Leibniz* has observed it to be a defect in the common systems of logic, that they are very copious when they explain the operations of the understanding in the forming of demonstrations, but are too concise when they treat of probabilities, and those other measures of evidence on which life and action intirely depend, and which are the guides even in most of our philosophical speculations. ... The author of the *treatise of human nature* seems to have been sensible of this defect in these philosophers, and has endeavoured, as much as he can, to supply it. (A, 646-7)

But how should we characterize Hume's position? I believe that the best way to establish the significance of his analysis of probability is to relate it to the main lines of argument in recent discussions about probability.

In *A Treatise on Probability*¹ John Maynard Keynes brought the issue of *subjective* probability into mainstream philosophy, by observing that modern philosophers have relied upon this interpretation of probability. "Leibniz and Hume might have read what I have written with sympathy,"² he concludes. Keynes praises Leibniz for being the inventor of the symbolic representation of degrees of probability³, and for recognizing that in the calculus of probabilities there is need "not so much of mathematical subtlety as of a precise statement of all the circumstances."⁴ Hume's service to the theory of probability, according to Keynes, lies elsewhere, in his analysis of induction.⁵ Keynes describes the philosophical significance of Hume's position in the following terms: "Hume's sceptical criticisms are usually associated with causality; but

argument by induction -- inference from past particulars to future generalisations -- was the real object of his attack. Hume showed, not that inductive methods were false, but that their validity had never been established and that all possible lines of proof seemed equally unpromising.”⁶ Moreover, Keynes believes that his own theory of subjective probability provides an important contribution to epistemology *because* it does *not* try to answer Hume:

Probability begins and ends with probability. That a scientific investigation pursued on account of its probability will generally lead to truth, rather than falsehood, is at best only probable. The proposition that a course of action guided by the most probable considerations will generally lead to success, is not certainly true and has nothing to recommend it but its probability. The importance of probability can only be derived from the judgment that it is *rational* to be guided by it in action; and a practical dependence on it can only be justified by a judgment that in action we *ought* to take some account of it. It is for this reason that probability is to us the ‘guide of life’.⁷

For Keynes probability addresses the rationality of men who make judgments, not the objective distribution of frequencies.

Keynes finds, however, that Hume’s account of induction is incomplete because it fails to appreciate Leibniz’s insight that the analysis of the circumstances in which we make inferences ‘from past particulars to future generalizations’ is of great importance: “If it were strictly true that the hundred instances are in no way different from the single instance, Hume would be right to wonder in what manner they can strengthen the argument.”⁸ But, as Keynes believes, we can strengthen the inductive reasoning and decide on the values of partial beliefs:

When we allow that probable knowledge is, nevertheless, real, a new method of argument can be introduced into metaphysical discussions. The demonstrative method can be laid on one side, and we may attempt to advance the argument by taking account of circumstances that seem to give some reason for preferring one alternative to another. Great progress may follow if the nature and reality of objects

of perception, for instance, can be usefully investigated by methods not altogether dissimilar from those employed in science and with prospects of obtaining as high a degree of certainty as that which belongs to some scientific conclusions.⁹

Thus, Keynes believes that we are capable of gathering knowledge about all the relevant circumstances related to a given inference. And he maintains that *relative* to this body of knowledge we can specify the probability relations between any two propositions, taken as premises and conclusions.

This analysis nicely fits into Keynes's epistemological system. He introduces his theory with the following claim: "Part of our knowledge we obtain direct; and part by argument. The Theory of Probability is concerned with that part which we obtain by argument, and it treats of the different degrees in which the results so obtained are conclusive or inconclusive."¹⁰ Although he fails to provide any explanation of the transition, Keynes maintains that we "are able to pass from direct acquaintance with things to a knowledge of propositions about the things of which we have sensations or understand the meaning."¹¹ He believes that direct knowledge provides us with information about the circumstances that allow us to evaluate given inferences. Knowledge by acquaintance serves as the foundation for our subsequent analyses of the probability relations in claims that are derived by argument. Keynes argues that the degree of belief is equal to the probability that can be assigned to the probability relations within this body of knowledge. This conclusion, however, results in limitations to the theory of probability. Keynes understands that it cannot explain the distribution of probabilities in *actual* judgments, for "[a]s soon as we distinguish between the degree of belief which it is rational to entertain and the degree of belief actually entertained, we have in effect admitted that the true probability is *not* known to everybody."¹²

Two main lines of argument against Keynes's theory have been developed, both of which initially were made by Ramsey.¹³ On the one hand, we can object to Keynes's claim that there exists specific sort of relations -- probability relations -- between any two propositions. On the other hand, we can question the foundational nature of Keynes's theory of probability. Let us discuss these objections in more detail before examining their philosophical implications.

Ramsey attacks Keynes's claim that the degree of belief can be measured by the value of the probability relation within a given body of knowledge on the grounds that "there really do not seem to be any such things as the probability relations he describes."¹⁴ If we have a given body of knowledge, then the relations of propositions within it are logical. If we don't have any description of the circumstances that relate to our inferences, then the belief that a given effect will have given consequences will simply be a guess. In either case, there are no mysterious probability relations that would allow us to establish a one-one correspondence between them and the degrees of belief. Thus, Keynes's attempt to pin down the values of partial beliefs to the values that are assigned to probability relations fails. Ramsey argues that:

The degree of rational belief depends on a variety of logical relations. For instance, there might be between the premise and conclusion the relation that the premise was the logical product of a thousand instances of generalization of which the conclusion was one other instance, and this relation, which is not an indefinable probability relation but definable in terms of ordinary logic and so easily recognizable, might justify a certain degree of belief in the conclusion on the part of one who believed the premise. We should thus have a variety of ordinary logical relations justifying the same or different degrees of belief.¹⁵

The point of Ramsey's critique is clear: in order to have a theory of subjective probability we have to be able to measure degrees of belief. Keynes's proposal to establish a one-one

correspondence between partial beliefs and probability relations fails. Therefore, we need to develop a different technique by which partial beliefs can be measured.

The second objection targets Keynes's argument that the probability relations are founded on direct knowledge. Ramsey states that in case:

I perceive or remember something but am not sure; this would seem to give me some ground for believing it, contrary to Mr Keynes' theory, by which the degree of belief in it which it would be rational for me to have is that given by the probability relation between the proposition in question and the things I know for certain. He cannot justify a probable belief founded not on argument but on direct inspection.¹⁶

Ramsey implicitly argues against the claim that acquaintance presents us with indubitable knowledge. Direct inspection gives us only probable knowledge.¹⁷ Ramsey points out that the class of partial beliefs includes cases that, in principle, cannot be covered by Keynes's approach.

Let us now briefly outline Ramsey's attempt to solve the problem. He believes that a logic of partial belief can be established if beliefs are treated as dispositions, or 'bases for possible actions'. Numerical values of partial beliefs of an individual can be assigned when we "propose a bet, and see what are the lowest odds which he will accept."¹⁸ If numerical values of partial beliefs are specified in the proposed manner, then it is possible to establish the calculus on the scale of probabilities between 0 and 1.

Ramsey proposes four axioms upon which the calculus of probabilities can be developed:

- (1) Degree of belief in p + degree of belief in $not-p$ = 1;
- (2) Degree of belief in p given q + degree of belief in $not-p$ given q = 1;
- (3) Degree of belief in (p and q) = degree of belief in p x degree of belief in q given p ;
- (4) Degree of belief in (p and q) + degree of belief in (p and $not-q$) = degree of belief in p .¹⁹

I shall not dwell upon the details of the probability calculus because it bears no relevance to the main theme of this chapter, *i.e.* Hume's approach to the issue of probability. To

specify Hume's relation to the tradition of subjective probability, we need to identify the philosophical significance of Ramsey's proposal to measure partial beliefs as 'bases for possible actions'. In a summary of the results of his proposal Ramsey states: "A precise account of the nature of partial beliefs reveals that the laws of probability are laws of consistency, an extension to partial beliefs of formal logic, the logic of consistency."²⁰ Thus, Ramsey's solution demands that an assignment of real numbers to a set of sentences is coherent. If this requirement is not satisfied, then individuals are open to the possibility of enduring losses, whatever the outcome of relevant events. This problem is commonly referred to as the Dutch Book.

I believe, however, that Hume's account of probability *cannot* be modeled in terms introduced by Ramsey and further developed by, for example, De Finetti.²¹ Hume's main interest lies in the analysis of actual judgments, and I shall maintain that for him the Dutch Book arguments would fall short because additivity over aggregation fails to capture the real world situations.²² Ramsey's proposal to measure partial beliefs as 'bases for possible action' addresses only the coherence at a time, and thus neglects the possibility that the distributions of probabilities change. We need a *different* framework that would keep the analysis of probability closer to actual deliberations where such changes in probability distributions are present. One way to account for the probability change is by adopting the Bayesian principle of conditionalization as the dynamic rule of probability change. It is the claim that, given the fact that propositions q , e , and p have positive prior probabilities, one should update the probability for any proposition, q , in view of the new evidence, e , by taking its old probability conditional on p :

$$\text{Pr (new) } q = \text{Pr (old) } (e \ \& \ q) / \text{Pr (old) } p.$$

But the Bayesian principle of conditionalization is little suited for the task of modeling *actual* deliberation, because it *requires a rather superhuman completeness*. To update personal probability in Bayesian fashion, we have to be able to represent our own states of belief at any time by a definite probability measure.²³ This criticism does not undermine the validity of Bayesian conditionalization. Bayes's rule remains an important tool to provide solutions "to decision problems, i.e., solutions that maximize expected utility relative to some underlying probability assignment to the states of nature."²⁴ It is not, however, an acceptable framework which allows us to model actual deliberation.

I argue that Hume employs a framework that anticipates the paradigm of deliberational equilibria that is advocated by Skyrms.²⁵ For Skyrms the decision-making process can be modeled in discrete time between the state of indecision p at one time, and the state of indecision p' at the next time.²⁶ He follows the definition that "[a] decision-maker is at a deliberational equilibrium if his state of indecision does not change under further deliberation."²⁷ According to Skyrms, the process of decision-making is significant because it leads to actions. He believes that actions are results of deliberation, and, to put this claim into a theoretical jargon, "[e]very pure and mixed act is an equilibrium decision."²⁸ The distribution of probabilities on the scale between 0 and 1, although clearly a rational endeavor, might not and often does not lead to action. Thus, it fails to model the dynamics of *actual* decision-making processes. Skyrms maintains that "[i]f deliberators generate and feed back information during deliberation, then deliberation should be studied as a dynamic process."²⁹

The application of the concept of deliberational equilibrium leads to the recognition that acts of deliberation are *autonomous*.³⁰ The assigned utilities to the

expected acts depend only on the distribution of probabilities in the state of indecision where the distribution of probabilities cannot change under further deliberation. However, not all deliberational equilibria are stable. In cases where we can have more than one deliberational equilibrium, the dynamical aspects of the decision making process become evident. Skyrms explains:

The decision maker starts in a state of indecision; calculates expected utility; moves in the direction of maximum expected utility; feeds back the information generated and recalculates; etc. In this process, his probabilities of doing the various acts evolve until, at the time of decision, his probabilities of doing the selected act become virtually one. Dynamic deliberation carries with it an equilibrium principle for individual decision. The decision maker cannot decide to do an act which is not an equilibrium of the deliberational process. If he is about to decide to do it, deliberation carries him away from that decision.³¹

Skyrms proposes a dynamic alternative to Ramsey's proposal to measure partial beliefs as 'bases for possible actions'. We can assign values to partial beliefs relative to the feedback information generated by the deliberation that leads to action. I shall later show (see p.231-34) that Hume anticipates Skyrms's proposal.

Ramsey's second criticism of Keynes's theory of probability has received less attention because it is not clear what consequences are entailed by the denial of foundationalism. Ramsey seems to suggest that the scope of partial beliefs exceeds Keynes's classification of derived knowledge, and the probability calculus should cover all kinds of partial beliefs. That is to say, Ramsey argues that we can have partial beliefs and measure them *even if* we have no relevant information about the expected outcomes. The utility of an act is the probability of the utility of its *expected* outcomes. In the decision situation we don't have to specify the relevant causal preconditions of the

decision, *i.e.* the states of the world. This recognition has been further developed by Richard Jeffrey, who maintains that:

Coming to have suitable degrees of belief in response to experience is a matter of training – a *skill* which we begin acquiring in early childhood, and are never quite done polishing. The skill consists not only in coming to have appropriate degrees of belief in appropriate propositions under paradigmatically good conditions of observation, but also in coming to have appropriate degrees of belief between zero and one when conditions are less than ideal.³²

Jeffrey argues that the denial of foundationalism entails two conclusions. First, reasons for having probable beliefs are not specifiable within a reasonably limited scope of propositions. Thus, probable beliefs do not function as conclusions, *i.e.* we do not explicitly make calculations that the probability of a particular event happening is *x*. On the contrary, we *respond* to the various sorts of experiences on the basis of our training by using our skill to generate probable beliefs. These probable beliefs are *compulsory* because on their basis we assign the probability values to propositions that are associated with given beliefs:

In my scientific and practical undertakings I must make use of such compulsory beliefs. In attempting to understand or to affect the world, I cannot escape the fact that I am part of it: I must rather make use of that fact as best I can. Now where epistemologists have spoken of observation as a source of *knowledge*, I want to speak of observation as a source of compulsory *belief* to one or another degree.³³

Secondly, Jeffrey argues that his analysis of subjective probabilities changes the subject of probability theory, which cannot be limited, as Keynes's suggested, merely to the issue of rational deliberation. Jeffrey argues that "conditional subjective probabilities reflect *meanings*."³⁴ Unfortunately, Jeffrey's conclusions are seldom or never treated as a unified view. His claim that the decision maker deliberates on the basis of compulsory beliefs is taken to be the core of *evidential* decision theory, so that the philosophical and

ontological implications of Jeffrey's 'radical probabilism', or the claim that subjective probabilities reflect *meanings*, remain largely overlooked. The consequences of Jeffrey's 'radical probabilism' can be brought to the fore by focusing on his question "whether it's feasible and desirable for us to train ourselves to choose probabilities or odds or Bayes factors, etc., as occasions demand, for use in our practical and theoretical deliberations."³⁵ I believe that Hume's account of probability raises similar concerns.

In what follows I shall argue that Hume's position on probability can be broadly described as that of a non-foundationalist who endorses the concept of deliberational equilibrium. Specifically, I shall claim that Hume, much like Skyrms, believes that acts of deliberation are *autonomous*. The decision-making process should be modeled in terms of the transition between two states of indecision p and p' , where deliberational dynamics lead to particular deliberational equilibria. These equilibria determine our choice in taking a given action at a given time. Moreover, I shall argue that Hume's arguments should be read in terms of Jeffrey's 'radical probabilism'. We have a skill to produce compulsory beliefs as a response to various sorts of experience. The outcome of this realization presents a philosophical problem. Should we teach ourselves to develop different kinds of responses to given experience? Can we engineer our own conceptual schemes? And even if we could develop new responses to our experience, can we switch between the entrenched views and the newly engineered ones?

4.2. Hume's Classification of Probabilities

In my analysis I shall apply the following analytic framework to Hume's arguments about probability. I treat Section xi, xii, xiii, and xv of Part III, Book I of the *Treatise* as a consistent argument, and argue that for Hume probability is defined as an inference from past particulars to future generalizations. Hume uses this general description to identify and examine its elements -- (1) particulars; (2) generalizations; and (3) the methods of transition from (1) to (2). This allows us to interpret Hume's position on probability in terms of decision theory. We can thus claim that in Section xv, "Rules by which to judge of causes and effects", Hume defines the rules for making judgments. Here Hume is concerned with neither the ontological problem of the nature of mind-independent states of affairs, nor the epistemological problem of the nature of our knowledge about a mind-independent world. He instead is concerned with the skill to manipulate our definitions in ways that will eliminate inconsistencies surrounding judgments of unphilosophical probability in which decision-makers are attempting to maximize individual utility.

The following outline of Hume's classification of probabilities will enable us to proceed to define its particular elements:

DEMONSTRATIVE REASONING
(Conclusions entailed by definitions)

PROBABLE REASONING
(Inferences from past particulars to future generalizations)

DESCRIPTION:

- (1) *proofs* (generalizations entirely free from doubt and uncertainty);
- (2) *probabilities* (generalizations attended with uncertainty).

ANALYSIS:

(1) *probability of chances*

Particulars are treated as:

- (a) random;
- (b) mutually replaceable;
- (c) having predetermined values of probability.

(2) *probability of causes*

Particulars are treated as mutually related entities. Relations between particulars are divided into three subsections:

- (a) single experience of related particulars;
- (b) multiple experiences of the same particulars in various circumstances;
- (c) experience of resembling particulars in the same circumstances.

DECISION-MAKING:

(1) *unphilosophical probability*

Inferences from past particulars to future generalizations made to maximize individual utility on the basis of idiosyncratic rules. This approach presupposes that particulars are related by the probability of chances.

(2) *philosophical probability*

Inferences from past particulars to future generalizations made on the basis of postulated relations between particulars with no regard to individual utility. This approach presupposes that particulars are related by the probability of causes.

Unlike Keynes, Hume avoids the temptation to treat demonstrative knowledge as the foundation of probable knowledge. Hume explains the difference between two kinds

of knowledge by the manner in which new conclusions are derived. Within deductive systems new conclusions are entailed by the definitions of entities. He claims that algebra and arithmetic are “the only sciences, in which we can carry on a chain of reasoning to any degree of intricacy, and yet preserve a perfect exactness and certainty. 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). I have argued previously that for Hume metaphysical and philosophical theories (see pp. 178-90) should strive to become systems of definitions. And Hume develops his various theories in this manner:

I dare be positive no one will ever endeavour to refute these reasonings otherwise than by altering my definitions, and assigning a different meaning to the terms of *cause, and effect, and necessity, and liberty, and chance*. According to my definitions, necessity makes an essential part of causation; and consequently liberty, by removing necessity, removes also causes, and is the very same thing with chance. As chance is commonly thought to imply a contradiction, and is at least directly contrary to experience, there are always the same arguments against liberty or free-will. If any one alters the definitions, I cannot pretend to argue with him, ‘till I know the meaning he assigns to these terms. (T, 407).

Hume does not, however, argue that probable arguments should be measured against these systems of definitions. For Hume, probable reasoning has no foundations. The fact that we make inferences from past particulars to future generalizations cannot be explained by reason. Hume believes that:

[it] is nothing but a wonderful and unintelligible instinct in our souls, which carries us along a certain train of ideas, and endows them with particular qualities, according to their particular situations and relations. This instinct, ‘tis true, arises from past observation and experience; but can any one give the ultimate reason, why past experience and observation produces such an effect, any more than why nature alone shou’d produce it? (T, 179)

We respond to our various experiences by making inferences. It is a skill that we share with animals. In a discussion about the reason of animals Hume remarks that:

The inference he [a dog] draws from the present impression is built on experience, and on his observation of the conjunction of objects in past instances. As you vary this experience, he varies his reasoning. Make a beating follow upon one sign or motion for some time, and afterwards upon another; and he will successively draw different conclusions, according to his most recent experience. (T, 178)

The fact that changing experiences affect conclusions also holds true for men. Can we train ourselves to have a different kind of response to given experiences? Yes. But, given the multiplicity of such responses, we have no resources to decide which one is proper. Moreover, we cannot measure one type of response against another. According to Hume, we can employ two general types of responses to our experience. First, we can use our natural ability to draw probable inferences from past particulars to future generalizations. Secondly, we can follow a given system of definitions. No synthesis of these positions is possible (see pp. 66-8).

The following examination of probable reasoning deals *exclusively* with inferences from past particulars to future generalizations. Hume divides his analysis into three parts. First, he examines the conclusions. I will touch upon this issue very briefly because it is mainly descriptive, and has little significance for the *conceptual* analysis of probable inferences. Secondly, Hume provides two alternatives for the classification of particulars. Finally, he examines the decision-making process itself.

The distinction between *proofs* and mere *probabilities* is often considered to be of fundamental importance for Hume. Interpreters who maintain that Hume endorses realism use this distinction to support their hypothesis.³⁶ It is argued that, if Hume states that we can have *proofs* that a given relation holds in some states of affairs, then he

cannot avoid the claim that independent states of affairs exist. The existence of mind-independent reality is allegedly presupposed, so we have to acknowledge that Hume tacitly supports realism.³⁷ Contrary to this position, I believe that the distinction between *proofs* and mere *probabilities* carries no philosophical weight at all. We have seen that Hume describes the capacity of making inferences from past particulars to future generalizations as an instinct. We cannot help but make probable inferences. The distinction between proofs and mere probabilities merely indicates that we have yet another inherent capacity which allows us to evaluate the *results* of the inferences from past particulars to future generalizations. In some cases we find that the conclusions of probable inferences “are entirely free from doubt and uncertainty.” (T, 124) In other cases we find that these conclusions are “still attended with uncertainty.” (T, 124) The fact that we can evaluate the conclusions of probable inferences, however, has no impact on our ability to *construct* these inferences.

Hume’s recognition that we have an inherent capacity to evaluate the conclusions of probable inferences, nevertheless, is a significant find. Although it makes no addition to the conceptual analysis of probable inferences *per se*, the evaluation of arguments identifies a new subject that, according to Hume, has been previously overlooked. Hume’s theory of belief as a perception of the vivacity of ideas charts new territory.

Thus it appears, that the belief or assent, which always attends the memory and 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 memory. ‘Tis merely the force and liveliness of the perception, which constitutes the first act of the judgment, and lays the foundation of that reasoning, which we build upon it, when we trace the relation of cause and effect. (T, 86)

The choice of premises upon which we construct further arguments, and the initial distribution of probabilities in our inferences from past particulars to future generalizations depend on our evaluation of previous conclusions. This result will be developed later in the discussion about the deliberational dynamics (see pp. 230-3).

Hume's analysis of the *probability of chances* and the *probability of causes* shows that the conclusions of probable inferences depend on our definitions of the nature of particulars. The probability of chances treats particulars as random and mutually replaceable entities, while the probability of causes identifies them as mutually related entities.

Hume outlines three criteria that define particulars in his account of the *probability of chances*. He maintains that "we have advanc'd three steps; *that* chance is merely the negation of a cause, and produces a total indifference in the mind; *that* one negation of cause and one total indifference can never be superior or inferior to another; and *that* there must always be a mixture of causes among the chances, in order to be the foundation of any reasoning." (T, 126) We can replace Hume's terminology in the following fashion. The probability of chances is a theory in which we accept the claim that (1) particulars are randomly distributed; (2) they are mutually replaceable; and (3) we can draw probable arguments on their basis if and only if we assign prior probabilities to their distribution.

The following example should help us strengthen the claim that, in his analysis of probability, Hume is concerned solely with providing functional analyses of how probable reasonings are generated. He illustrates his analysis of the probabilities of chances by the following example:

The very essence of chance is a negation of causes, and the leaving the mind in a perfect indifference among those events, which are suppos'd contingent. When therefore the thought is determin'd by the causes to consider the dye as falling and turning up one of its sides, the chances present all these sides as equal, and make us consider every one of them, one after another, as alike probable and possible. (T, 128-9)

This example shows that for Hume chances are not ontological properties. It does not, however, make explicit Hume's projectionism, and his belief that our account of chance is an attitude adopted towards given particulars. Therefore, I shall highlight its nature. According to Hume, we can adopt different kinds of interpretations of particulars. For example, we can treat particulars as randomly distributed, or as mutually related entities. It is reasonable to believe that particulars are randomly distributed when we are talking about games of dice, but clearly some gamblers choose to believe that even in these games the particulars are mutually related entities. Hume's analysis of probability aims to explain how probability arguments are constructed, instead of focusing on the question of what they depict, and with what degree of certainty. He insists that "as chance is nothing real in 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, emphasis added) Hume believes that we can understand the nature of judgments from past particulars to future generalizations only if we pay proper attention to the initial description of particulars because he believes that particulars in themselves contain no inherent meaning. The same particulars may have different meanings in virtue of different interpretations of their nature.

The probability of causes is a completely different theory that treats particulars not as randomly distributed, but instead as mutually related entities:

All our reasonings concerning the probability of causes are founded on the transferring of past to future. The transferring of any past experiment to the future is sufficient to give us a view of object; whether that experiment be single, or combin'd with others of the same kind; whether it be entire, or oppos'd by other of a contrary kind. (T, 137-8)

In some cases the recognition that *particulars are mutually related* results from repeated experiences. In other cases we make the assumption that particulars are not randomly distributed even after a single experience. Hume finds that we can identify *related particulars* in three conceptually different circumstances. First, we can judge that particulars are causally related to each other after having a single experience. Secondly, we can judge that particulars are causally related to each other after having a series of multiple experiences of the same particulars in various circumstances. Finally, we can judge that particulars are causally related to each other after having a series of multiple experiences of resembling particulars in the same circumstances.

It is important to realize that only *one* feature of Hume's classification of probabilities is relevant to my present purposes. In his theory of probability Hume provides an encompassing description that covers *all* conceptually possible ways in which we can acquire the belief that particulars are mutually related. His discussion about the manner in which we assign the relations to particulars on the basis of imperfect experience, or contrary experiences, or the arguments by analogy, is of immense philosophical significance. Nevertheless, we should overcome the temptation to proceed too rapidly to the examination of these arguments because we can lose the track of Hume's overall argument about the nature of probable judgments. Hume's account of

probability includes analyses of particulars, generalizations and of our decision-making strategies. We have to understand Hume's account in its full complexity before we return to examine closer his particular arguments. Hume's discussion about the probability of causes makes use of methods that are yet to be introduced. The most significant conclusion relative to our current purposes is the recognition that the probability of chances treats particulars as random entities, while the probability of causes employs the assumption of their mutual relations. The manner in which we choose to interpret particulars determines the conclusions that are drawn from arguments of probability.

The interpretation of particulars, nevertheless, is not the only element of Hume's theory of probability. He maintains also that we can employ two different decision-making techniques. His analysis of unphilosophical probability shows that we can interpret the particulars in the manner that maximizes individual utility, while his definition of the *Rules by which to judge of causes and effects* outlines the method by which particulars are examined solely on the basis of some *postulated* relations with no regard to individual utility. A preliminary remark is in order before we proceed to a brief exposition of Hume's arguments.

I am sensitive that the term 'decision-making' does not comfortably fit with Hume's reputation of being a faculty-psychologist. After all, it is clear that Hume describes probable arguments as naturalistic processes that do not require an agent that *takes* decisions. Even animals use probabilistic arguments. Should we treat their reasoning as an application of 'decision-making' too? The answer is, yes. Hume aims to model the connection between deliberation and actions, regardless of whether the deliberation in question is conscious or unconscious, explicit or implicit. Unfortunately,

the only terminology at his disposal was the terminology of faculty psychology. Now, the situation is different. We have a developed tradition of subjective probability that offers us two ways to explain deliberation. We can use a technique that demands the distribution of probabilities on the scale between 0 and 1. Or we can use the game-theoretical analysis that revolves around the idea of a deliberational equilibrium. I shall argue that Hume's position anticipates the latter way, and that we can replace, *without losing any content*, Hume's naturalistic jargon about the vivacity of animal spirits with the analysis of 'decision-making' techniques. The application of the term 'decision-making' does not require any commitment to an explicit act of a rational individual. The game-theoretical analysis has been successfully applied elsewhere, for example, in biology.³⁸ Hume's analysis of the deliberation that leads to action is similar in nature to the game-theoretical analysis because it does not demand the commitment to have explicit decisions taken by rational individuals.

Hume's account of unphilosophical probability deals with changes in the vivacity of ideas over time. The fact that we cannot measure the vivacity of ideas may seem to diminish the value of Hume's analysis. Let us, however, try to understand what exactly he intends to depict by the vivacity of ideas. On the basis of this analysis we might be able to replace Hume's "vivacity of ideas" with another concept that depicts the same process. Hume defines "vivacity" in the following manner:

An idea assented to feels different from a fictitious idea, that the fancy alone presents to us: And this different feeling I endeavour to explain by calling it a superior *force*, or *vivacity*, or *solidity*, or *firminess*, or *steadiness*. This variety of terms, which may seem so unphilosophical, is intended to express that act of the mind, which renders realities more present to us than fictions, causes them to weigh more in the thought, and gives them a superior influence on the passions and imagination. (T, 629, emphasis added)

In this definition Hume makes explicit that the vivacity of ideas depicts “*the act of the mind*” that constitutes the difference between a mere idea and a belief. One difference between beliefs and mere ideas lies in the fact that beliefs lead to actions. Hume’s focus on “vivacity” is meant to identify the act of the mind that produces those ideas that are capable of guiding our actions. And I see no reason why this ‘act of the mind’ cannot be called *deliberation*.

Let us now examine Hume’s arguments about unphilosophical probability in terms of deliberation. Let us consider the following example:

Thus a man, who desires a thousand pound, has in reality a thousand or more desires, which uniting together, seem to make only one passion; tho’ the composition evidently betrays itself upon every alteration of the subject, by the preference he gives to the larger number, if superior only by an unite. Yet nothing can be more certain, than that so small a difference wou’d not be discernible in the passions, nor cou’d render them distinguishable from each other. The difference, therefore, of our conduct in preferring the greater number depends not upon our passions, but upon custom, and *general rules*. We have found in a multitude of instances, that the augmenting the numbers of any sum augments the passion, where the numbers are precise and the difference sensible. The mind can perceive from its immediate feeling, that three guineas produce a greater passion than two; and *this* it transfers to larger numbers, because of the resemblance; and by a general rule assigns to a thousand guineas, a stronger passion than to nine hundred and ninety nine. (T, 141-2)

Hume here treats deliberation as a conceptual device that tacitly maximizes the expected utility. This example also makes clear the relation between the process of deliberation and our initial interpretation of particulars. We can tacitly compare the expected utility of, for example, two or three guineas if we adopt the theory of the probability of chances. The utility of three guineas surpasses the utility of two guineas if and only if we agree that given particulars (in this case ‘a guinea’) meet the following requirements. (1) Particulars are randomly distributed, *i.e.* we do not anticipate that these particulars are causally

related to each other. (2) Particulars are replaceable, *i.e.* one guinea is as good as another one. (3) Particulars have some prior probability values, *i.e.* we know what can be bought for 'a guinea'.

In the Section *Of unphilosophical probability* Hume outlines different types of circumstances in which deliberation generates different utility values to the same set of acts:

The argument, which we found on any matter of fact we remember, is more or less convincing, according as the fact is recent or remote; and tho' the difference in these degrees of evidence be not receiv'd by philosophy as solid and legitimate; because in that case an argument must have a different force to day, from what it shall have a month hence; yet notwithstanding the opposition of philosophy, 'tis certain, this circumstance has a considerable influence on the understanding, and secretly changes the authority of the same argument, according to the different times, in which it has been propos'd to us. (T, 143)

Similarly, recent experience is treated as more relevant in deliberations, than a distant one.

Thus a drunkard, who has seen his companion die of debauch, is struck with that instance for some time, and dreads a like accident for himself: But as the memory of it decays away by degrees, his former security returns, and the danger seems less certain and real. (T, 144)

In discussing each case Hume changes some element of deliberation that in turn changes the expected utility of a given act. But we don't have to consider all of Hume's examples. The main point of his analysis is transparent -- Hume's examination of unphilosophical probability shows that he is attempting to model deliberation as a dynamic system. Regardless of whether the process of deliberation is implicit or explicit, we can describe the deliberation as a set of acts in which the decision-maker calculates the expected utility, moves in the direction of maximum expected utility, feeds back the information generated, and recalculates.

The connection between the probability of chances and the simple maximization of utility in the choice between two or three guineas was obvious. In what follows I shall attempt to show that, even if we treat deliberation as a dynamic system, the connection with the interpretation of particulars in terms of the probability of chances holds. Let us clarify the situation. The probability of chances demands that particulars are (1) randomly distributed, (2) mutually replaceable, and (3) exhibit assigned prior probability values. Is this the underlying interpretation of particulars in the dynamic system of deliberation?

Intuitively, we are willing to deny that the particulars in the dynamic system of deliberation are randomly distributed. Even in Hume's example of the drunk it is obvious that, initially, the fact of drinking and the death of his friend are believed to be causally linked. But the mere fact that the deliberation might *change* the initially assigned probability values over time suggests that the particulars indeed are treated as random. In Hume's example of the drunk we can identify three particulars: (1) the act of drinking; (2) the case of death; (3) an individual who drinks. The deliberation starts with the assumption that (1), (2), and (3) are causally linked. The drunk believes that he and his friend are mutually replaceable entities of (3). The initial distribution of probabilities is given by the beliefs of the decision-maker. Here these beliefs constitute "the first act of the judgment" and provide the foundation for subsequent deliberation. The decision to stop drinking maximizes the utility given these assumptions. In the meantime, new information is acquired -- the drunk sees other individuals drinking and happily avoiding the fate of his friend. This new information allows the agent to recalculate the expected utilities. Now, the connection between (1), (2) and (3) is undermined. The decision to

start drinking again is a new equilibrium because additional deliberation cannot change it. This decision maximizes the utility given the assumption that random individuals who drink visibly enjoy their drunken state, and that they do not die as a consequence. This transition from one set of assigned prior probabilities to a completely different set of probabilities, when the new decision is taken into consideration, is possible *in principle* only because the particulars are treated according to the probability of chances. The decision-making in terms of unphilosophical probability is inevitably linked to the interpretation of particulars in terms of the probability of chances.

A completely different picture of the decision-making emerges if we consider Hume's analysis of philosophical probability. He argues that we can learn to employ a different decision-making technique. If we postulate the relations between given particulars, then we can draw inferences according to these postulated relations. Thus, we effectively disregard the utility of given acts, and exclude the possibility that the strength of arguments could change over time. Recent experience is as conclusive as more distant experience if we postulate the existence of a given relation between particulars. This technique demands the reliance on the interpretation of particulars according to the theory of the probability of causes. Here the particulars are *believed* to be related to each other in a manner that cannot be changed by the act of perception.

Hume's juxtaposition of the unphilosophical and philosophical probability focuses on the *normativity* of adopted rules. He writes that we *can* design a set of rules by which:

we ought to regulate our judgment concerning causes and effect; and these rules are form'd on the nature of our understanding, and on our experience of its operations in the judgments we form concerning objects. By them we learn to distinguish the

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

The decision-making process in the case of philosophical probability is not the calculation of the expected utility. It is the evaluation of the circumstances in which the relation in question has been observed, and in our decision we distinguish relevant properties from accidental ones.

The general rules that allow us to regulate our judgment about related particulars are the much-discussed rules by which we can identify the causal connection. (T, 173-4)

My analysis presents yet another interpretation of Hume's position. I believe that we should treat his arguments in a deflationary manner. The context of Hume's analyses of probability shows that he is not concerned about the ontological problem of the nature of mind-independent states of affairs. Moreover, there is no indication that he tries to address an epistemological problem of the nature of our knowledge about a mind-independent world. Indeed, Hume seems to merely argue that *if* we want to claim that given particulars are causally related to each other, *then* we simply have to be consistent in our inferences. Causal relations are postulated and acquire meaning in their use, or in the consistency of the derived inferences. Hume concludes that to make judgments about causally related particulars "a full knowledge of the objects is not requisite, but only of those qualities of it, which we believe to exist." (T, 172) Thus, the process of making causal inferences is not aimed at discovering mind-independent relations within the world. Hume believes that that cannot be done. According to Hume, when we believe that some particulars are causally related, we make a commitment to regulate our

judgment in our inferences. We are fully aware that “there are no objects, which by the mere survey, without consulting experience, we can determine to be the causes of any other; and no objects, which we can certainly determine in the same manner not to be the causes. Any thing may produce any thing.” (T, 173) Nevertheless, we adopt assumptions about the related particulars, and introduce some general rules by which competing assumptions can be examined:

There is no phaenomenon in nature, but what is compounded and modify'd by so many different circumstances, that in order to arrive at the decisive points, we must carefully separate whatever is superfluous, and enquire by new experiments, if every particular circumstance of the first experiment was essential to it. These new experiments are liable to a discussion of the same kind; so that the utmost constancy is requir'd to make us persevere in our enquiry, and the utmost sagacity to choose the right way among so many that present themselves. (T, 175)

The choice cannot be made by simple observations. We can make decisions only on the basis of the conceptual analysis of the conclusions that are entailed by the postulated relations among particulars.

4.3 Game-theoretical Elements in Hume's Account of Probability

I shall now argue that Hume's analysis of probability anticipates three concepts that are employed by game theory. First, Hume treats deliberation as a strategic interaction. That is to say, he examines the reasons why one system of beliefs is endorsed in a situation in which a number of different systems of projections are available. Secondly, Hume's analysis shows that the acceptance of beliefs indicates a mutually beneficial pattern of behavior among individuals sharing similar expectations. Thus, he uses the concept of an equilibrium outcome of a game. Finally, Hume recognizes that decision-making requires the condition of having common knowledge about the possible strategies.³⁹

Hume's account of unphilosophical probability provides the conceptual framework of game-theoretical analysis. It is important to realize that this framework is purely formal, *i.e.* it provides no definitions of the content of particulars, and makes no statements about the proper utility values. We can *choose* the entities that we treat as particulars. Thus, particulars are essentially variables. Hume shows that such entities as 'guineas', and 'drunks' can become the values of these variables. I shall argue that the class of the values for these variables can be extended to other competing projections too. In what follows I hope to show that Hume's analysis of the acceptance of either of three main types of projections -- the common-sense realism of the vulgar; the false philosophy of double existence; and the true philosophy, understood as a system of definitions -- can be treated in terms of unphilosophical probability. To do this we assume that these projections are particulars that comply to Hume's definition of (1) being independent of each other, (2) being mutually replaceable, and (3) having predetermined probability

values. When particulars are defined in this manner, we can approach the analysis of their relations in terms of strategic interaction in which we reach a decision that maximizes the individual expected utility. If I am right about this application, then Hume's juxtaposition of given projections has nothing to do with the truth of these theories. His analysis instead aims to determine what principles should guide our actions.

This approach allows us to view key passages in Hume's conclusion to Book I of the *Treatise* in a new light. Hume's analysis can be modeled as a dynamic process in which a decision-maker starts in a state of indecision; calculates expected utility; moves in the direction of maximum expected utility; feeds back the information generated, and recalculates. This deliberation constitutes strategic interaction because in this process the probability distribution of the decision-maker evolves until he is able to identify the reason why the selected decision is superior to its alternatives. The selected decision is also the equilibrium because no further deliberation can carry the decision-maker away from that decision.

Two preliminary remarks have to be made. First, we have to explain the reason for Hume's confidence that the alternative theories are mutually replaceable. Secondly, we have to prove that for Hume the question about the choice of competing 'projections' is a matter of unphilosophical probability.

Hume starts the deliberation with the following recognition:

Let men be once fully perswaded of these two principles, *That there is nothing in any object, consider'd in itself, which can afford us a reason for drawing a conclusion beyond it; and, That even after the observation of the frequent or constant conjunction of objects, we have no reason to draw any inference concerning any object beyond those of which we have had experience*; I say, let men be once fully convinc'd of these two principles; and this will throw them so

loose from all common systems, that they will make no difficulty of receiving any, which may appear the most extraordinary. (T, 139)

With the first principle Hume suggests that the meaning of any perception is acquired solely by its use. With the second principle he argues against the reification of abstract ideas, *i.e.*, general or abstract ideas acquire meaning only as rules for making new inferences. They do not have ontological counterparts in the mind-independent universe, and, thus, they cannot explain the constant conjunction of objects. Hume believes that these two principles entail projectionism. We have no choice but to address the possibility of having a number of incompatible ways in which we describe the world. Hume treats competing theories about the world as particulars because he is aware that each has the same epistemic status. They are constructed from *minima sensibilia* by repeated applications of given operations.

The following passage confirms that for Hume the choice of projections is a matter of unphilosophical probability:

When an object appears, that resembles any cause in very considerable circumstances, the imagination naturally carries us to a lively conception of the usual effect, tho' the object be different in the most material and most efficacious circumstances from the cause. Here is the first influence of general rules. But when we take a review of this act of the mind, and compare it with the more general and authentic operations of the understanding, we find it to be of irregular nature, and destructive of all the most establish'd principles of reasoning; which is the cause of our rejecting it. This is the second influence of general rules, and implies the condemnation of the former. Sometimes the one, sometimes the other prevails, according to the disposition and character of the person. The vulgar are commonly guided by the first, and wise men by the second. Mean while the sceptics may here have the pleasure of observing a new and signal contradiction in our reason, and of seeing all philosophy ready to be subverted by a principle of human nature, and again sav'd by a new direction of the very same principle. The following of general rules is a very unphilosophical species of probability; and yet 'tis only by following them that we can correct this, and all other unphilosophical probabilities. (T, 149-50)

We cannot choose one projection over another by reason because our reason does not provide us with an independent and objective standard. Reason enables us to construct a projection that differs from the naive realism of the vulgar. But it provides no resources for a decisive evaluation of the alternatives.

The framework of unphilosophical probability demands that Hume seriously consider the possibility of adopting either one of three mutually replaceable alternative theories -- the naive realism of the vulgar, the double existence theory of the false philosophy, or a given system of definitions of the true philosophy. And he seems quite serious about the consequences of his choice:

The *intense* view of these manifold contradictions and imperfections in human reason has so wrought upon me, and heated my brain, that I am ready to reject all reasoning, and can look upon no opinion even as more probable or likely than another. Where am I, or what? From what causes do I derive my existence, and to what condition shall I return? Whose favour shall I court, and whose anger must I dread? What beings surround me? and on whom have I any influence, or who have any influence on me? I am confounded with all these questions, and begin to fancy myself in the most deplorable condition imaginable, environ'd with the deepest darkness, and utterly depriv'd of the use of every member and faculty. (T, 268-9)

The initial set of philosophical convictions that the meaning of perceptions is exhaustively determined by their *use* assigns equal probability to each of the projections that Hume is considering.

Hume next turns to the issue of the possible expected utilities of choosing one projection over another. On the one hand, we can endorse the naive realism of the vulgar. But "a principle so inconstant and fallacious shou'd lead us into errors, when implicitly follow'd (as it must be) in all its variations." (T, 265-6) On the other hand, we can try to endorse the theory of double existence of the false philosophy. But this theory relies heavily on the view of the vulgar. It operates with two incompatible sets of definitions

for the same perceptions, and, thus, it cannot present a consistent system. Hume concludes:

[experience] makes us reason from causes and effects; and 'tis the same principle, which convinces us of the continu'd existence of external objects, when absent from the senses. But tho' these two operations be equally natural and necessary in the human mind, yet in some circumstances they are directly contrary, nor is it possible for us to reason justly and regularly from causes and effects, and at the same time believe the continu'd existence of matter. (T, 266)

Finally, we can try to adopt any given system of definitions. If we choose to endorse this option, then we have to be aware of the following difficulty:

[T]he understanding, when it acts alone, and according to its most general principles, entirely subverts itself, and leaves not the lowest degree of evidence, either in philosophy or common life. ... Shall we, then, establish it for a common maxim, that no refin'd or elaborate reasoning is ever to be receiv'd? Consider well the consequences of such a principle. By this means you cut off entirely all science and philosophy. (T, 268)

With this analysis Hume acknowledges that he cannot move into any particular direction without making a sacrifice that he cannot bear.

Hume can reach a decision about his choice only in view of additional information that allows him to recalculate the expected utility:

Here then I find myself absolutely and necessarily determin'd to live, and talk, and act like other people in the common affairs of life. ... I may, nay I must yield to the current of nature, in submitting my senses and understanding; and in this blind submission I shew most perfectly my sceptical dispositions and principles. (T, 269)

What changes in the problem that Hume is trying to resolve given this new information?

On its basis Hume realizes that our actions should not be guided by only one principle.

Hume becomes a pluralist. We can endorse different projections at different times. This realization allows Hume to treat acts of deliberation as *autonomous* events.

But does it follow, that I must strive against the current of nature, which leads me to indolence and pleasure; that I must seclude myself, in some measure, from the

commerce and society of men, which is so agreeable; ... Under what obligation do I lie of making such an abuse of time? And to what end can it serve either for the service of mankind, or for my own private interest? No; If I must be a fool, as all those who reason and believe any thing *certainly* are, my follies shall at least be natural and agreeable. (T, 269-70)

Hume finds the resolution to the question of what projection to adopt as the guide for his actions in the refutation of uniformity. This refutation leads Hume to define his recommendations to philosophers who might find themselves as the decision-makers in a similar situation.

A true sceptic will be diffident of his philosophical doubts, as well as of his philosophical conviction; and will never refuse any innocent satisfaction, which offers itself, upon account of either of them.

Nor is it only proper we shou'd in general indulge our inclination in the most elaborate philosophical researches, notwithstanding our sceptical principles, but also that we shou'd yield to that propensity, which inclines us to be positive and certain in *particular points*, according to the light, in which we survey them in any *particular instant*. 'Tis easier to forbear all examination and enquiry, than to check ourselves in so natural a propensity, and guard against that assurance, which always arises from an exact and full survey of an object. (T, 273-4)

Hume believes that this solution is sound because it maximizes the expected utility of the decision-maker in two ways. First, it makes the philosopher sensitive about the interests of the general public. Hume notes that:

many philosophers have consum'd their time, have destroy'd their health, and neglected their fortune, in the search of such truths, as they esteem'd important and useful to the world, tho' it appear'd from their whole conduct and behaviour, that they were not endow'd with any share of public spirit nor had any concern for the interests of mankind. (T, 450)

Secondly, Hume's solution to treat deliberation as autonomous events can be accepted on the grounds that it makes the life of philosophers interesting.

If we want another parallel to these [philosophical] affections, we may consider the passion of gaming, which affords a pleasure from the same principles as hunting and philosophy. ... The interest that we have in any game, engages our attention, without which we can have no enjoyment, either in that or in any other action. Our

attention being once engag'd, the difficulty, variety, and sudden reverses in fortune, still farther interest us; and 'tis from that concern our satisfaction arises. Human life is so tiresome a scene, and men generally are of such indolent dispositions, that whatever amuses them, tho' by a passion mixt with pain, does in the main give them a sensible pleasure." (T, 452)

In the outline of this argument I have shown that Hume, as a matter of fact, treats deliberation as strategic interaction in which we choose to pursue the strategies that maximize individual utility. This approach is defined in his analysis of unphilosophical probability. Clearly, this is not the only way in which our judgments can be determined. Philosophical probability allows us to disregard individual utility and to endorse judgments that are entailed by given postulated definitions. This raises the question whether Hume should have used the alternative strategy in his discussion about the choice of projections. We shall provide an answer to this question when the issue of common knowledge is discussed (see pp.247-250 below).

Let us now illustrate the claim that Hume's arguments anticipate the concept of 'equilibrium' as an outcome of a game. It has been shown that Hume treats acts of deliberation as autonomous events. During deliberation a decision-maker departs from a given equilibrium, and when a new decision has been reached he finds himself in a new equilibrium. In Hume's terminology, the equilibrium is identified as the state of indifference that he believes to be *the native situation of the mind* (T, 125). Acts of deliberation are independent segments, or even modules, in the temporary succession of perceptions. For Hume, the activity of the mind does not result in one ever-expanding system of beliefs. Every activity of the mind, such as believing, reflecting, hating, loving, *etc.*, is a temporary process that finds its resolution in indifference, *i.e.* the native situation of the mind.

Hume's account of 'indifference', or the equilibrium solution of a game, is relativized to a particular set of agents. The following quotation shows that he believes that the vulgar, the false philosophers, and the true philosophers, *as a matter of fact*, resolve their views in indifference and arrive at this native state of the mind in three different ways:

For it being usual, after the frequent use of terms, which are really significant and intelligible, to omit the idea, which we wou'd express by them, and to preserve only the custom, by which we recal the idea at pleasure; so it naturally happens, that after the frequent use of terms, which are wholly insignificant and unintelligible, we fancy them to be on the same footing with the precedent, and to have a secret meaning, which we might discover by reflection. ... By this means these philosophers set themselves at ease, and arrive at last, by an illusion, at the same indifference, which the people attain by their stupidity, and true philosophers by their moderate scepticism. (T, 224)

Thus, the vulgar attain indifference by their inattentiveness, the false philosophers gain indifference by self-deception, while the true philosophers impose voluntary indifference, or put an end to reflection, by their moderate scepticism. Let us now examine each of these cases to see what Hume means in each instance.

The vulgar, according to Hume, choose the strategies that identify the mutually beneficial outcomes of non-cooperative games where the expected utilities of given strategies do not result in informational feedback about the decision at hand. Hume argues that this feature can be clearly depicted when we examine the choice of strategies in solving the same issue in different contexts:

The *Roman Catholicks* are certainly the most zealous of any sect in the christian world; and yet you'll find few among the more sensible people of that communion, who do not blame the *Gunpowder-treason*, and the massacre of St. *Bartholomew*, as cruel and barbarous, tho' projected or executed against those very people, whom without any scruple they condemn to eternal and infinite punishments. (T, 115)

In this situation the vulgar can choose one of the two strategies -- to condemn the act of cruelty, or to endorse it. In both cases the vulgar choose to endorse the opposite strategies. Hume argues that this conflict is possible only because the vulgar uncritically accept a hypothetical payoff distribution in the latter case:

All we can say in excuse for this inconsistency is, that they really do not believe what they affirm concerning a future state; nor is there any better proof of it than the very inconsistency. (T, 115)

This inconsistency proves that the vulgar do not reflect upon the relation between the strategies of the game and the assigned payoffs. No feedback information is taken into account in the process of decision-making.

The false philosophy finds itself in different decision-making circumstances. Hume's analysis shows that agents refuse to accept the claim that their decisions should be analyzed in terms of strategic interaction. Philosophers believe that their decisions follow by necessity from given definitions of particulars. Hume explains that these philosophers, instead of "concluding, that we have no idea of power or agency, separate from the mind, and belonging to causes; I say; instead of drawing this conclusion, they frequently search for the qualities, in which this [causal] agency consists, and are displeas'd with every system, which their reason suggests to them, in order to explain it." (T, 223) Hume maintains that these agents find themselves in a game with no equilibrium solution. "[T]hey seem to be in a very lamentable condition, and such as the poets have given us but a faint notion of in their descriptions of the punishment of *Sisyphus* and *Tantalus*. For what can be imagin'd more tormenting, than to seek with eagerness, what for ever flies us; and seek for it in a place, where 'tis impossible it can ever exist?" (T, 223)

To resolve this difficulty the agents in question agree to adopt an implicit convention. “This consolation principally consists in their invention of the words *faculty* and *occult quality*. ... They need only say, that any phaenomenon, which puzzles them, arises from a faculty or an occult quality, and there is an end of all dispute and enquiry upon the matter.” (T, 224) This convention defines a mutually beneficial outcome only to a particular set of agents who understand the payoff structure of the game. Hume believes that the false philosophers who adopt the convention of relying on “terms, which are wholly insignificant and unintelligible” gain the appearance of consistency in their theories. Thus, the false philosophers reach the equilibrium solution of the game by self-deception.

Hume argues that the true philosophers find equilibrium solutions by their moderated scepticism. I have already outlined Hume’s argument in the Conclusion to Book I of the *Treatise*. I take it that moderate scepticism is based on the realization that it is “only proper we shou’d in general indulge our inclination in the most elaborate philosophical researches, notwithstanding our sceptical principles, but also that we shou’d yield to that propensity, which inclines us to be positive and certain in *particular points*, according to the light, in which we survey them in any *particular instant*.” (T, 273) In game-theoretical terms this realization amounts to the invitation to apply deliberational dynamics in some games. That is to say, in some cases individual decision-makers resolve to update the values of expected utilities in view of the information feedback, while in others they choose to ignore the feedback.

Finally, let me provide a demonstration of my claim that Hume’s analysis of the equilibrium solution to a game presupposes an implicit reliance on common knowledge.

Hume realizes that an equilibrium decision depends on the existence of some convention. Moreover, he maintains that conventions are relative to a particular set of agents. The philosophical importance of this realization lies in the claim that our conclusions are relative to the conventions that we endorse at the time of deliberation. This philosophical point provides us with guidance in analyzing Hume's arguments. For he apparently designs his arguments relative to relevant background information.

We can identify three levels of Hume's analysis. First, he examines whether the vulgar can make judgments about philosophical issues. Secondly, he investigates the ability of a false philosopher to examine the perception of the vulgar. Finally, he investigates the ability of a true philosopher to deal with the perception of the vulgar, on the one hand, and with the philosophical theories of the false philosophy, on the other hand.

Hume believes that the vulgar cannot be good judges of the philosophers because they share common knowledge that contains no account of philosophy. He maintains that:

[There are] in *England*, in particular, many honest gentlemen, who being always employ'd in their domestic affairs, or amusing themselves in common recreations, have carried their thoughts little beyond those objects, which are every day expos'd to their senses. And indeed, of such as these, I pretend not to make philosophers, nor do I expect them either to be associates in these researches or auditors of these discoveries. They do well to keep themselves in their present situation. (T, 272)

Hume believes, however, that the false philosophy fails to define properly the view of the vulgar. The following quotation illustrates Hume's description of the circumstances that result in the conventional nature of the theories in false philosophy:

Whatever has the air of a paradox, and is contrary to the first and most unprejudic'd notions of mankind is often greedily embrac'd by philosophers, as shewing the

superiority of their science, which cou'd discover opinions so remote from vulgar conception. On the other hand, any thing propos'd to us, which causes surprize and admiration, gives such a satisfaction to the mind, that it indulges itself in those agreeable emotions, and will never be perswaded that its pleasure is entirely without foundation. From these dispositions in philosophers and their disciples arises that mutual complaisance betwixt them; while the former furnish such plenty of strange and unaccountable opinions, and the latter so readily believe them. (T, 26)

The false philosophy fails to investigate the *actual* deliberations of the vulgar. False philosophers invent various theoretical accounts that explain, in principle, the possibility of relating given perceptions in a particular manner. Nevertheless, this approach does not fulfill the task of examining the theoretical constructions in question:

[W]hatever convincing arguments philosophers may fancy they can produce to establish the belief in objects independent of the mind, 'tis obvious these arguments are known but to very few, and that 'tis not by them, that children, peasants, and the greatest part of mankind are induc'd to attribute objects to some impressions, and deny them to others. (T, 193)

The false philosophy ignores the fact that actual deliberations of the vulgar should be examined in relation to the resources that are available to the vulgar. The conclusions that the vulgar reach are relative to the information that they share.

The true philosophy is sensitive to this objection to the false philosophy. Hume proposes to examine the deliberations of the vulgar by bracketing out any philosophical context. He explains this method in the following manner:

In order, therefore, to accommodate myself to their [the vulgar] notions, I shall at first suppose; that there is only a single existence, which I shall call indifferently *object* or *perception*, according as it shall best suit my purpose, 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. I shall be sure to give warning, when I return to a more philosophical way of speaking and thinking. (T, 202)

Hume believes that only by bracketing out all irrelevant information can we develop an appreciation of the methods that the vulgar use in their deliberations. And with this

determination he clearly shows his conviction that, in their deliberations, the vulgar select those strategies that identify mutually beneficial outcomes.

Finally, Hume believes that the true philosophy can be successful in bracketing irrelevant information only because it endorses pluralism. He explains that:

Another advantage of this philosophical system [the true philosophy] is its similarity to the vulgar one; by which means we can humour our reason for a moment, when it becomes troublesome and sollicitous; and yet upon its least negligence or inattention, can easily return to our vulgar and natural notions. Accordingly we find, that philosophers neglect not this advantage; but immediately upon leaving their closets, mingle with the rest of mankind in those exploded opinions, that our perceptions are our only objects, and continue identically and uninterruptedly the same time in all their interrupted appearances. (T, 216)

This ability to move from one level of analysis to the next is the trademark of Hume's philosophy. It is possible only because Hume is a projectionist. He treats philosophy as one of the possible projections. Nevertheless, he encourages us to choose philosophy over superstition, because it is entertaining and benign:

'Tis certain, that superstition is much more bold in its systems and hypotheses than philosophy; and while the latter contents itself with assigning new causes and principles to the phaenomena, which appear in the visible world, the former opens a world of its own, and presents us with scenes, and beings, and objects, which are altogether new. Since therefore 'tis almost impossible for the mind of man to rest, like those of beasts, in that narrow circle of objects, which are the subject of daily conversation and action, we ought only to deliberate concerning the choice of our guide, and ought to prefer that which is the safest and most agreeable. And in this respect I make bold to recommend philosophy, and shall not scruple to give it the preference to superstition of every kind or denomination. (T, 271)

Conclusion

In this thesis I have followed the hypothesis that we can understand Hume's philosophical system only if we can explain the very variety of his arguments. There is no doubt that some of Hume's arguments are skeptical, while others endorse naturalism and realism. I have shown that this diversity can be easily explained if we approach Hume as a projectionist. Hume maintains that we form habits of judgment that allow us to construct given beliefs, and we then regard the world as possessing properties that are in fact mere projections of the mind's constructive efforts. This interpretation is essentially different from the 'received view' of Hume's philosophy that treats him as a sceptic, and it also differs from the traditional empiricist reading of Hume.

The empiricist reading of Hume, broadly described, revolves around the question as to the fragmentary nature of our perception. It takes for granted that *immediate* perception supplies us with an indubitable account of the mind-independent world. The conceptual problem that we have to face in this context focuses on the manner in which the mind fills in the gaps between the fragments of experience. Hume's philosophy, according to this interpretation, shows how our imagination introduces fictions that allow us to bridge the islands of experience. Moreover, it is agreed that Hume realizes that these efforts to establish a consistent account of our experience are doomed. If immediate perception is the standard against which we must judge the adequacy of a given belief, then even our best attempts to explain unperceived phenomena will inevitably fall short of being justified.

Until now I have avoided confronting my interpretation with this traditional empiricist reading of Hume because I believe that *two* incompatible readings of the same

arguments can be developed. In this situation the choice between two competing interpretations remains a matter of preference. The empiricist reading of Hume gives a consistent account of Hume's intentions, but so does the interpretation of Hume's projectionism. The philosophical context that surrounds each interpretation is different. The empiricist reading of Hume implicitly relies on the notion of meaning by denotation that establishes the centrality of the question of truth. The projectionist interpretation of Hume's philosophy defines the meaning of perceptions by their use, and focuses on the conceptual analysis of the theoretical structures in which perceptions acquire meaning. The empiricist reading of Hume deals with the traditional epistemological concerns about normativity and justification on the basis of the assumption that our impressions have predetermined meanings. We are certain of the truth of a statement when we are certain that the grounds that we have are valid. The projectionist reading of Hume does not grant that. The departure from the traditional conception shows that our epistemological concerns can be resolved only by mere probabilistic reasoning. The difference between these two interpretations of Hume cannot be resolved, so the comparative analysis of these interpretations had to be delayed until the context that surrounds the projectionist reading of Hume was made explicit.

I have three reasons to endorse the projectionist over the empiricist interpretation of Hume. First, the empiricist interpretation is arbitrarily selective about the passages that are believed to be relevant to Hume's philosophy. The empiricist interpretation cannot generate satisfactory explanations of Hume's arguments about probability. Moreover, it fails to establish a unified account in terms of which we can see the continuity of Hume's arguments in his theoretical, moral, and social philosophy. The

argument of this thesis does not succumb to the same difficulties. The projectionist reading of Hume provides the resources to incorporate Hume's theory of probability with his theory of ideas. Moreover, it makes it possible to see Hume's philosophy as a unified account because it applies to Hume's theoretical philosophy the same method that has been previously explored by Blackburn (1993) in Hume's ethics, and by Skyrms (1996) and Vanderscraaf (1995) in Hume's social philosophy.

Secondly, I have profound reservations about the philosophical adequacy of the presupposition that our immediate experience gives us an indubitable account about phenomena in a mind-independent world. This is not the place to develop this argument. I shall merely illustrate my doubts by a telling observation by Jeffrey: "The senses are not telegraph lines on which the external world sends observation sentences for us to condition upon."¹ In this thesis I have repeatedly shown that we don't have to assume that Hume endorses the claim that we are acquainted with the mind-independent world through our impressions. I have argued that only *minima sensibilia* can serve as the medium between our minds and the world. Impressions themselves are constructed entities that acquire their meaning through their *use*.

Finally, I believe that the traditional empiricist reading seriously underestimates the significance of Hume's philosophy. Hume's philosophical arguments are presented by it in simplistic terms to accommodate the idea of the historical evolution of empiricism from the crude intuitions of the British Empiricists to the sophisticated analysis of contemporary philosophy. I have argued that Hume's informal analysis of theories, his theory of abstract ideas, and his theory of probability are not merely stepping-stones in this evolution. Quite the contrary, Hume's arguments themselves

anticipate some fundamentally important contemporary theories about the nature of science, the analysis of universal propositions, and the elements of equilibrium selection in game theory.

The analysis of projectionism in Hume's philosophy has revealed two arguments that might be of particular interest to Hume scholarship. First, I have provided a new interpretation of the argument that is believed to be the backbone of Hume's empiricism, namely, the principle that our impressions are copied in ideas. I have argued that it is *not* an attempt to *reduce* our experience to simple and indubitable elements. The distinction between impressions and ideas instead enables Hume to discuss our systems of beliefs without invoking any assumptions about the nature of the mind-independent universe. Essentially, this distinction introduces the main elements of analysis that are used in the examination of various theories. Secondly, I have shown that Hume's account of probability can be modeled in terms of decision theory. This has enabled us to use the account of the modification of expected utilities when we try to assess the deliberational dynamics of Hume's arguments about the choice between projections, such as the naive realism of the vulgar and the theories of philosophers.

Notes:

Chapter 1:

1. Burton (1967), vol. 1, pp. 66f.
2. Green (1964), vol. 1, pp.1-305.
3. *ibid.*, p.2.
4. See Long (1992).
5. Kemp Smith (1905).
6. *ibid.*, p.150.
7. Kemp Smith (1983), p.155.
8. Stroud (1977), p.222.
9. Robison (1976), p.26; on this issue also see Bell (1990).
10. Pears (1990), p.98.
11. Fogelin (1998).
12. The most prominent defenders of this view are Wright (1983) and Strawson (1989); also see Costa (1989).
13. Wright (1983), p. 2.
14. For alternative arguments against the interpretation of Hume's Realism see Blackburn (1990); Richman (1995).
15. See Richard Popkin "The Philosophical Bases of Modern Racism" in Popkin (1980), pp. 79-102. The application of this project to Hume, and its failure, can be illustrated by Popkin "Did Hume ever Read Berkeley?" and "So, Hume did Read Berkeley" in Popkin (1980), pp. 277-96. Also see Bracken (1978).
16. See Garrett (1997), pp. 29-38; Wright (1983), pp. 1-7.
17. Laird (1983).
18. Ayers (1984).
19. Raynor (1980), (1987), (1990).

20. McCracken (1983).
21. Jones (1982), also Potkay (2000).
22. Russell, P. (1985), (1988), (1990). On the same issue see also Flage (1992).
23. See Hurlbutt (1965); Kuypers (1966); Noxon (1973); Capaldi (1975); Force (1981); Sapadin (1992); Richmond (1994); McIntyre (1994); Bell (1997).
24. This cause is championed by Baier (1991), (1988); also see McIntyre (1989). On attempts to present Hume as a forerunner of cognitive science see Biro (1993); Millican (1998); Traiger (1994). On Hume's account of general rules see Michaud (1987).
25. See Stroud (1991), (1993); Blackburn (1993b).
26. Stroud (1993), p. 253.
27. Pears (1990), pp. 1-15.
28. Livingston (1984), (1998).
29. Livingston (1998), pp. 11-23.
30. Blackburn (1980), p. 175.
31. See Loeb (1995), (1998). Also see Roth (1993).
32. Loeb (1995), p. 301.
33. Frank P. Ramsey "Theories" in Ramsey (1990), pp. 112-139; Braithwaite (1953). The relation of these views to Hume can be traced through Braithwaite (1927), and Ramsey's reply to this paper in "Law and Causality", Ramsey (1990), pp. 140-163.
34. Majer (1989), Braithwaite (1954).
35. Keynes (1973).
36. *ibid.*, p.3.
37. Ramsey (1990), p. 96.
38. Lewis (1969), pp.5-42; Skyrms (1996), pp. 22-44; Vanderschraaf (1998a), (1998b).

Chapter 2:

1. For some examples see Hacker (1996); Wadia (1979); Rorty (1962).
2. For some examples see Schmidt (1988); George (1997).
3. Hatfield (1997).
4. The general statement of this connection can be found in Ayer (1959); see also Stroud (1992); Mackie (1979).
5. Wolff (1977); Beck (1976); Wilson (1976)
6. Russell, B. (1986), pp. 3-26.
7. Carnap (1969).
8. Majer (1989).
9. Ramsey (1990), pp.112-139.
10. The recognized roots of this view stretch back to Hertz (1956).
11. Ramsey (1990), p. 162.
12. Ramsey (1990), pp.112-5.
13. For some examples see Zabeeh (1960), pp. 85-112; Passmore (1968), pp. 42-64.
14. Raynor (1987); Pappas (1987).
15. As defined in Lewis (1969), pp. 83-121.
16. Lewis (1988), (1994). A helpful discussion of Lewis's analysis is given by Gilbert (1989); Collins (1988); Byrne and Hajek (1997).
17. Blackburn (1980), (1990), (1993a), (1993b), (1995).
18. For some examples see Yolton (1979); Sellars (1997).
19. The most widely acknowledged description of empiricism is given in the classic paper of Quine "Two Dogmas of Empiricism" in Quine (1953), pp. 20-46.
20. Recently, the discussion about "folk psychology" has strongly demonstrated that this issue cannot be overlooked any more. See Horgan and Woodward (1985); Millican R.G. (1986); Graham (1987); Graham and Horgan (1988); Hodgson (1994).

21. On this issue see O'Shea (1996).
22. Wright (1989); Strawson (1989); Ward (1988); Anderson (1975).
23. Consult the following passage: "'Tis easy to observe, that in tracing this relation, the inference we draw from cause to effect, is not deriv'd merely from a survey of these particular objects, and from such a penetration into their essences as may discover the dependence of the one upon the other. There is no object, which implies the existence of any other if we consider these objects in themselves, and never look beyond the ideas which we form of them." (T, 86).
24. More on the subject in Wilbanks (1968); Streminger (1980).
25. More on the subject in Lewis (1969), pp. 52-60; Heal (1978); Hollis and Sugden (1993); Vanderschraaf (1995).
26. Lewis (1969), p. 58.
27. For some examples see Maund (1972), pp. 266-304; Prichard (1950), pp. 174-199.
28. Miller (1949).
29. Majer (1989), pp. 240-250.
30. Raynor (1980); Baxter (1988); Jacquette (1996); Falkenstein (1997).
31. Osler (1994), pp. 201-221; Maull (1978).
32. Zabeeh (1964); Flew (1966).
33. Livingston (1984), (1998).
34. Livingston (1998), pp. 35-52.
35. *ibid.*, Chapter 8.
36. For some examples see Zabeeh (1960), pp. 24-64; Bennett (1971), pp. 222-234.
37. Lewis (1969), pp. 3f, 107-121; Vanderschraaf (1998), pp. 337-369.
38. This view about Hume has deep historical origins. See Lehrer (1987); Di-Giovanni (1998); Evands (1961). See also Yolton (1980).
39. See, Lennon (1979); Fogelin (1982); Nelson (1989); Williams (1992); Durland (1996).

40. Attainability of common knowledge has been discussed by Schiffer (1972); Lewis (1969).

Chapter 3

1. The implications of this position are discussed in Rorty (1995).
2. For some examples see Bennett (1971), pp. 222-234; Pears (1990), pp. 33-44.
3. This position is given in Maund (1972), pp. 37-66; also Laird (1983), pp. 25-37.
4. Ramsey "General Propositions and Causality" in Ramsey (1990), pp. 145-163.
5. To my knowledge the only philosopher who has highlighted this relation is Price (1940), pp. 193, 201.
6. Braithwaite (1953), p.87
7. Jennings (1989).
8. Majer (1989).
9. Russell, "The Philosophy of Logical Atomism" in Russell (1986), pp. 160-169.
10. Braithwaite (1953), p. 53
11. As an indication of this interest see Hume's evaluation of his accomplishment about the notion of probability (A, 646f); on Ramsey see "Truth and Probability" in Ramsey (1990), pp. 52-109.
12. See Hume's comments on Berkeley (T, 17), and Ramsey's "General Proposition and Causality" in Ramsey (1990), pp. 145-163.
13. Consult Hume (T, 155-172), and Ramsey "Law and Causality" in Ramsey (1990), pp. 140-162. Ramsey's analysis of causation is based on Braithwaite (1928-29).
14. For example, Sneed (1971), Leroux (1987).
15. Braithwaite (1953), (1954).
16. Majer (1989), (1991).
17. Blackburn (1980).
18. Boyle [1686] (1996).

19. *ibid*, p. 36.
20. *ibid*, p. 37.
21. *ibid*, p. 32.
22. See Popkin "The New Realism of Bishop Berkeley" in Popkin (1980), pp.319-338.
23. Also see Aaron (1965), pp. 12-14, 121-3; Rogers (1966); Kroll (1984).
24. Aaron (1965), p. 124.
25. Winkler (1989), pp. 238-255.
26. Popkin (1980), p. 334.
27. Hooker, (1982)
28. Mackie (1976) argues that Locke sees the ability of the sciences to explain the illusions as a confirmation of the validity of corpuscular science (p.23). I believe that Locke remains indifferent about the issue of confirmation because he believes that the ontology of primary qualities can be justified by a logical argument. If we credit Locke with anticipating the importance of the utility of science, which he fails to do, then we will rob Hume of the chance of adding something of significance to the methodological discussions of his time.
29. A helpful analysis of the variety of discussions about various forms of calculus is given in Mancosu (1996), pp. 150-177.
30. See Axtell (1969).
31. I distinguish between the cognitive status of the constructions that result from the application of abstraction to primary and secondary qualities. It seems to me that this distinction can be used to resolve a recent controversy between Ayers (1991), pp. 242-259, and Walmsley (1999). Ayers argues that for Locke no individual abstract ideas exist, while Walmsley insists that Locke is indeed guilty of reifying individual abstract ideas. But when Ayers talks about a set of individual ideas that are capable of representing each other, he has in mind complex ideas of substances, such as cats. Walmsley, on the other hand, talks about complex ideas of modes and relations, such as triangles. If I am right about Locke's intentions, then *both* Ayers and Walmsley are right about their analysis of Locke's arguments. But they are mistaken to expect that Locke would assign the same epistemic significance to constructions of complex ideas of substances, on the one hand, and complex ideas of modes and relations, on the other hand.

32. Aaron (1965), p. 238.

33. It is clear that Berkeley does not abandon the 'substance ontology' account completely, but he retains it in relation to the perceiving agents. Nevertheless, I shall present Berkeley's account only as a relational account of predication in order to simplify my argument about the competing positions of Locke and Berkeley in relation to the existence of mind-independent states of affairs. In this thesis I do not attempt to present an encompassing view of Berkeley's philosophy. Instead, I try to compare his analyses of mind-independent states of affairs to those of Locke.

34. The claim that for Berkeley the theory of knowledge is redundant requires a clarification. Berkeley uses the argument from design to make inferences about the nature of perceiving agents. Isn't that a clear indication of his interest in derived knowledge? I have two replies to this question. First, in this chapter I am mainly interested in *derived* knowledge about mind-independent states of affairs, and wish to insist that, in this context, Berkeley attacks Locke's attempt to construct a theory of ideas that embodies the analysis of the validity of derived knowledge. Secondly, Berkeley's endorsement of the argument from design falls short of giving us a *theory* of knowledge because it does not present any criteria about the validity of our *inferences*.

35. Jessop, in Berkeley (1948), vol. 5, p. 8.

36. Winkler (1989), p. 231.

37. Raynor (1987), p. 614.

38. A helpful discussion about the philosophical significance of this concept is given in Marion (2000), pp. 307-332.

39. Brykman (1982).

40. Wilson (1997), p. 116

41. Berman (1994), pp. 144-154.

42. Tipton (1974), pp. 302-316.

43. This outline was inspired by Jennings (1989), p. 234.

44. Popper (1953).

45. Majer (1989).

46. Blackburn (1993a), p. 32.

47. Sturgeon (1991), Brighthouse (1990).

48. Livingston (1976) gives an interpretation of Hume's theory of meaning that is compatible with my proposal.

49. See Bennett (1971), pp. 225-239; Pears (1990), pp. 33-44.

50. My analysis of Hume's position about the meaning of 'matters of fact' resembles the discussion in Rorty (1997). He argues that "[t]he terms 'realist' and 'antirealist' should be confined to people who are willing to take seriously the question "Is there a matter of fact about X?" for some specified X. The question neatly fuses the bad epistemological questions "Can ... be known? " with the equally bad ontological questions "Is ... really real? ". Until we drop this fusion of bad old questions, we shall be haunted by the ghost of the scheme-content distinction: the distinction between what there is not a fact about (the subjective) and what there is a fact about (the objective). Pragmatists think that distinction should never be drawn." (p. 151) I refuse, however, to describe Hume as a pragmatist. Hume interprets 'matters of fact' as part of a fully functional view of the vulgar. Hume's analysis of this concept is that of a projectionist because he understands that the vulgar belief about the "reality" of "matters of fact" is an integral part of its meaning. Thus, we cannot completely abandon Rorty's "bad old questions" because their use makes them significant.

51. I should clarify the exact scope of *minima sensibilia*. It might be argued that Hume wants to limit *minima sensibilia* to our visual and tactual perceptions. After all, he talks about *minima sensibilia* only in Part II of Book I of the *Treatise*. I believe, however, that we don't have to assume that for him *minima sensibilia* cannot be extended any further. Hume's claim is clear: (1) there is a minimal threshold beyond which our perceptions cease to exist; (2) in their immediate appearance our perceptions are simple, *i.e.* they are indivisible and have no degrees of any qualities. That is to say, *minima sensibilia* have only the property of existence. If I am right about this definition of *minima sensibilia*, then nothing prohibits us from treating sounds, pains, tastes, *etc.* as *minima sensibilia*.

52. Fogelin (1981).

53. Blackburn (1980), p. 175

Chapter 4

1. Keynes (1973).

2. *ibid.*, p.468.

3. *ibid.*, pp.171f.

4. *ibid.*, pp.401f.

5. The rest of this chapter will show that I find Keynes's analysis of Hume's position about probability too restrictive. I believe that Keynes did not realize that Hume's work contains a theory of probability which differs from Keynes's own account of probability. My discussion here is mainly expository, and shows what Keynes himself learned from Hume.

6. *op.cit.*, p.302.

7. *ibid.*, p.356.

8. *ibid.*, p.259.

9. *ibid.*, pp.266f.

10. *ibid.*, p.3.

11. *ibid.*, p.13.

12. *ibid.*, pp.34f.

13. Ramsey "Truth and Probability" in Ramsey (1990), pp. 52-109.

14. *ibid.*, p.57.

15. *ibid.*, pp.60f.

16. *ibid.*, p.86.

17. Unfortunately, Ramsey does not develop this argument any further. It is not clear whether he wants to apply it to all observations, or merely to some exceptional cases.

18. *op.cit.*, p.68.

19. *ibid.*, p.77.

20. *ibid.*, p.78.

21. De Finetti (1974).

22. Kyburg (1978).

23. Jeffrey "Bayesianism with Human Face" in Jeffrey (1992), pp. 77-107.

24. *ibid.*, p.78.

25. Skyrms (1986).

26. *ibid.*, p.63.
27. *ibid.*, p.63.
28. *ibid.*, p.66.
29. Skyrms (1991), p.221.
30. *op.cit.*, p.64.
31. Skyrms (1988), pp.345f.
32. Jeffrey (1992), pp.40f.
33. *ibid.*, p.38.
34. *ibid.*, p.42.
35. *ibid.*, p.29.
36. Strawson (1989), pp. 219-230.
37. Frasca-Spada (1998), p.46.
38. Maynard Smith (1982).
39. With this analysis I am applying to Hume's theory of probability the principles that are discussed in Vanderschraaf (1995).

Conclusion

1. Jeffrey (1992), p. 78.

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