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CONCERNING THAT REASON IN HUME'S PHILOSOPHY THAT IS NEITHER DEDUCTIVE NOR INDUCTIVE[1]

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I welcome the invitation received from Professor Miguel A. Badía Cabrera to contribute a paper to the present festschrift. I have been studying and writing about distinctions of reason in Hume's Philosophy for many years. However, as my understanding of the applications of distinctions of reason in Hume's Philosophy has evolved over time, I have not, until now, had an opportunity to present (what I believe is) a complete account of the applications of distinctions of reason in Hume's Philosophy. This paper, therefore, contains my full thinking on this topic, including the contribution of Hume's analysis of distinctions of reason in the *Treatise* to his empiricist account of Geometry in this work.

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AMONG THE DISTINCTIONS which Hume introduces very early in the *Treatise of Human Nature* is that between simple and complex perceptions. Simple perceptions are those which admit of no distinction or separation (T.2), whereas those which are complex can be distinguished into the simple perceptions of

[1] Portions of this paper first appeared in "Hume on Separating the Inseparable", in *Hume and the Enlightenment: Essays Presented to Ernest Campbell Mossner,* edited by William B. Todd, p. 30-42, and in "Some Reflections on Hume on Existence", *Hume Studies*, Volume XVIII, Number 2, November 1992, p. 137-151. All references to David Hume's A *Treatise of Human Nature* are to the L.A. Selby-Bigge edition, with text revised and notes by P.H. Nidditch, Second Edition, Oxford at the University Press, 1978. References to David Hume's *Enquiry Concerning Human Understanding* are to the L.A. Selby-Bigge edition, with text revised and notes by P.H. Nidditch, Third Edition, Oxford at the Clarendon Press, 1975.

which they are composed[2], through the power that the imagination possesses of producing a separation wherever it perceives a difference.[3] A simple perception, therefore, is a perceptual primitive that is not reducible into parts, that is, into other more basic perceptions. The aim of this paper is two-fold. In the first place, an attempt will be made to understand Hume's treatment of 'simple perceptions' and the distinctions possible within them, in the light of his discussion of 'distinctions of reason'. The topic of distinctions of reason is placed by Hume in Part I of the First Book of the *Treatise*, which Part is said by Hume, at the close of Section IV of Part I, to contain 'the elements of this philosophy'. Nevertheless, the importance of 'distinctions of reason' in Hume's philosophy is usually overlooked. In fact, to the best of my knowledge, the expression 'distinctions of reason' is employed by Hume in only four passages, all of them being in the *Treatise*, and in these, the pivotal role of such distinctions is never enunciated. Now, it is my contention that Hume was correct in introducing this topic as an 'element' in his philosophy: as a result, the second aim of this paper is to show where, in Hume's philosophy, distinctions of reason are centrally involved in his analysis.

DISTINCTIONS OF REASON

Hume argues that, although simple perceptions are not amenable to further distinctions in terms of parts, they are still susceptible to distinctions of reason. As examples of this distinction, he speaks of 'figure and the body figur'd', 'motion and the body mov'd' (T.24), 'length' and 'breadth' (T.43), and an 'action' and its 'substance' (T.245). The actual example employed in his discussion[4] is the distinction between the color and figure in a globe of white marble. Hume points out that when presented with a globe of white marble, the color is inseparable and indistinguishable from the form or figure. However, if we also observe a globe of black marble and a cube of white marble, and compare them with the globe of white marble, we will be able to distinguish the color and figure of the latter through the resemblances it has with the other two objects. That is, the color of the globe resembles the color of the cube, and the figure of the globe resembles the figure of the black marble. The awareness of these resemblances Hume refers to as 'a kind of reflection' or 'comparison' (T.25), and that to which we are at-

[2] 'Complex ideas may, perhaps, be well known by definition, which is nothing but an enumeration of those parts or simple ideas, that compose them' (E. 62).

[3] 'Wherever the imagination perceives a difference among ideas, it can easily produce a separation' (T. 10).

[4] His only discussion of this topic occupies a mere one and a third page, T.24-25.

tending – in this case the color of the figure – he refers to as an 'aspect' (T.25). Thus, although simple perceptions lack parts, they do possess aspects - aspects which are discovered through finding resemblances between the perception in question and others:

> … we consider the figure and colour together, since they are in effect the same undistinguishable; but still view them in different aspects, according to the resemblances, of which they are susceptible (T.25).

The fact that Hume offers a separate name for the operation under discussion makes it appear as though it is a separate operation of the mind, not yet covered in his discussion. However, this is not the case. Distinctions of reason are made through comparing an idea with other ideas in order to determine certain resemblances between them. But all comparisons between ideas are regarded by Hume as attempts to establish philosophical relations between them (See T. 13-15). What follows from this is that distinctions of reason are nothing but the determination of philosophical relations between a certain idea and others.

Further refinements on Hume's view are now in order. In the first place, Hume is extremely misleading in holding that at least two different objects are required for a distinction of reason. Quite clearly, a comparison could take place, even if one object is involved, so long as some particular change occurred within it, and we were able to retain in memory the original appearance of the object. For example, if the globe of white marble of which Hume speaks were to be painted black, a comparison would still be possible between the object as it was formerly, and as it is now. In such an instance, we can still find a resemblance in shape between the object at two different times. But even this analysis of the matter is misleading, since it lends support to the view that before the philosophical relation required for a distinction of reason is uncovered, there must be some qualitative difference between the objects or perceptions involved. In point of fact, however, this need not always be the case. Let us suppose that I acquired a globe of white marble shortly before I left my study yesterday evening, and that I stationed this globe on my desk. Upon returning to my study this morning, I see an object on my desk, and remark that this is the globe which I received yesterday, and that no perceptible change has occurred in it since that time. It is clear that, in this case, I can distinguish the figure from the color – I know that there has been no change in the color *and* I know that there has been no change in the shape – even though no qualitative contrast is present. In fact, in this case, it is precisely because there is no qualitative change in the object that we say the object has remained unaltered. For a distinction of reason to take place, therefore, what is required is the awareness of a resemblance that a simple perception bears to

some other perception, or to itself at some other time. The contrast that Hume emphasizes is a necessary condition for a distinction of reason when learning how to make such distinctions. However, once this has been learned, the contrast ceases to be necessary.

Until now, I have been assuming that Hume is correct in holding that a distinction of reason is applicable only in the case of simple ideas: '…the *distinction* of ideas without any real *difference* … is founded on the different resemblances, which the same simple idea may have to several different ideas' (T.67). Our preceding discussion, however, has already shown that distinctions of reason do occur with respect to complex ideas, in the sense of complex idea discussed earlier.[5] Since philosophical relations exist between complex ideas, and since all distinctions of reason are nothing but the establishment of philosophical relations, it follows that distinctions of reason can occur with respect to complex ideas. Nevertheless, this argument is misleading in itself, since it obfuscates the very special role which distinctions of reason play. The problem here, then, is one of determining when a special label is warranted when we are involved with the comparison of ideas.

The notion of a simple idea discussed earlier presupposes that there is some limit to the separations possible within an idea. And Hume holds that there are such limits:

> …the *idea*, which we form of any finite quality, is not infinitely divisible, but that by proper distinctions and separations we may run up this idea to inferior ones, which will be perfectly simple and indivisible. In rejecting the infinite capacity of the mind, we suppose it may arrive at an end in the division of its ideas…the imagination reaches a *minimum,* and may raise up to itself an idea, of which it cannot conceive any sub-division, and which cannot be diminished without a total annihilation (T.27).

In light of this passage, it is clear that the very examples which Hume has employed when introducing the notion of distinctions of reason, namely, the globe of black marble and the cube of white marble, cannot be considered examples involving simple ideas: it is possible to imagine, for example, that the globe is split into two equal parts. Therefore, not only are distinctions of reason possible in the case of complex ideas, Hume's discussion of the matter utilizes complex ideas.

The equivocation involved in the term 'simple idea' can now be made explicit. On the one hand, by a simple idea, Hume means one which is such that *no* distinction or separation is possible with respect to it. The example Hume uses is the idea of a grain of sand:

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[5] See note 2.

> When you tell me of the thousandth and ten thousandth part of a grain of sand, I have a distinct idea of these numbers and of their different proportions; but the images, which I form in my mind to represent the things themselves, are nothing different from each other, nor inferior to that image, by which I represent the grain of sand itself, which is suppos'd so vastly to exceed them…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).

On the other hand, the discussion offered on distinctions of reason points out that Hume is also prepared to call any idea 'simple' when considered from the point of view of qualities it possesses that we find to be inseparable from each other. That is, since color and figure are always found together, any idea viewed solely in terms of these attributes can be called a simple idea. The important point brought out then is that, because of the second sense of simple idea uncovered, Hume is committed to the view that distinctions of reason are possible in the case of complex ideas, when this term is taken as the opposite of simple idea in the first sense. Putting the matter generally, we can say that distinctions of reason are possible in the case of all our ideas with respect to those features of our ideas, such as color and figure, which are not separable by the imagination alone. Further, although all philosophical relations are based[6] on some resemblance between ideas, distinctions of reason are employed solely to establish a resemblance between a simple idea (in the second sense discussed) and some other idea, so that an inseparable aspect of the simple idea can be discerned. Accordingly, of the seven different philosophical relations discussed by Hume[7], distinctions of reason employ only resemblance, and resemblance is employed in order to isolate aspects of simple ideas.

One of the challenges for commentators on Hume is to attempt to locate areas in which distinctions of reason operate in Hume's philosophy. In our discussion until now, I showed how distinctions of reason can be employed in separating an inseparable aspect of a perception from the perception itself. In this regard, I will examine Hume's views on adopting a disinterested standpoint in morality, and I will examine whether distinctions of reason have any application regarding our idea of existence. Once this portion of my paper is completed, I will turn to Hume's analysis of our awareness of space and our awareness of time. I will show that in regard to these ideas, distinctions of reason are not confined to individual perceptions, since a multiplicity of perceptions may also have an in-

[6] Just what more is involved is beyond the scope of this paper to investigate.

[7] Resemblance, Identity, Space and Time, Proportions in Quantity and Number, Degrees in any Quality, Contrariety, Cause and Effect.

separable aspect, which can also be separated or distinguished by a distinction of reason. I will complete this paper by analyzing Hume's views on an empiricist analysis of Geometry –this is his account of Geometry in the *Treatise of Human Nature* – and show that it has its roots in his analysis of the role of distinctions of reason in gaining an awareness of space.

ADOPTING A DISINTERESTED STANDPOINT IN MORALITY

It is well known that Hume argues that morality is more a matter of feeling than of judgment, and that while reason can assist sentiment in arriving at an evaluation of a situation, it is ultimately through sentiment that we arrive at an awareness of the morality of a situation. The difficulty with Hume's view – which he himself recognizes - is that sentiments tend to be variable, depending upon whether our interest is involved or not, and yet moral judgments must possess an objectivity to them, which omits considerations of self-interest.

In both of the cases mentioned – those where our own interest is involved, and where it is not – it is the variability of the moral sentiments, which requires, that for purposes of accurate evaluation, a common or disinterested standpoint be adopted. Hume's solution to how such a disinterested standpoint is adopted is far from clear. He says that the disinterested standpoint is achieved through "that *reason*, which is able to oppose our passion; and which … [is] … nothing but a general calm determination of the passions, founded on some distant view or reflexion".[8]

[8] T. 583. In the passage itself, Hume regards this reason as something which he has already discussed. Thus, he speaks of "that reason, which is able to oppose our passion; and which *we have found to be* nothing but a general calm determination of the passions, founded on some distant view or reflexion'. I have, in quoting this passage above, omitted the underlined words because to the best of my knowledge Hume has not in any previous section discussed a reason which can oppose passion in the sense of being a calm determination of the passions founded on some distant view or reflexion. In fact, up to now Hume has been arguing that reason cannot oppose the passions and that in such situations what are commonly regarded as the dictates of reason are nothing but the impulses of certain calm passions. Selby-Bigge errs in thinking (T. 686) that the reason mentioned at T. 583 must be the calm passions mentioned at T. 417 when Hume discusses the alleged opposition between reason and passion. The calm passions often oppose the violent passions and Hume points out not that the calm passions can serve as a general calm determination of a passion founded on some distant view or reflexion, but rather that "in general, we may observe, that both these principles operate on the will; and where they are contrary, that either of them prevails, according to the general character or present disposition of the person". (T.418. Italics in text omitted.) Accordingly, if there is to be a general calm determination of the passions founded on some distant view or reflexion this cannot be carried out through the calm passions.

When Hume speaks here of 'some distant view or reflexion', he means that, in order to standardize the passion, I must take into account how the passion would present itself if my own situation were altered: "We blame equally a bad action, which we read of in history, with one perform'd in our neighbourhood t'other day : The meaning of which is, that we know from reflexion, that the former action wou'd excite as strong sentiments of disapprobation as the latter, were it plac'd in the same position" (T.584). What still remains to be cleared up is what meaning is to be attached to the ordering faculty, that is, to 'that *reason*, which is able to oppose our passion …' By merely taking into account how a passion would affect me if my position were altered, I am able to see that the passion is variable, but that, by itself, does not yield a disinterested standpoint: it only provides information concerning other subjective expressions of these passions. Thus, considering the variability of the passions through 'some distant view or reflexion' is a necessary condition for standardizing the sentiment, but not a sufficient one.

Hume points out that this ordering faculty into which we are inquiring does not usually make any impact on the passions themselves:

> The intercourse of sentiments … in society and conversation, make us form some general inalterable standard, by which we may approve or disapprove of characters and manners. And tho' the *heart* does not always take part with those general notions, or regulate its love or hatred by them, yet are they sufficient for discourse, and serve all our purposes in the company, in the pulpit, or the theatre, and in schools (T.603).

Accordingly, the ordering faculty we are trying to uncover must be able to operate even when the perceptions themselves are unaffected by the ordering process. Of the senses of reason which Hume discusses, we can eliminate demonstrative reasoning as this ordering faculty, since it only seeks to apprehend relations existing between ideas. Nor is causal (or inductive) reasoning able to do the ordering, since it operates on the basis of past uniformities, and is useful only for predicting or retrodicting. Thus, causal reasoning can inform me how I feel if I altered my present standpoint, but it itself cannot be the source of the order I impose on the passion.

I suggest that the only sense of reasoning, which answers to the ordering faculty discussed by Hume, is a distinction of reason. In this case of adopting a disinterested standpoint, what we must do is to distinguish the content of the passion from its vivacity or manner of presentation. That is to say, in the case of actions denominated virtuous, we must attend to the content of the passions of love or pride, while ignoring their vivacity, whereas with vicious acts, we must attend to the uneasiness of the passions of hatred or humility, while again ignor-

ing their vivacity. This situation is analogous to that discussed by Hume, when he introduced the topic of distinctions of reason. There we found that color and figure are inseparable, so that in reality no distinction between them can be made. Nevertheless, with respect to a globe of white marble and a cube of white, we can, through a distinction of reason, establish a philosophical relation or resemblance between these two objects in order to enable us to attend to the color, while ignoring the figure. Similarly, in adopting a disinterested standpoint in morality, we find that we must attend to the content of certain passions, that is, their pleasure or uneasiness, while ignoring their manner of presentation or vivacity. In reality this, too, cannot be done, since the vivacity of a passion is not something which we can separate from the content of the passion. Just a color is always attended with figure, so passions are attended with some vivacity or other. If, then, we are to distinguish the content of a passion from its vivacity, this can only be done through a contrasting comparison. We must, in other words, call to mind other instances of this passion, wherein there is a difference in its vivacity, and through a distinction of reason attend to the resemblance of the passions so far as content is concerned, while ignore their differences in vivacity. Just as "a person, who desires us to consider the figure [or colour] of a globe of white marble without thinking on its colour [or figure], desires an impossibility" (T.25), so a person who asks us to consider the content of a passion without attending to its vivacity is asking for an impossibility. Nevertheless, through a distinction of reason both are possible conceptually, and in the case of morality, it is "sufficient for discourse, and serves all our purposes in company, in the pulpit, on the theatre, and in the schools" (T.25).

THE IDEA OF EXISTENCE

In *Treatise* 1.2.6, "Of the idea of existence, and of external existence", Hume maintains that although there is no impression or idea of any kind, of which we have any consciousness or memory, that is not conceived as existent, there is no separate idea of existence which can be associated, or conjoined, with ideas of objects which we believe exist (T.603). He then attempts to show that existence also cannot be distinguished from the ideas of objects which we believe exist by a distinction of reason. Given that, "Whatever we conceive, we conceive to be existent" (T.67), and that there is no separate impression or idea of existence, it may seem that existence is inseparable from the idea of an object, just as color is inseparable from figure, and motion from the body moved. In fact, it is because we can never conceive of any thing except as existent, that Hume argues that a distinction of reason is impossible in regard to existence. The argument, through

which he tries to prove that existence cannot be distinguished from the idea of an object by a distinction of reason, is contained in one paragraph:

> Our foregoing reasoning 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).

On this point, Phillip D. Cummins writes:

> Hume's argument turns on his premise that an indispensable condition for drawing a distinction without a difference and being able to assign a common quality to a group of objects is experience of an object which does not resemble the objects in the group in the way they resemble one another. Hume takes it to be a necessary inference that since in acquiring an idea of existence all the objects (impressions and ideas) being compared are perceptions of which one is conscious, they all exist. Consequently, no object differs from the rest with respect to existence. This implies that no idea of existence (understood as a quality of objects) can be generated by the required comparisons.[9]

But Hume and Professor Cummins are clearly wrong about this. Let us return briefly to the color/figure example. To distinguish the color from the figure, we compare the colors of the objects (both are white)—a comparison which is facilitated by the contrast in their respective shapes. Simply put, we notice that the color, white, is found in a variety of shapes, even though in no case is the color white separable from the shape over which it is dispersed. "[W]hen we wou'd consider its color only, we turn our view to its resemblance with the cube of white marble"(T.25).[10] What is important here is that resemblances in color be noted amidst contrasting shapes. Now, if existence were related to whatever can be conceived, as color is related to figure, then it would be possible to distinguish existence from what can be conceived, provided that we perform the relevant contrasting comparison required for a distinction of reason. We should notice the similarity which everything which can be conceived shares with regard to existence, amidst contrasting natures or characters between or among the ideas or objects conceived. Whether we think of a dog or a table or a computer, we should

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[9] Phillip D. Cummins, "Hume on the Idea of Existence", *Hume Studies* 17, no. 1 (April 1991): 77.

[10] Similarly, Hume writes of figure: "When we wou'd consider only the figure of the globe of white marble, we form in reality an idea both of the figure and colour, but tacitly carry our eye to its resemblance with the globe of black marble" (T.25).

notice the common feature, existence, despite the differences which exist between or among what is being conceived as existing. The pervasiveness of an inseparable aspect of what can be conceived does not rule out distinguishing that aspect from the object by a distinction of reason, as long as a contrasting comparison of the sort discussed can occur.

Although I have shown that Hume's analysis of a distinction of reason does not rule out distinguishing existence from the object apprehended as existent, because it is the case that whatever we can conceive we conceive as existing, I will now proceed to show why, given Hume's account of our awareness of existence, a distinction of reason between existence and the object apprehended as existing is impossible.

When Hume says that, "whatever we conceive, we conceive to be existent" (T. 67), he means that, whatever we conceive, we conceive as *possibly existing*:

> Whatever can be conceiv'd by a clear distinct idea necessarily implies the possibility of existence (T. 43).
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> Tis an establish'd maxim in metaphysics, That whatever the mind clearly conceives includes the idea of possible existence, in other words, that nothing we imagine is absolutely impossible. We can form the idea of a golden mountain, and from thence conclude that such a mountain may actually exist. We can form no idea of a mountain without a valley, and therefore regard it as impossible (T. 32).

Hence, all perceptions are conceived with the modality of possibility. That certain perceptions or objects are regarded as possibly existing, and others as actually existing, is discussed by Hume in the context of his theory of belief.

In the Appendix to the *Treatise*, Hume clarifies his account of belief presented in *Treatise* 1.3. He argues there that belief is either "some new idea, such as that of *reality or existence*, which we join to the simple conception of an object, or it is merely a peculiar *feeling* or *sentiment*"(T. 623). For Hume, a satisfactory account of belief also provides a satisfactory account of reality or existence. The awareness of existence is explained through the awareness of belief. We need not review Hume's arguments to prove that a belief is not "some new idea, such as that of *reality* or existence"—these arguments are sufficiently well-known.[11] What must be emphasized here is that his analysis of belief focuses on the *manner* of conception, rather than focusing on the *content* of a conception:

> ... there is a greater firmness and solidity in the conceptions, which are the objects of conviction and assurance, than in the loose and indolent reveries of a

[11] Hume's *Treatise* 1.3.7, and the Appendix to the *Treatise*.

> castle-builder ... They strike upon us with more force; they are more present to us; the mind has firmer hold of them ... These ideas take faster hold of my mind, than the ideas of an inchanted castle. They are different to the feeling; but there is no distinct or separate impression attending them (T. 624-625).

For Hume, therefore, the modalities of possibility and actuality are analyzed in terms of the way in which perceptions are apprehended, rather than in terms of *what* is apprehended. To believe that something may exist, and to believe that something does exist, are functions of the force and vivacity attending the relevant perceptions. To have a languid perception is to believe that the object corresponding to that (those) idea(s) may exist; to have a more vivacious perception is to believe that the object corresponding to that (those) idea(s) does exist. Force and vivacity are inseparable, although variable, features or aspects of perceptions: what we apprehend is a perception with a certain force and vivacity. Now, since all perceptions have some degree of force and vivacity, we are able to distinguish, in thought, the force and vivacity of a perception from the perception itself through a distinction of reason, or contrasting comparison, with other perceptions.[12] There is no more difficulty in distinguishing the force and vivacity of a given perception from the perception with that force and vivacity through a distinction of reason than there is in distinguishing (again through a distinction of reason) the color from the figure of an object.

It must be emphasized, however, that since force and vivacity cause our belief in the modalities of possibility and actuality, distinguishing force and vivacity from a given perception through a distinction of reason is not tantamount to distinguishing possible or actual existence from the perception. Since possibility and actuality are neither separate ideas, nor aspects of an idea, as are color and figure, it follows that they are not separable in any sense from what is conceived. For Hume, the *content* of a perception never discloses the modality with which it is being apprehended. And since force and vivacity cause, but are not identical to, our apprehension of possible or actual existence, it can be seen that existence cannot be separated from an idea by a distinction of reason.

In the final paragraph of the *Treatise* 1.2.6, Hume explains how our conceptions differ depending on whether what is apprehended is apprehended as possibly existing or as actually existing:

> The farthest we can go towards a conception of external objects, when suppos'd *specifically* different from our perceptions, is to form a relative idea of them, without pretending to comprehend the related objects. Generally speaking we do

[12] I have discussed this matter further in *Reason and Conduct in Hume and His Predecessors* (The Hague, 1974), pp. 42-46

> not suppose them specifically different; but only attribute to them different relations, connections and durations (T. 68).

In other words, what I apprehend remains unchanged whether it is regarded as possibly existing or actually existing: what is alterable is the "relations, connections and durations" my perceptions are regarded as possessing, and these will depend upon whether what is apprehended is regarded as possibly existing or actually existing. For Hume, therefore, ascriptions of possible and actual existence are caused by the force and vivacity of our perceptions, and these ascriptions are dispositional. To believe that something may exist is to be disposed to ascribe relations, connections, and durations to it which differ from those we would be disposed to ascribe were we to believe that that object actually exists.[13] Now, since how we are disposed to regard our perceptions is not a further aspect of that perception—or these perceptions—it remains the case that for Hume, existence—possible and actual—cannot be distinguished from our perceptions by a distinction of reason.

THE ABSTRACT IDEAS OF SPACE AND TIME

In the preceding section, I confined my study to instances in which distinctions of reason can be employed in separating an inseparable aspect of a perception from the perception itself. The discussion that follows will show that distinctions of reason are not confined to individual perceptions, since a multiplicity of perceptions may also have an inseparable aspect, which can also be separated or distinguished by a distinction of reason. My discussion here will be taken from Hume's analysis of how we obtain the abstract idea of space and time.[14]

Turning first to space, we find Hume arguing that since every idea is derived from some impression that resembles it exactly, the idea of space must have a correspondent impression (T.33). Our passions, emotions, desires, and aversions exhaust our internal impressions, and since none of these provides the basis for the idea of space, it follows that it must be from the outer senses that the idea of space is obtained. He claims that the idea of extension or space is obtainable from

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[13] External existents are held to have spatial relations which possible existences do not have. External existents are regarded as having causal connections which possible existences do not have, and external existents are normally regarded as existing even when not perceived, whereas perceptions are regarded as existing only to the extent that they are perceived. Hume's explanation of the belief in the continuous and uninterrupted existence of objects is treated in *Treatise* I.IV.II.

[14] Hume's most extensive discussion of space and time is given in Book I, Part ii of the *Treatise*.

viewing a table. Hence, some impression presented from the table generates the idea of space. However, upon viewing the table, he finds nothing but 'impressions of colour'd points, dispos'd in a certain manner' (T.34). Now, since this is all that is presented to observation, the idea of space must be 'nothing but a copy of these colour'd points, and of the manner of their appearance' (T.34). The idea of the spatial features of the table is, therefore, apprehended by taking note of the fact that the various parts of the table are set out in a certain definite order.

Since the observation of an extended object yields an awareness of the arrangement of the parts of *that* object, it is clear that the observation of a particular extended object can only give us a particular idea of space. The abstract idea of space, or one that is not confined to a particular object, is, according to Hume, obtained from particular awarenesses of space,[15] but differs from these latter awarenesses in that it contains the thought of the arrangement of points, but omits, as far as possible, consideration of the color of the points. Since the arrangement of the colored points cannot be observed independently of the points themselves, it follows that the imagination alone cannot distinguish the arrangement from the colored points. Accordingly, if we are to get an abstract idea of space, this can only be accomplished through a distinction of reason:

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

Even though the arrangement of the colored points is inseparable from the points themselves in any such arrangement, we are able to found a philosophical relation on the resemblance existing in the arrangements of points of different colors, and in this way, through a distinction of reason, we arrive at the abstract idea of space.[16]

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[15] T.34 This is so, since for Hume all abstract ideas are always in themselves particular. See his proof in this passage.

[16] T.34 Hume further argues that tactile impressions also yield the material for generating the abstract idea of space: '…even when the resemblance is carry'd beyond the objects of one sense, and the impressions of touch are found to be similar to those of sight in the disposition of their

Hume treats the abstract idea of time in a manner similar to the abstract idea of space, with these two differences. In the first place, whereas the abstract idea of space is derived from the observation of colored points that have similar arrangements, the abstract idea of time is derived from the succession of our perceptions of every kind:

> The idea of time, being deriv'd from the succession of our perceptions of every kind, ideas as well as impressions, and impressions of reflection as well as of sensation, will afford us an instance of an abstract idea, which comprehends a still greater variety than that of space…(T.34).

Second, the parts involved in the succession of perceptions in regard to the abstract idea of time are not co-existent, whereas in the case of space they are co-existent:

> 'Tis evident, that time or duration consists of different parts: For otherwise we cou'd not conceive a longer or shorter duration. 'Tis also evident, that these parts are not co-existent: For that quality of co-existence of parts belongs to extension, and is what distinguishes it from duration (T.35-36).

In showing the origin of the abstract idea of time, Hume begins by discussing particular awarenesses of time. He first shows that the idea of time cannot be obtained without an awareness of a succession of changeable objects:

> As 'tis from the disposition of visible and tangible objects we receive the idea of space, so from the succession of ideas and impressions we form the idea of time, nor is it possible for time alone ever to make its appearance, or be taken notice of by the mind. A man in a sound sleep, or strongly occupy'd with one thought, is insensible of time; and according as his perceptions succeed each other with greater or less rapidity, the same duration appears longer or shorter to his imagination…. Wherever we have no successive perceptions, we have no notion of time, even tho' there be a real succession in the objects. From these phenomena, as well as from many others, we may conclude, that time cannot make its appearance to the mind, either alone, or attended with a steady unchangeable object, but is always discover'd by some *perceivable* succession of changeable objects (T.35).

The preceding passage shows that a perceivable succession of changeable objects is a *sine qua non* of the idea of time, and that, therefore, time in its first appearance to the mind is always conjoined with a succession of changeable objects. What the preceding passage does not show is that the idea of time cannot be derived from an impression that is separable from the succession of

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parts; this does not hinder the abstract idea from representing both, upon account of their resemblance'.

changeable objects. The conjunction of the idea of time with an observable succession of changeable objects does not, by itself, establish the inseparability of the two, but only that without the observable succession, there can be no awareness of time. Hence, it may be that without the succession of changeable objects there is no impression of time, even though the impression of time is a perception additional to those involved in the succession of changeable objects. Hume's next argument proves that this is not the case, and that, consequently, the awareness of time is inseparable from the succession of changeable objects required for an awareness of it:

> In order to know whether any objects, which are join'd in impression, be separable in idea, we need only consider, if they be different from each other; in which case, 'tis plain they may be conceiv'd apart. Every thing, that is different, is distinguishable; and every thing, that is distinguishable, may be separated….If on the contrary they be not different, they are not distinguishable; and if they be not distinguishable, they cannot be separated. But this is precisely the case with respect to time, compar'd with our successive perceptions. The idea of time is not deriv'd from a particular impression mix'd up with others, and plainly distinguishable from them, but arises altogether from the manner, in which impressions appear to the mind, without making one of the number. Five notes play'd on a flute give us the impression and idea of time; tho' time be not a sixth impression, which presents itself to the hearing or any other of the senses. Nor is it a sixth impression, which the mind by reflection finds in itself (T.36).

Again, therefore, as in the case of space, since the manner in which perceptions present themselves to us is not distinguishable from the perceptions presented, it follows that the imagination alone cannot distinguish the manner of presentation from what is presented. Accordingly, if we are to obtain the abstract idea of time, this can only be done by comparing different successions of changeable objects, and through a distinction of reason, attend to their resemblance in terms of their manner of presentation:

> …it [i.e. the mind] only takes notice of the *manner*, in which the different sounds make their appearance; and that it may afterwards consider without considering these particular sounds, but may conjoin it with any other objects (T.37).

Hume's analysis of the origin of particular awarenesses of space and time and of the abstract ideas of space and time does not commit him to the view that space and time are 'fictions' or in some sense 'unreal'. On the contrary, in this connection, space and time may be compared to the figure or color of an object (as, for example, in his discussion of the globe of white marble), or to the content of a moral perception when contrasted with its vivacity. There is, for Hume, no

more problem with the 'reality' of space and time than there is about the 'reality' of these other matter.

HUME'S EMPIRICIST ACCOUNT OF GEOMETRY IN THE *TREATISE*

Hume's empiricist account of Geometry is developed through his account of our awareness of space. Since Geometry is concerned with relations in space, and since space derives from the perceived arrangement of points, it follows that the objects and relations that geometry studies are empirical in nature.[17] In other words, for Hume there can be no *a priori* certain geometric relational knowledge, and this includes the axioms or first principles of geometry. He provides the following example:

> Our ideas seem to give a perfect assurance, that no two right lines can have a common segment; but if we consider these ideas, we shall find that they always suppose a sensible inclination of the two lines, and that where the angle they form is extremely small, we have no standard of a right line so precise as to assure us of the truth of this proposition. 'Tis the same case with most of the primary decisions of the mathematics (T.71).

While denying *a priori* certainty and precision to geometry, Hume does acknowledge that geometrical knowledge normally achieves a "greater exactness in the comparison of objects or ideas, than what our eye or imagination is able to attain" (T.71) in that they involve "the easiest and least deceitful appearances" (T.72). In other words, our confidence regarding geometry can remain unshaken, despite its empirical origin. So, where does geometry belong in Hume's catalogue of degrees of evidence, as discussed in Book 1, Part 3, Section 1X of the *Treatise* – knowledge, proofs, and probabilities? (See T.124 ff.) The empirical element in geometry we have been discussing rules out any *a priori* relational knowledge through a comparison of ideas. Geometry is usually not attended with uncertainty, and, therefore, its conclusions are not probable. It, therefore, follows that geometric discoveries - along with those causal connections where we have never discovered a counter example – rank as *proofs*, that is, they are free from doubt and uncertainty, but are still based on observation.

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[17] Its first principles are still drawn from the general appearance of the objects; and that appearance can never afford us any security, when we examine the prodigious minuteness of which nature is susceptible (T.71). Or again, Hume writes: "The reason why I impute any defect to geometry, is, because its original and fundamental principles are deriv'd merely from appearances..." (T.71).

Against whom is Hume's analysis of geometry directed? While he does not mention any specific thinker and/ or geometer by name, it is fairly clear that it is the rationalists, and, specifically, Descartes, that he has in mind. Descartes maintains that both arithmetic and geometry have no empirical element, so that the truths in these subjects hold, even if no geometric figures exist. And, according to Descartes, geometrical claims hold, even if the external world does not exist, because the referent of these claims is the innate ideas of geometrical figures which God has given us. Geometrical propositions refer to these innate ideas and their manifold relations. Hume, on the other hand, argues that there can be no awareness of space and geometrical relations except through sight and touch. Accordingly, it is Hume's position that, if there were no empirical objects, there would be no space or spatial relations, and, therefore, no geometrical knowledge. Hume argues further that there are no innate ideas to which geometric claims can refer. He brings this up in two places (T.7; T.72) and, in both instances, the refutation of the doctrine of innate ideas is based on his view that all ideas are copied from impressions.

GEOMETRY IN THE FIRST ENQUIRY AND CONCLUSION

In his *Enquiry Concerning Human Understanding,* Hume alters his views on Geometry, and includes Geometry among the sciences which utilize the relations of ideas, and are either intuitively or demonstrably certain.

> All the objects of human reason or enquiry may naturally be divided into two kinds, to wit, *Relations of Ideas*, and *Matters of Fact.* Of the first kind are the sciences of Geometry, Algebra, and Arithmetic; and in short, every affirmation which is either intuitively or demonstratively certain...Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in nature. Though there never were a circle or triangle in nature, their truths demonstrated by Euclid would forever retain their certainty and evidence (E.25).

I conclude from this that in the *First Enquiry*, Hume abandoned the empiricist analysis of space which he detailed in the *Treatise.* His overall silence on the topic of space in the *First Enquiry* likely points to the fact that he had no theory to replace the one developed in the *Treatise.*

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