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## Hume, Images and Abstraction

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Hume's account of general or abstract ideas proposes that mental images can serve as the means for general thought by virtue of their functional role. More interesting than its sophistication, however, is the fact that the account fails in an illuminating way. Though I will explain Hume's theory by locating it in the debate over general ideas to which it was a response, the critical examination presented here is relevant to any attempt to base an account of mental representation exclusively on mental images and their deployment.<sup>1</sup>

Since Hume conceived the problem of general ideas as that of how individual items can become "general in their representation,"<sup>2</sup> his theory speaks to contemporary enquiries into the nature of mental representation. Hume's immediate concern was "*whether [abstract or general ideas] be general or particular [determinate] in the mind's conception of them*" (T 17).<sup>3</sup> In more modern terminology, Hume's question was this: how can *individual* mental representations, which of course have a determinate character, bear *general* contents or be *general* in what they represent, namely groups of objects? In representing a group of objects, a general idea conveys the commonality by virtue of which the members are similar or "hang together."<sup>4</sup> If, like Hume, one operates with the background assumption that mental items represent by virtue of their intrinsic character, it is puzzling how an item having a *determinate* intrinsic character could be *general* in its representing.

Hume regarded previous discussions as having structured the debate so as to give the appearance of a dilemma, both horns of which failed to explain

how determinate items might stand for general ideas. It had come to seem that general representing may be accomplished only in one of two possible ways, as Hume wrote, "either by representing at once all possible sizes and all possible qualities, or by representing no particular one at all" (T 18). In other words, it seemed that general representing might be accomplished either by a set of determinate items where each represents a particular instance of the complete comprehension of the general idea,<sup>5</sup> or by a single determinate item which does not pick out any determinate quantities or qualities at all. The first option is not viable since the mind is finite, while the second is simply mysterious. How could items that manage to represent by virtue of their intrinsic characteristics nevertheless be representing "no particular [quantity] at all"?

Hume rejected the dilemma, claiming that the two unsatisfactory options—that mental items must represent all determinate instances or nothing determinate at all—are not exhaustive. He found the basis for a third option in Berkeley's insight that what a mental item represents might be determined by the way it is used in reasoning rather than just by its intrinsic character. Berkeley proposed that representationality is a matter of the relation a representing item bears to what it represents and that mental items can stand in representational relations by virtue of the way they are used in thought, particularly in reasoning or "demonstration." If a representing item is used in reasoning in such a way that it could stand for any one of a number of different individual members of a group "indifferently" then it represents the group in general.<sup>6</sup> In essence, Berkeley's insight is that determinate mental items need not represent by virtue of their intrinsic characteristics, but rather by virtue of further facts about their place in the cognitive economy.

Hume elaborates Berkeley's approach in the terms of his strictly empiricist and mechanistic associationist framework. Thus Hume conceives of the mind as a "collection of different perceptions, united together by certain relations" (T 207). That is, the only "furnishings" allowed in Hume's account of mind are image-like sensory impressions and copies thereof. These furnishings are linked associatively, such that certain intrinsic qualities of images produce associations among them. Resemblance, contiguity in time or place, and cause and effect are the qualities of images which produce associations between them. Such associative links are customary or habitual—that is, they are produced by custom or habit—insofar as they proceed without reasoning from past repetition. Hume believed that this apparatus would suffice for explaining general thought because, as we will see, understanding mental items as image-like would allow him to explain the fact that such representing items have a determinate nature of their own, while the mechanisms of association and custom would allow him to present modes of functioning whereby individual representing items might gain a general representational significance.

Hume elaborates Berkeley's insight by showing how the represented content of an image may differ from the imaged or pictured content. Some

ideas are "particular [determinate] in their nature, but general in their representation" because, while their determinateness derives from their intrinsic pictorial nature (giving them a determinate imaged or pictured content), their generality is a matter of the represented content. Hume could separate these kinds of content given the insight that the overall content of a mental image could be a matter of its functional role and not only—or not necessarily—of its imaged content. He proposed that although images are determinate individuals, an image can nevertheless be general in its representation by virtue of the way it is "applied" in our reasoning: "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, my emphasis). Hume's detailed account of the way in which an image may be applied in reasoning goes beyond Berkeley's remarks in explaining the way linguistic terms are involved in the process.

Hume's thesis is that custom distinguishes imaged from represented content by linking numerous images to a general term and thereby rendering an entire collection of associated images (what I will call the "associative complex") dispositionally available whenever a single image is entertained during reasoning about a general matter.<sup>7</sup> I will be arguing, however, that the dispositional presence of associated images does not allow a single image to be deployed in reasoning "*as if it were universal*" (T 20). In order to show that images can come to represent general contents by virtue of their application in reasoning, Hume needs to be able to show that images can be "applied" in reasoning *as if* their content were general, even though it is only by means of *that application* that they gain that represented content in the first place. In other words, it must be possible for images to be applied *as if* their representation were general prior to acquiring that representational ability since that ability only comes with, and depends upon, that application. However, the dispositional presence of a collection of images cannot overcome the fact that the nature of images does not allow them to be deployed in reasoning *as if* they represented a fixed content, singular or general. To see why failure is inevitable, we need to understand the exact nature of the task required of images and their pictorial properties.<sup>8</sup>

Hence we need to understand exactly how the associative complex is supposed to fix the represented content of any one image. The way an associative complex functions depends on its structure, which takes form as associations amongst images and terms are acquired.<sup>9</sup> The formation of associations depends on our ability to discern resemblances among images: resembling items are collected into groupings on the basis of similarities obtaining among them. Hume's account thus rests on the assumption, common to empiricist theories, that we have the ability to discern "resemblance(s) among...objects."<sup>10</sup> Starting from this assumption, Hume argues that since we are aware of resemblances, we can also naturally apprehend which imaged

objects and properties belong together in “species.” For example, we can apprehend that different utterances of the term “white” belong together as “individuals of a species,” just as we can perceive different occurrences of this visible quality in our environment as “individuals of a species.”<sup>11</sup>

Given the ability to discern similarity groupings, we can go on to learn associations of groups of images with groups of linguistic terms. In learning language, we learn to associate a species of occurrences of a linguistic term with a “constantly united” species of images.<sup>12</sup> Associative bonds form between images and linguistic terms and since each of a set of resembling images is associated with a set of resembling utterances, the entire set of images comes to be associated with the same term, forming a whole associative complex.<sup>13</sup>

The result is that each associative complex “picks out” or “selects” a general quality or quantity. Consider a set of images of solid figures. If images of various triangles have been associated together by virtue of their common associations to the term ‘triangle’, then in effect, the associations between those images pick out or select the respect in which all the images in that collection are maximally similar—in this case the property of being a triangle. By contrast, if from the set of images of solid figures all the blue ones have become associated together by virtue of their common association to the term ‘blue’ (and if they had been associated together with all the other stored images where blue is present) then this would be the associative set for the abstract or general idea of blue.

Moreover, the associative complex is dispositional in nature. To say that one has a certain custom is to say that if certain stimuli were present, one would be disposed to respond in certain ways by virtue of certain associations.<sup>14</sup> Hence, the product of associative learning of general terms is the disposition to respond to a set of utterances of a term with any one of an open-ended set of individual images. This is Hume’s explanation of the fact that the mind can only entertain or “revive” a single image “conceive[d] with all its particular [determinate] circumstances and proportions” rather than the (open-ended) set of images to which a general term applies.

If ideas be particular [determinate] in their nature, and at the same time finite in their number, ’tis only by custom they can become general in their representation, and contain an infinite number of other ideas under them. (T 24)

Instead of reviving the entire set, a word “only touches the soul, ...and revives that custom, which we have acquir’d by surveying them” (T 20). That is why all the images associated with a word

are not really and in fact present to the mind, but only *in power*; nor do we draw them all out distinctly in the imagination, but keep ourselves in a readiness to survey any of them...(T 20, my emphasis)

The claim that the numerous associated images are present only "in power" is Hume's way of saying that they are present as a disposition is present. The general term awakens the disposition for any one of the associated images to become present to the mind. Or as Hume put it,

those [images], which remain, are only represented by means of that habit, by which we recall them, whenever any present occasion requires it. (T 22)

But how does the dispositional presence of numerous images in response to a general term affect what any *one* of them *represents*? The account shows how we can respond to a general term with any one of the images with which it has become associated, but why should this affect the representational significance of that image? Why should the dispositional presence of a set of images fix the represented content of an image as something other than its determinate imaged content? To answer this is to make explicit Hume's theory of representation.

As I have already suggested, Hume's theory of general ideas is that images are general in their representing by virtue of (what we would call) their functional role. Specifically, their role is to be the means for drawing true inferences. An image is general rather than determinate in its representation if

- (a) the image is applied in reasoning in making a true claim or inference involving that general idea;
- (b) it is applied in the context of a general term and the dispositional presence of the entire set of associated images;
- (c) it is followed by at least one image which contradicts and thereby "cancels out" whatever aspect of the original image was not consonant with the general idea.

The last condition is required because some of what is true of a determinate image will not be true of the entire collection of objects which the image is being used to represent. The mechanism "cancels out" whatever is not true of the entire collection by generating appropriate counterexamples when the determinate imaged content of an image contradicts the general content it is representing.

Consider an individual image of a particular equilateral triangle. If it is used in reasoning in such a way that the claim that the triangle has equal angles stands unchallenged, then according to Hume the individual image in this case represents the imaged individual triangle rather than the general idea of triangles. However, in the case where the claim that the triangle has equal angles is immediately challenged by the elicitation of images of scalene and isosceles triangles and is thereby overridden with the inference that the

triangle need not have equal angles, the image represents triangles in general.<sup>15</sup>

Hence, the viability of Hume's account depends on whether an image can be used for drawing inferences that are true of a general idea. We need to heed Hume's careful formulation of what an image must be able to do:

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, my emphasis)

Hume's statement points out that an image cannot be claimed simply "to *have* general representation *in virtue* of playing that role in inference"<sup>16</sup> because it must already be general in its representation in order to play the appropriate role in inference. The role an image plays in inference is determined by whether any and if so which counterexample images are produced. Since the counterexamples must be appropriate to the general idea in order to fix the content of the image as general, the image must already be applied in reasoning "the same, *as if* it were universal" in order to elicit the appropriate counterexamples. Hume's formulation carefully points to the problematic juncture in his account and thus to the need for precision about exactly how it is that an image might have general representation by virtue of playing such a role in reasoning. More specifically, it alerts us to the fact that counterexamples can only fix the content of the image as general, if the image is already being applied in reasoning "as if" it represented a general idea in making the generation of relevant counterexamples possible. Hence, the viability of the account depends on the factors which determine whether associative networks of images can generate relevant counterexamples: the pictorial properties of images and the sorts of associations they support, and the context supplied by the associated linguistic term.

Let's begin by examining the function that is open to linguistic terms within Hume's framework. Do terms function by adding anything like their own meaning? We have seen that according to Hume, linguistic terms function like central points or nodes in networks of associated images. That is, the associations amongst images and terms collect them into interconnected arrangements or networks in which terms serve as central points connecting numerous images. So the question is whether terms, in their role as organizational nodes, have any meaning to contribute or whether they are essentially "blank." The conception of a bunch of images hooked up to a linguistic term naturally leads to the following hazy assumption. When an individual image is being used in reasoning *as if* it represented a general idea, the presence of the associated term—which after all expresses that general content—helps to fix the content of the image by virtue of the meaning of that term. To assess whether Hume may rely on something like this assumption, we need to look

at Hume's views on linguistic meaning. Do linguistic terms have meanings that could somehow contribute to the process of fixing the general represented content of an individual image?

Though Hume does not discuss explicitly the conditions by virtue of which linguistic terms have semantic significance, his position is quite clear from related discussions. Linguistic terms are expressions (vocal and written) of our general ideas and as such their meaning is ultimately determined by the same mechanism as that which determines the contents of those general ideas. Consequently I suggest that, on pain of circularity, the meaning of linguistic terms cannot help determine the content of general ideas. My claim is supported by at least two sources of textual evidence.

Clear evidence of Hume's conception of linguistic meaning is found in passages concerned with the meanings of "obscure" ideas and ambiguous terms. Hume's view is implicit in the fact that he treats general ideas and linguistic terms on a par as if their contents were ultimately determined by the same means. Hume's procedure is to revise our ideas and terms so that they do not go beyond the impressions from which they originate. How do we know the real contents of such "obscure" ideas and ambiguous terms as those of causal connexion and external body? By looking for the impressions to which the ideas are to be traced. Once we find such impressions, the ideas' genuine or legitimate contents are manifest. There is no separate account concerning the method for revising linguistic meaning; Hume clearly holds that by revising our ideas so that they do not stray beyond the original impressions, we also thereby revise the meanings of the corresponding linguistic terms. This is the crucial point for our purposes. Clearly, what fixes both our general ideas and the meanings of the corresponding terms are the imagistic impressions and ideas derived therefrom.

The second source of textual evidence comes from the section "Of abstract ideas" itself. Hume explains the meanings of general terms by appealing to the associative complex of images which is used to represent the general content expressed by that general term.

Before these habits have become entirely perfect, perhaps the mind may not be content with forming the idea of only one individual, but may run over several, in order to make itself comprehend its own meaning, and the compass of that collection, which it intends to express by the general term. That we may *fix* the meaning of the word, figure, we may revolve in our mind the ideas of circles, squares, parallelograms, triangles of different sizes and proportions, and may not rest on one image or idea. (T 22, my emphasis)

A general linguistic term cannot add its own meaning to the process of fixing the content of a general idea since its meaning is determined by the same process that fixes the content of the idea. All a general term can add is an organizational node which links various images together. The node has no meaning independently of the images to which it is linked and the role in reasoning which those images fulfil.

So Hume's account hinges on whether it is in the nature of images to function as the means for drawing inferences that are true of general contents. The function that an image may fulfil ultimately depends on the associations in which it stands, and those associations are formed on the basis of the similarities between the pictorial properties of images. An image has a certain pictorial property if it images an object as having that property. Pictorial properties are those features of the imaged objects which correspond to the properties of the actual objects that we can "read off" from the image. For example, an actual cane has various properties such as colour, slant and orientation. An image of a cane can be described as having these properties except pictured, so that the image of the cane has the pictorial properties of slant and orientation.<sup>17</sup>

The problem is that purely pictorial properties are not sufficient to determine the content of an image or a set of resembling images. Two sets of related considerations support this contention. First, consider Wittgenstein's example of an image of a man with a cane on a hill. Is the man walking uphill or sliding backwards downhill? The pictured properties are identical in both cases. The pictorial properties of the depicted cane, such as its orientation, angle of slant relative to the hill, color, etc., are the same whether the cane is taken to be supporting the man as he walks uphill or to be dragging behind him as he slides downhill. This poses a problem for Hume's account because if pictorial properties are not sufficient to determine the content of an image, they are not sufficient to enable the image to function in reasoning *as if* it had a fixed content.

But what about the role of the associative complex of images? The second related set of considerations (advanced most forcefully by Nelson Goodman) shows that any two objects are similar in an unbounded number of respects.<sup>18</sup> If this is true of objects, then it is true of imaged objects or images of objects. If images of objects are similar in an unbounded number of respects, then associative sets of images based on resemblances between their pictorial properties are similar in numerous respects at least (if not in an unbounded number). Insofar as associated sets of images are similar in numerous respects rather than only one, the fact of their being associated together does not pick out or select a unique respect of similarity that they share.<sup>19</sup> Hence, the associative set in which a particular image stands cannot fix the content of that image and cannot allow for the generation of counterexamples relevant to a unique content.

These challenges to the viability of Hume's account rely on seminal twentieth century work concerning the nature and limitations of images and the ubiquity of similarity relations. While I cannot reconstruct the arguments here, I presuppose them as part of our conceptual heritage. I will substantiate this line of criticism with some illustrative examples. Since we need to be able to entertain general ideas *at a time*, I will begin by discussing whether associative sets of *static* images can select or fix a unique content. We can then examine whether allowing for temporally extended images serves to constrain the content of a set of images.<sup>20</sup>

Consider the set of similar (or even identical) images of a man walking with a stick on a hill—do its pictorial properties determine whether it is the set of images of a man walking forward uphill with a stick or a man sliding backward down the hill? If images are not interpreted—in other words if they are not interpreted as representing a specific content—prior to fulfilling some role in reasoning, then prior to such functioning a set of resembling images would be *neither* the set of images which are similar in that they are images of a man walking forwards uphill *nor* the set of images similar in being images of a man sliding downhill backwards. However, the way in which an image can be deployed in reasoning—and hence which counterexamples are appropriate—differs according to its content. For example, how the image of the man on the hill might be deployed in reasoning would differ depending on whether the image is of a man walking forwards uphill or sliding downhill backwards. Hence, there is no determinate way in which an image purely *qua* member of a set of resembling images is to function in reasoning. According to Hume, the image of a man with a cane on a hill would come to represent a man walking forwards uphill if it were deployed in reasoning in such a way that it would not be challenged by any images which are inconsistent with the claim that the man is walking forwards uphill. However, this is precisely what an image, and hence a set of images, cannot do by virtue of its pictorial properties alone. The pictured properties of the man, his cane, and of the hill are all the same whether the represented content is that of a man walking forwards uphill or sliding down backwards.

In short, Hume's suggestion that images can come to function in reasoning as if they represented general ideas once they are associated together in similarity groupings does not help to determine their content because the plurality of possible interpretations carries over to a collection or set of similar or even identical images. If each of a set of resembling images can be interpreted in a number of ways, then the same is true of the entire set.

Let us look again at Hume's example to see why he may have believed that associations formed on the basis of purely pictorial properties could allow images to function as if they represented a fixed general content. If an image is to be followed by the relevant counterexample it is necessary for the image to carry some kind of indication of which of the imaged properties are relevant

for the general idea and of the way in which they are relevant. Hume believed that the associations among a group of images would have the effect of indicating the relevance of certain properties by virtue of the fact that only images sharing those properties were associated together. In the case of images of solid figures which are associated together by virtue of resembling one another in terms of the pictorial property of triangularity, all images of differently shaped objects would be excluded simply by virtue of not becoming associated. It might seem that since all other images are excluded from the associated set, it then follows that this set of associated images could function in reasoning in a way that would support only one interpretation. Hence it would seem that (antecedently to or independently of the assignment of an interpretation) this set of images could be said to represent the content "triangle" by virtue of the associations formed on the basis of the pictorial properties that all and only triangle images have in common. If the notion that "triangles have equal angles" were entertained, then given the associations among the set of triangle images (and a mechanism for eliciting relevant counterexamples), this supposition would be challenged by a counterexample, since not all of the associated imaged triangles would have equal angles. However, this example is misleading, in that it seduces one into supposing that similar images can support only one interpretation by virtue of the associations between them. There seems to be an immediately obvious interpretation for the entire set. By highlighting the fact that even a set of similar images can support different interpretations, Wittgenstein's example should make us re-examine Hume's examples of images that seem at first blush to support only a single interpretation. More realistic examples of images, such as Wittgenstein's, dispel this illusion by showing that even if one associated all and only the highly similar images of the man on the hill, we still could not tell, purely along associative lines established by the similarity among pictorial properties, whether the images are of a man walking uphill or sliding downwards. Once we are alerted, we see that a set of images as seemingly obvious as a set of triangle images also supports numerous interpretations, each with a correspondingly different function in reasoning. For example, is a set of triangle images a set of images of three-dimensional figures or two-dimensional shapes? Is it a set of images of two-dimensional planes that have triangle-shaped holes or of triangle-shaped figures against backgrounds?<sup>21</sup> There is no way to distinguish between these interpretations by virtue of the purely pictorial properties of the associated images. It follows that an image could not be deployed in reasoning simply in terms of associations formed by virtue of the pictorial properties of that image independently of any interpretation of its content.

The obvious response to this objection is to charge that there is no in principle problem, that the success of Hume's account depends on sufficient richness and complexity within and across the collections of images for which

I simply have not allowed. After all, the possibility that an image might function as if it represented a general content depends on the fact that the associated collection from which it is drawn fixes that content by selecting it as the respect in which that collection is maximally similar. There is no limit in principle on the richness and complexity of collections produced by the mechanism of association. That is a contingent matter, and so there is no reason to suppose that association may not yield a network of collections of images which are so various that there is only one shared similarity among the members of each collection. Thus, the obvious defense of Hume would charge that ambiguity or multiplicity of interpretations arises on his account only if we fail to allow for plausible richness and complexity both within and across collections of images.

This line of defense insists that the issue is merely empirical or contingent. It attempts to defuse the force of the thesis that an image can support a plurality of interpretations with the claim that this is a contingent problem which is overcome with large and complex sets of images. However, the attempt is blocked by the thesis that any two objects or images of objects share an unbounded number of similarities. If images of objects are similar in an unbounded number of respects, then increasing the number and variety of associated images will not reduce the number of similarities they share to just one.

What if the images are not static but temporally extended? One might try to respond to the problems raised above by arguing that temporally extended images are not ambiguous in precisely the respects I have charged static images with being ambiguous. Wittgenstein's example might be seductive itself, seducing one into the supposition that its content (of the man on the hill) would be fixed if the image were temporally extended. That is, one might think that the image is ambiguous only or precisely because it is static. A temporally extended image of the man on the hill would image him as walking upwards or sliding downwards. While I could offer examples of other temporally extended images which support a number of interpretations, it is illustrative to continue with our example. The problem reemerges if we consider the following slightly modified contents: man pausing on his way uphill and man pausing on his way downhill. How long would the duration of the requisite temporally extended image need to be? The length of the pause until the man resumes his trek? Modifying Wittgenstein's example highlights the *ad hoc* nature of this solution. Temporal duration is of little help if the represented object is not in motion. Moreover, can't one think of a man pausing on his way uphill *at a time*? And can't one think of man pausing on his way uphill or of men pausing on their way uphill *at a time*?

What about Hume's example of an imaged triangle? Would temporal duration disambiguate the set of images of three dimensional triangular figures from the set of images of two dimensional shapes? How can the temporal

duration of the associated images fix the fact that the set is of images of two-dimensional planes that have triangle-shaped holes as opposed to triangle-shaped figures against backgrounds or vice-versa? Unless the figures are themselves in motion, the temporal duration of an image would not distinguish a two-dimensional plane with a triangle-shaped hole from a triangle shaped figure against a background. Hence, I do not believe that temporal duration can do the job. Not even something like a camera-like scan would do (a tempting albeit *ad hoc* stratagem).

While temporal extension might fix the content of some images, it cannot do so for all the contents, singular and general, that images need to represent if they are to be the means of all thought, including general thought.

Having come this far, we can now recognize a deeper problem underlying Hume's account. In essence, the problem is that images cannot carry modal information and so they cannot be used to represent any content that is implicitly modal. That is, even if a set of images were maximally similar in a single respect it could not fix an interpretation that would correspond to our concepts.<sup>22</sup> The problem is that images are empiricist representations *par excellence*—pictorial properties represent exclusively empirical information—and no amount of representations of sensory appearances will yield representations of modal information. Increasing the complexity of a collection of images cannot fix contents that correspond to our concepts because images cannot represent modalities and insofar as any concept involves some modality, it cannot be represented by images in and of themselves. For example, if we consider the modality of necessity we recognize, as Hume was the first to point out, that images cannot represent causality. But our concepts of the objects and events of our world involve the notion of causality. Let's consider a maximally similar collection of images of a simple physical object such as a cup. This formulation is itself misleadingly sloppy. Imaged contents in and of themselves are of cup-like appearances not of cups, precisely because they cannot image the causal information in virtue of which a cup-like appearance is an appearance of a cup. What allows us to understand that cup-like appearances are of the physical objects we call cups is the fact that we bring to bear background understanding of the causal relations in virtue of which something that appears in a certain way is a physical object (and so that something that images a certain appearance images an object). The background understanding which allows us to interpret visible appearances as appearances of physical objects is that, for example, a cup-like appearance is of a cup if its shape is rigid—namely that if the object were to be subjected to a certain kind and range of forces, it *would* remain stable—and if its visibly apparent surfaces remain cohesive. Such background understanding cannot be represented by means of images since images cannot show what *would* happen if an object *were* subjected to some condition. The Wittgensteinian diagnosis of the fact that images fail to fix a unique interpretation that corresponds to

our concepts diagnoses a symptom of a deeper deficiency whereby images cannot fix interpretations that correspond to our concepts. The fact that images in and of themselves cannot fix unique contents that correspond to our concepts is a sign of a deeper problem that infects any account that posits images as the exclusive type of representing item. No amount of imagistic content can turn imaged appearances into imaged objects and events. (And no amount of temporal duration can allow images to show modal information such as the above, namely that if the object *were* to be subjected to a certain kind and range of forces, it *would* remain stable.) Hence images can not be deployed in reasoning *as if* they corresponded to those of our concepts which are implicitly modal.

Let's turn now from the problems which are due to the nature of images, to note that Hume's account cannot explain our ability to think of general ideas in the absence of linguistic cues. In order to possess a general idea it is crucial that one be able to entertain it in both linguistic and non-linguistic contexts. Examples of such non-linguistic contexts are "recognizing some object present in one's environment as blue; recognizing some object, whose image just pops into one's head, as blue; imagining a blue object; recalling some object as having been colored blue; and thinking that blue cars are more common than orange ones."<sup>23</sup> Non-linguistic contexts are important because having a general idea must include the ability to think about it in the absence of linguistic cues. Since images are the vehicles of general thought according to Hume, images must be able to fulfil this larger function which we would today call "having a concept." In more Humean terms, images can represent general ideas if they can be used for making true claims (overtly or only mentally) about those general ideas in both linguistic and non-linguistic contexts.<sup>24</sup> However, it should be apparent that the relevant set of images cannot be accessed in the absence of the general linguistic term that serves as the organizational node to which all the relevant images are associated. Any single image might and probably will be associated within various overlapping collections of images that are "held together" by different general terms. Hence in the absence of a linguistic stimulus, thought involving a general idea cannot begin with an image since that image will stand in associative networks that subserve the representation of various general ideas.

In conclusion, the aim of these considerations has been to show that though Hume was trying to work out a very important insight—that mental entities may represent by virtue of their role in reasoning—he could not develop this insight into a workable account of general ideas because of his determination to show that pictorial properties together with principles of association are sufficient to allow images to be deployed in reasoning in a way that allows them to represent a unique general content. From our current perspective we can appreciate Hume's insight as well as the reasons for his failure to give a viable account. On the one hand, we have extended the

insight that a mental item's representational content is a matter of the role it plays in reasoning in relation to other types of mental particulars. On the other, we have come to recognize that pictorial properties are sufficient neither for determining an interpretation nor for allowing deployment in reasoning whereby they could gain interpretation that corresponds to our concepts. An image cannot represent general contents by virtue only of its pictorial properties *even if* it is organized by association into similarity groupings by virtue of those properties.

## NOTES

I am grateful to Don Garrett for criticisms and suggestions which resulted in a much improved version of the paper.

1 The critical examination brings to bear what I take to be our best understanding to date of the nature and limitations of images. Thus the critical portion of this paper does not undertake to assess Hume's account exclusively in terms of the resources available to him at the time he wrote. Though on the one hand I will work within Hume's resources to show why he developed his account as he did and why he would have believed that it would work, on the other hand, the critical aim of this paper is to consider the viability of Hume's account from our current perspective, utilizing our understanding of images.

2 David Hume, *A Treatise of Human Nature*, edited by L.A. Selby-Bigge, 2nd ed. revised by P.H. Nidditch (Oxford: Clarendon Press, 1978), 20; hereafter cited in the text as T.

3 To appreciate the problem we need to recognize that Hume uses the term 'particular' in the sense in which we would use the term 'determinate'. The problem was not understanding how general ideas are represented by mental particulars. Given that all representing items, mental and non-mental, are particulars, their particularity cannot be the source of any special problems. Rather, the problem was to understand how mental particulars with fully determinate natures could represent general or abstract ideas.

4 I am treating Hume as dealing with the problem of commonality or repeatability as such. Sellars has suggested that Hume was only dealing with the problem of repeatable determinable content, since he took for granted that we have an innate ability to think of determinate repeatables.

What Hume does...[in T I 1 vii] is give an account not of what it is to think of repeatables whether determinable or determinate, but of what it is to think of determinables, thus of color as contrasted with particular shades of color. And his account of the consciousness of determinables takes for granted that we have a primordial ability to take account of determinate repeatables. (Wilfrid Sellars, "Empiricism and the Philosophy of Mind," *Minnesota Studies in the Philosophy of Science*, edited by H. Feigl and M. Scriven [Minneapolis: University of Minnesota Press, 1956], vol. 1, 288.)

This difference in interpretation does not invalidate my approach, since the problem which Sellars takes Hume to have been addressing involves the same essential problem to which I have pointed, only in a smaller range.

5 The collection of ideas was thought to include possible and not only actual members, hence I am using the term "comprehension" in the sense of the collection of all possible objects to which the term applies.

6 George Berkeley, *A Treatise concerning the Principles of Human Knowledge, The Works of George Berkeley, Bishop of Cloyne*, edited by A.A. Luce and T.E. Jessop (London: Thomas Nelson & Sons, 1948–57), vol. 2, Introduction, sects. 11–20.

7 For a similar interpretation of Hume's account see Don Garrett, "The Representation of Causation and Hume's Two Definitions of 'Cause'," *Noûs* 27 (1993): 167–190.

8 An image has a certain pictorial property if it images an object as having that property. Pictorial properties are those features of the imaged object which correspond to the properties of the actual object that we can "read off" from the image. Pictorial properties will be discussed more extensively in my concluding critical discussion.

9 This is consistent with and perhaps explains the fact that Hume begins his explanation of the viability of his proposal with an account of how general terms are acquired.

10 It is important to note that Hume is assuming that there are objective similarities between objects that are evident upon inspection. This assumption has been challenged and criticized as the "Myth of the Given" by Wilfrid Sellars, "Empiricism and the Philosophy of Mind," and Ludwig Wittgenstein, *Philosophical Investigations* (New York: Macmillan, 1953), among others. It is not my purpose to challenge this, perhaps most fundamental, assumption of Hume's theory, one which it shares with other empiricist approaches. Rather, my purpose is to let Hume's empiricist account "get off the ground" so to speak, and to examine whether his particular associationist, image-based account of general ideas might work. It is interesting, as we will see, that even if we allow Hume's account to "get off the ground," we find further difficulties that also stem, in essence, from taking the notion of similarity for granted.

11 That is, we apprehend that different auditory images of utterances of the term 'white' belong together as "individuals of a species," just as do different visual images of occurrences of this visible quality.

12 The associative principle in this case is contiguity: terms and images do not resemble one another but they occur together in time.

13 It is important to note that Hume's account allows for a set of associations to be open-ended since we have the ability to respond to an open-ended set of stimuli. My ability to imagine any of the blue images I have associated to this general term is open-ended in the sense that it includes images I would associate with this term if I were exposed to them because they would be part of this set.

14 See J. Bricke, *Hume's Philosophy of Mind* (Edinburgh: Edinburgh University Press, 1980), especially chap. 3, "Mental Dispositions," concerning the tension

between reductionism and realism in Hume's conception of dispositions.

15 In fact, according to Hume "...so entire is the custom, that the very same idea may be annex to several different words, and may be employ'd in different reasonings, without any danger of mistake. Thus the idea of an equilateral triangle of an inch perpendicular may serve us in talking of a figure, of a rectilinear figure, of a regular figure, of a triangle, and of an equilateral triangle" (T 21).

16 I am grateful to Don Garrett for critical comments in which he advanced this alternative formulation.

17 I am trying to describe pictorial properties so as to avoid both anachronism and some of the confusions which Hume's conception involved. Hume took impressions and actual objects to be in the same category and so he did not distinguish between the sense in which an object is blue, for example, and the sense in which an image or impression has that property. Hence, while Hume held that the image of a blue triangle has the pictured property blue in virtue of resembling the actual blue of the triangle, we cannot employ this conception in our analysis. Since it would be anachronistic to read this distinction back into Hume's text, I have opted for a conception which I hope is neutral between the two alternatives without violating the tenets upon which the modern distinction is based.

18 See primarily Nelson Goodman's arguments in "Seven Strictures of Similarity," *Problems and Projects* (Indianapolis: Bobbs-Merrill, 1972), 437-446.

19 This point can be put another way if we go back to the distinction between an image's imaged and represented content: if pictorial properties cannot fix a unique imaged content, then they cannot fix a unique represented content (which relies, in addition to the image's pictorial properties, on the associations based on resemblances between its pictorial properties and pictorial properties of other images).

20 I discuss temporally extended images even though I believe that they do not and cannot figure in Hume's account, as his discussion of personal identity makes clear (T I iv 6). One might suppose that Hume can countenance temporally extended ideas from his discussion of the idea of motion (T I iv 4). He holds that we have the idea of motion and one might suppose that the idea of motion could only be represented by a temporally extended image. However Hume's discussion of the idea of motion does not explain the nature of that idea nor how it is possible. Given his framework, his discussion is solely concerned with the relationships between the ideas of motion, extension and solidity. Hence, I believe that his discussion of personal identity is decisive on this issue. I am grateful to Margaret Morrison for pointing out the pertinence of Hume's discussion of personal identity to the issue of the temporal duration of images in his account of mind.

21 Joseph L. Camp, Jr., suggested these examples, and more, of the numerous interpretations that images of geometrical figures can support.

22 Up to this point, I have restricted my examination of Hume's account of general thought to his conception of the topic, namely as the problem of whether and how we can have general ideas of collections or species of things.

Here, I broaden the scope to examine whether Hume's account could work for other aspects of general thought such as the modal nature of our concepts. I am grateful to Joseph L. Camp, Jr. and Walter Edelberg for helping me appreciate this matter.

23 Bricke, 103.

24 Currently, there is some controversy over whether images can bear truth-value and so whether images can be used for entertaining claims or judgements. However, it seems indisputable that Hume held that images might be so used.

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