Imagery and the Coherence of Imagination: A Critique of White.

by

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§1. Introduction.

Imagination has long been a highly charged concept in our culture (Kearney, 1988). McFarland (1985) suggests that the notion has taken over many of the functions once served by 'soul', at once ineffable and supremely valuable, and certainly it is held to be the source of our best thinking, the original and the creative. Brann (1991) argues persuasively that the concept of imagination has played a pivotal (if largely unacknowledged) role in Western philosophical thought throughout most of its history, and more recently (since the rise of the Romantic movement) it has certainly played a key ideological role in the rhetoric of critics of (and mere cavilers at) the secular and scientific world-view which is the dominant mode of modern Western culture (Roszak, 1972; Raine, 1984; Corbin, 1969).

You would never guess at any of this, however, by looking at what analytical philosophers have had to say about imagination. In fact, you might come to doubt whether we even have such a concept. It seems to have become almost standard for philosophers to treat 'imagination' and its cognates as polysemous terms, each a collection of homonyms rather than a single word. Strawson (1971) expresses doubt as to whether even a family resemblance can be found between the various meanings. This view was foreshadowed by certain remarks of Wittgenstein's, and by Ryle's (1949, chap. 8 §4) contention that not all activities that we might call imaginative have to involve any common 'nuclear operation'. The traditional candidate 'nuclear operation' was of course, the experiencing of mental imagery, and Ryle seemed to be casting doubt as to whether such a thing really occurred at all. Although, in my view, he intended merely to cast doubt on the idea that such experiences involved having something like pictures in the head (Thomas, 1989), the more radical reading of his remarks, the thoroughgoing rejection of imagery, has had a continuing influence amongst analytical philosophers.
The polysemy theory of imagination, however, probably has its first clear public expression in a paper by Annis Flew (1953) which identifies three distinct senses of 'imagine': 'have a mental picture'; 'think (perhaps mistakenly)'; and 'suppose'. These, or slight variants of them, together with 'pretend', which Ryle himself had seemed to suggest, have remained popular candidate meanings. It is also (quite properly) pointed out that imagination is associated with, amongst other things, mistaken perception, creative thinking, originality, and insight. A purportedly authoritative source, Anthony Flew's (1979) Dictionary of Philosophy, warns us sternly against confusing 'imagination' in the sense of non-rational, creative thought with the mere: 'production of mental imagery', which, we are told, 'would be better called "imaging"'.

This attitude towards imagination may well be seen as akin to the 'eliminativist' attitude that some contemporary philosophers recommend that we should take towards mentalistic categories in general. Just as recent eliminativists have argued that our ordinary beliefs about beliefs (and other propositional attitudes) really do not add up (e.g. Churchland, 1979; 1981; Stich, 1983), an earlier generation of philosophers argued for the mutual incoherence of our various beliefs about imagination.

The motivations of these two generations, it should be said, were rather different. Contemporary eliminativists have generally wanted to argue for the wholesale rejection of mentalistic talk, so that the 'folk' ontology of minds, thoughts, and feelings can be entirely replaced by a 'scientific' ontology of neurones and computations. The earlier generation, as part of philosophy's 'linguistic turn', were merely trying to purge the traditional mentalistic ontology of any entities or faculties that were not amenable to analysis in purely linguistic terms. Thus the mental images, the 'ideas', which had played so large a role in psychological thought from the time of Aristotle to that of Bergson and Titchener, came to be displaced (in the theorizing of analytical philosophers, at least) almost entirely by propositional attitudes (beliefs, desires, hopes etc.) - entities whose content could easily be captured in a sentence. If mental images and imagination were not denied altogether, they were certainly shunted to the sidelines. Once, the imagination was a grand, 'admirable' and seemingly 'magical' faculty, 'Reason in her most exalted mood', from which 'not only all the good, universally, but also all the bad, can be derived' (to quote, respectively, an Enlightenment Empiricist, a Romantic poet and a Renaissance Aristotelian). Now it was reduced to a 'catch-all' term for miscellaneous minor mental functions (supposing, visualizing, pretending, etc.) that we are not, as yet, able to categorize more adequately (Dix, 1985). On such a view, it seems clear, a scientific psychology will find no place for a theory of imagination.

The success of this movement has left the field clear for contemporary eliminativists to present arguments against the scientific usefulness of concepts like propositional attitudes and language-like mental representations as if they amount to grounds for a quite general rejection of mentalistic ontology. This sort of thoroughgoing eliminativism is attractive inasmuch as it seems to provide a clean solution to the mind-body problem, but it is
unattractive both in that it seems to deny us basic concepts that we need for social and moral thought, and in that it seems to flatly contradict immediate mental experience (Horgan and Woodward, 1985; Searle, 1992). It thus remains highly controversial. Similar worries ought to attend the elimination (or fragmentation) of imagination which paved the way for this 'eliminative materialism'. But although the experience of imagery seems, to most of us, to be undeniable, and imagination seems to be a key concept in our cultural and aesthetic thought, the eliminativist attitude towards imagination has long since hardened into a philosophical orthodoxy.

However, the orthodoxy has recently been challenged, from within the 'linguistic philosophy' camp itself, by the late Alan R. White, in his book *The Language of Imagination* (1990). I must say, I share his reservations. To treat phonologically and orthographically similar forms as if they are quite different words (each easily paraphrased by something more precise: 'imagine' here really means 'suppose', there it really means 'visualize', and so on) should surely be an option of last resort. My own diagnosis of what has gone wrong is that legitimate but unresolved worries about the adequacy of traditional accounts of the nature of mental imagery have led to less well founded doubts about the coherence of our notion of imagination, the imagery producing faculty, itself. But this is not White's view. Although for him, 'there is only one sense of "imagine"' (p. 137), not only does 'imagine' never mean 'suppose', and never mean 'pretend' or 'believe', it also never means 'visualize' (White, 1989; 1990).

What 'to imagine something' does mean, according to White, is 'to think of [something] as possibly being so' (p. 184, original emphasis). On this basis, all the ordinary implications of the term are to be accounted for. Although it is hardly the sense which springs most readily to the average person's mind (Sutherland 1971), the view that imagination just is the ability to think of possibilities seems to have a certain currency amongst contemporary philosophers (e.g. Rorty, 1988; Nozick, 1993; Johnson, 1993). However, to the best of my knowledge, White is the only person to have actually tried to argue for the view.

But as White himself remarks, 'From the earliest to the latest times philosophers, psychologists and ordinary folk have linked imagination to imagery and images' (p. 86), and, indeed, the first part of his book documents that claim, with most impressive scholarship, as it applies to philosophers from Aristotle to Sartre and Ryle. However, White is no more intimidated by this massive and venerable consensus than he is by recent fashion. He argues that there is no conceptual link between imagination and imagery. Although some things we call exercises of imagination may contingently involve the production of imagery, many, he claims, need not or even could not. Of course, it is the acceptance of this latter claim that has led so many to the view that imagining only sometimes means having imagery; White holds on to the univocality of 'imagination' by insisting that it never does. Furthermore, he not only wants to argue that 'imagination does not imply imagery' (pp. 88, 91) but also the converse: 'the presence of
imagery does not imply imagination'. The link is to be well and truly broken, it seems, whether the cost be conformity or nonconformity to current orthodoxies.

I think White raises some very telling objections to the now almost standard polysemy theory, and I will expand on them. However, his strictures on the traditional linkage between imagery and imagination probably form the best marshalled articulation of the very worries which have promoted this theory. I want to defend the traditional view, the imagery centered view of imagination, by rebutting these arguments, and thereby sketch an alternative to White’s account of the coherence of the concept. There is, of course, an ulterior motive in all this. I would like to have a scientific account of imagination, something which would enable us to take it seriously whilst dispelling the clouds of mystification which the term is so often used to raise. Of course, the polysemy view does not preclude the possibility of giving disparate scientific accounts of each of the various referents which are ascribed to the term, but this would amount to an explaining away of imagination, an elimination rather than an explanation of it. Genuine explanation requires a coherent explanandum. However, the sort of coherence that White finds in the notion of imagination hardly presents us with a likely explanandum for science. Our ability to think of possibilities surely does not look like a very plausible candidate for a psychological natural kind. Mental imagery, however, may well be such a kind, and the scientific investigation of imagery is already well in hand. I want to keep alive the promise of a wider relevance for this research.

§2. Terminological preliminaries.

I shall use 'imagery' to mean experiences which seem significantly like perceptual experiences, but which occur in the absence of the things which seem to be perceived. However, I do not intend 'perceptual' here necessarily to imply a limitation to perceptions of the external world. It may also cover our means of knowing about such 'psychosomatic' states as our own pains or emotions. Newton (1982) has argued persuasively that we can have imagery of such states. Some such form of vicarious emotional experience (that we somehow 'have' but do not take as real), whether we call it imaginative or not, must surely be postulated to explain such things as, for example, the sort of sadness that can be induced in us by music or tragic drama, but which actually gives us pleasure. It should also be noted that there seems to be a definite phenomenological difference as well as the similarity between imagery and veridical perceptual experience. In waking life imagery is seldom (Sartre (1936) thinks never) confused with 'real' experience. However, this issue will not affect our argument.

In ordinary English usage, of course, 'to imagine' can mean to have or form imagery of something or other; at least, the O.E.D. gives this as the first, and oldest, sense of 'imagine'. If I tell you, when you ask why I was staring vacantly into space, simply 'I was imagining my boyhood home,' I do not see what this could mean except that I was indulging in a reverie of imagery of that place. But since this usage begs the very
question with which we, and White, are concerned, it will be best provisionally to employ the jargon term (c.f. p. 90) 'imaging' in this connection. When, as so often, such imaging is considered only in its visual aspect, it may, a little more colloquially, be called 'visualizing' or 'picturing'. People often also simply call this "seeing" (philosophers are wise to insist on the scare quotes, even if folk don't always bother), a convention which is useful in that it can be used for other modes, giving "hearing", "feeling" etc.; otherwise I think there is no ordinary language term for non-visual imaging except 'imagining'. All this terminology seems consistent with White's own practice (see e.g. pp. 110, 121, 123).

I do not intend any of these terms to imply the actual existence, material, ætherial or even 'functional'\textsuperscript{12} of mental images construed as inner pictures. I agree with White that to talk thus of imagery, or even of mental images or pictures, does not necessarily commit us to including such things in our ontology. The situation may be analogous to our talk of 'itches' (p. 123), which we are not much inclined to think of as things that cause itching. But of course, it has been very widely held that the imagery experience does depend on inner picture-like entities, (with imagery in other modes, when considered at all, being similarly thought of as constituted from 'mental copies' (Matthews, 1969) of former sense impressions). This view was almost universal before the twentieth century, and is still has important advocates, such as Alastair Hannay (1971, 1973) and Stephen Kosslyn (1980, 1983, 1994). However, this is no longer the only type of explanation of the mechanisms of imagery which receives support. These days there are at least two other types of theory extant amongst psychologists\textsuperscript{13}, and 'pictorial' theories have been much criticized on both conceptual and empirical grounds\textsuperscript{14}.

White, like myself, seems disinclined to accept a 'pictorial' theory of imagery (pp. 93-100, 123), but he has little to add to the standard arguments against it, and no alternative to propose\textsuperscript{15}. Perhaps he sees this as a psychological issue, irrelevant to his purely philosophical concerns, but if so I think he makes a mistake. Many of his counter-examples to the linkage between imagery and imagination, it seems to me, can only derive from a deeply ingrained, implicit pictorial theory of imagery which, perhaps, he has not taken sufficient pains to root out of his thinking. Precisely because it is implicit and disavowed, this version of 'pictorialism' remains unexamined and crude. I fear that this fault is endemic in philosophical work on the subject; introspective determination of even the most basic facts about imagery, even its very occurrence, is known to be peculiarly vulnerable to such theoretical conditioning (Thomas, 1989). If White presents a particularly suitable target for criticism, that is largely because of the exceptional care and consistency with which he works out the consequences of this hidden assumption.

§3. Imagery as a product of imagination.

White's implicit pictorialism is particularly apparent in his argument that 'imagery does not imply imagination'. Consider: Merely to ask someone to have or produce imagery of a sailor scrambling ashore is no more to ask him to imagine anything than if one were to
ask him to draw a picture of such a scene. . . . The imagery of a sailor scrambling ashore could be exactly the same as that of his twin brother crawling backwards into the sea, yet to imagine one of these is quite different from imagining the other. (p. 92). Two dubious pictorialist assumptions seem to be confounded in this example. The first is that mental imagery consists of static pictures, like snapshots, paintings or, the granddaddy of them all, wax impressions (introduced by Plato in *Theatatus* 191 c-d). Clearly a movie or a video of sailor Jim scrambling out of the sea would be quite different from one of him crawling backwards into it, and I can see no reason, apart from the spell of analogies drawn from archaic technologies, why our mental imagery should not be thus inherently dynamic. Given the dynamic nature of the perceptual world it reflects, surely we should expect imagery to be dynamic, and there is now a good deal of available evidence that indeed it is (e.g. Freyd, 1987; Cooper, 1976).

In fact White himself seems to allow only a couple of lines later that imagery may be like a film, even a sound film, and surely he is right to do so. It is not only the preconception that imagery is static which owes most of its plausibility to the pictorial analogy (or its close relatives, the ideas that mental imagery consists in 'decaying sense', as Hobbes (1651) had it, or reproductions, 'mental copies' (Matthews, 1969), of former sensations). The same can be said of the assumption that there is some special difficulty involved in having multi-modal imagery like that of a sound (or even 'sensurround' and 'smellavision') film. It is hardly a directly given truth that imagery comes to us one sense mode at a time, so that such 'talkie' imagery would involve having to somehow synchronize a visual and an auditory image. The assumption would seem to arise from reading back our knowledge about our separate, specialized types of sensory organ into our conceptualization of our experience. But experience, whether perceptual or imaginal, does not come to us in the first place broken down by mode. As given it is multi-modal, even though it may readily be analyzed by mode, and even though one particular modal aspect may often monopolize our attention.

But moving, even talking, pictures remain pictures, and there is a more subtle pictorialist assumption embedded in White's argument, and, I fear, in much of our thinking about imagination and imagery. in order to deal with it satisfactorily, we must digress somewhat, to consider historical aspects of the concept of imagination and contemporary scientific theories of imagery, before returning to White's 'sailor on the shore' example.

Even having allowed for 'cinematic' imagery, White goes on to claim that there is no


difference between imagery of a man saying something and his 'criticizing, explaining, commending, repeating or replying to something' (p. 92) in the same words. Since he also claims that imagining each of these different speech acts would be quite different in each case, it follows that imagining and imaging cannot be the same thing.

The second premise of this argument seems reasonable enough, but why should we accept the first? Surely there is no special difficulty, when watching more than a momentary clip from a movie, in telling whether a certain utterance amounts to
criticizing or commending or explaining or whatever. We tell from the context, just as we
do in real life. I take it that White would not want to deny that we can hear someone
criticizing or commending when they are standing in front of us. Why should things be
any different with inner cinematic imagery, and why, therefore, should having such
imagery not amount to imagining the specific speech act rather than just the mere empty
sounds and mouth movements?

White might reply that having such 'cinematic' imagery, like watching an actual movie,
does not amount to imagining someone criticizing, explaining, or whatever, but, at most,
merely induces us to imagine it (albeit fairly compellingly). The point seems reasonable
enough, but it raises important implications. If it applies to mental imagery, and to the
movies, surely something similar must be said about how we understand what is
happening when a speaker is really in front of us. The implication is that imagination is
involved in ordinary intensional perception. It is seen as the interpretative aspect of
perception, as what makes mere mechanical sensation into perception of something
meaningful.

White himself notes that Aristotle's discussion of phantasia, which is very arguably the
original source for the very concept of imagination (Schofield, 1978; Rees, 1971), does
indeed treat it as responsible for the particular way in which things appear to us in normal
perception, for what we see them as (c.f. Nussbaum, 1978). White also notes (but
dismisses) the key role that Kant attributes to imagination in synthesizing the sensory
manifold, thus making meaningful perceptual experience possible (p. 44). It is probably
ture that the explicit use of 'imagination' in this sort of sense rarely occurs in ordinary
conversation and writing, but the Romantic writers, who were largely responsible for
endowing the term with the considerable evaluative and ideological charge that it carries
today, were certainly very much under the influence of this understanding of it. Shelley
(1821) characterized imagination as the 'principle of synthesis', and Coleridge (1817)
defined it (in its 'primary' sense) as 'the living power and prime agent of all human
perception'.

In my view, this notion of imagination as operative in normal perception (although it has
perhaps never had much currency amongst 'ordinary folk') is the ancestral idea which ties
together all the various usages of the term. No doubt the descendant senses are many and
various, and 'family resemblances' amongst them may not always be obvious when they
are examined from a purely synchronic perspective, but, just as our understanding of
currently existing living organisms is greatly enhanced by viewing them in an
evolutionary context, our understanding of the plethora of seemingly diverse current
usages of a rich term like 'imagination' may be enhanced by an appreciation of their
origins. If I am right in thinking that they have a common conceptual ancestry in the long
lived view of imagination as the interpretative aspect of perception, then (as an
alternative to the eliminativism discussed in section 1 above) it may well be worthwhile
to try to regain our grasp of this root concept.
However, even accepting this sort of account of imagination, White's arguments against there being any connection between imagination and imagery would still make sense in the context of a pictorial theory of imagery. Pictorial theory relies on an implicit view of perception as a two stage process. In the first stage, a picture, a visual sense impression, (or a sense impression of some other mode) is got into the mind through the sense organs, using some more or less mechanical, physiological process. In the second stage, this picture is interpreted or understood, made meaningful, through processes which are, in effect, mental (in modern versions, computational). In this light imaging can be understood as an alternative way of getting pictures (or other pseudo sense impressions) into the mind, and can reasonably be distinguished from the interpretative processes which, as has just been suggested, have traditionally been identified with imagination. Although this view of perception has serious problems, it remains highly influential (Ben-Zeev, 1984), and in particular it remains operative even in modern, scientific versions of the picture theory of imagery. A distinction between the processes of ('quasi-pictorial') image formation, and those of the 'mind's eye interpretative function' (Kosslyn, 1980 p. 6) is crucial to their theoretical identity.

But, as we have already noted, there are other views of imagery to be found in the contemporary psychological literature, and these do not support such a distinction. Contemporary cognitive approaches to perception have been decisively affected by computer vision research, and the long standing textbook view in this field is that vision consists in the construction of explicit, meaningful descriptions of physical objects from images. . . Descriptions are a prerequisite for recognizing, manipulating and thinking about objects. (Ballard and Brown, 1982) The 'images' referred to here are physical images, formed inside the TV cameras that computer vision systems use as sensors. The human equivalent would be the retinal image in the eye. No-one thinks there is anything mental about such images. But if (like most cognitive theorists) we take at face value the claim that the 'descriptions' that the computer vision system generates are 'meaningful', then these descriptions may indeed seem like a suitable model for visual mental contents. Taking such a view seriously has led several theorists, notably Simon (1972), Hinton (1978), and Pylyshyn (1973; 1978; 1981), to the view that mental imagery should be understood as consisting of such descriptions (expressed, as it were, in Fodor's (1975) 'mentalese'), differing from the descriptions that are supposed to be produced in actual vision only in their proximal source (and perhaps their wealth of detail). (A useful summary and critique of this position is given by Tye (1991 ch. 4).)

Another view (which I happen to favor) is that perception should be regarded as a matter of active interaction between the perceiver and its environment, as an integral part of behavior rather than a preliminary to it (Gibson, 1966; 1979; Neisser, 1976; Young, 1978; Bickhard and Richie, 1983). Recently this outlook has found favor amongst certain robot vision researchers, who have become disillusioned by the failure of 'traditional' computer vision work to deliver practical, working systems (Ballard, 1991; Blake and Yuille, 1992; Swain and Stricker, 1993; Aloimonos, 1993). Our sense organs are not
regarded as passive recipients of stimulation, whose outputs are in need of further internal processing, but rather as instruments that we actively deploy in order to explore, interrogate and interpret our environment, seeking out specific answers to specific task-relevant questions (Thomas, forthcoming). The interaction between an organism and its environment is constituted by 'a rapid sequence of microperceptions and microreactions, almost simultaneous as far as consciousness is concerned' (Damasio and Damasio 1992), and it is the ongoing course of this interaction - rather than some 'end product' of it - which gives rise to perceptual experience. From this perspective, imagery may be regarded as a matter of the (partial and covert) enactment of the specific perceptual (i.e. information seeking) behaviors that would be appropriate to the identification of the imaged objects or scenes if they were actually present (Neisser, 1976; 1978; Sarbin and Juhasz, 1970; Sarbin, 1972; Hochberg, 1968; Ellis, 1995; Thomas, forthcoming).

Both of these non-pictorial accounts of imagery assimilate the processes of imagery formation to the processes of perceptual interpretation which, I have argued, have been traditionally assigned to the faculty of imagination. Thus, unlike picture theory, these views fail to support a distinction between imagery and imagination in this sense. The relevant 'imaginative' processes, whether they are thought of as internal computational processing of passively received information, or as active, purposeful extraction of information from the environment, are conceived of as responsible for 'categorical perception', they are what enable us to perceive the things in the world as whatever sorts of things they may be. Thus we may say that, on these views, imaging is understood as a particular sort of exercise of the capacity for 'seeing-as' (or, more generally, 'perceiving-as') rather than as the formation of internal pictures or sensation copies.

![Image](A.png) ![Image](B.png)

Figure 1. The Duck-Rabbit and the Necker Cube.

This is a view that has been defended by certain philosophers influenced by the later Wittgenstein (Dilman, 1967; Scruton, 1974; and, especially, Ishiguro, 1967)\(^\text{17}\). The idea
is that, just as we might see X as a Y (or a Y in X) - e.g. lines on paper (figure 1A) as a duck or a rabbit\textsuperscript{18}, or, like Hamlet, a whale, a weasel, and a camel in a cloud - when we visualize we, as it were, see nothing-in-particular as a Y. There may be a sort of continuum stretching between cases of ordinary categorical perception, where we see something as what it unequivocally is, through examples like the duck-rabbit and the cloud, to cases of 'pure' mental imagery. The less stimulus control there is over what we experience the more likely we are to call it a case of imagining rather than perceiving, but similar processes are involved across the range. According to Ishiguro (1967) mental images are not pictures in the head or the mind. She embraces Anscombe's (1965) theory that the 'intentional objects' of perception are grammatical fictions, useful in certain linguistic circumstances but without material existence. Inasmuch as they can be said to be objects at all, mental images are the intentional objects (in this sense) of just those acts of seeing-as which have no material object. They are not things that we see (even with the 'mind's eye'), rather they are the 'intentionally inexistent' objectives at which our acts of visualization are directed. They are the things that we are, as it were, trying but (since they are not there) failing to see\textsuperscript{19}.

This is not the place for positive arguments for a 'seeing-as' theory of imagery, nor a detailed account of how one might work; I have tried to give these elsewhere (Thomas, 1987, forthcoming). I have brought up such theories here principally to give us a concrete sense of the possibility of a non-pictorial account of imagery. This should help to keep us from backsliding, like White, into taking what are really consequences of an implicit pictorial theory of imagery to be uncontrovertible facts that any account of imagery must recognize. Picture theory is so entrenched in our thinking, and in our very language (the very term 'mental image'), that it is easy to mistake its consequences for conceptual or 'given' truths. The fact that it is really a corruggible theory may be brought home to us only when we become aware of possible alternatives.

With this in mind, let us return to the question of whether imagery implies imagination; whether White is justified in denying that imaging is even a species of imagining. We can now tackle the second, deeper and more subtle, pictorialist assumption buried within the example of the sailor on the shore. Although he does not express the matter exactly in these terms, it is fairly clear that White considers a key difference between imagining and imaging to be that the former is inherently intentional (in the technical sense of 'about something') while the latter is not. Imagining sailor Jim might be something quite different from imagining his identical twin, sailor John, even if they are imagined to be in the same pose and both moving in the same way. But imaging the one, even in motion and in the full range of sensory modes, would, he thinks, be identical to imaging the other, so long as they both look (sound, smell and feel) the same (c.f. White, 1989). Imagining, but not imaging, can be inherently about Jim or John. Likewise (with regard to figure 1A): 'picturing or visualizing a duck-head need not differ from picturing or visualizing a rabbit-head' although imagining each in the figure would be quite different (p. 180). Thus he concludes that imaging is something less than imagining: 'To have an
image of X is not necessarily to imagine anything' (p. 92). To image something does not amount to imagining it (although we may sometimes, perhaps, illustrate, to ourselves, what we imagine with some imagery).

White is surely correct about the intentionality of imagining. Imagining Jim, or the drawing as a duck, can indeed be different from imagining John, or the rabbit. Although we may both be frightened by the same shadow on the dark savannah, I might imagine it is a lion where you imagine it is a leopard. The difference inheres not in the external cause or the sensory impression, but in the different intentional objects of our imaginings. However, White provides no empirical or conceptual justification for the assumption that imaging is non-intentional, that our mental imagery itself might not be of Jim specifically.

The only likely grounds that I can see for such an assumption is an implicit residual attachment to the ancient theory of mental images as uninterpreted pictures in our heads. A picture (mental or physical) of Jim may, let us allow, be indistinguishable from one of John and some sort of interpretative process (perhaps a process of imagination) is needed to see it as a picture of anything, let alone of one or the other twin. The intentionality here is not in the picture qua picture but is all supplied by the spectator. But if experiencing mental imagery is not like looking at inner pictures then what grounds have we for thinking it involves any equivalent, isolable, non-intentional element? Certainly the other two extant theories of imagery (discussed above) have no place for any such component. If they are correct, if imaging involves essentially the same processes as does seeing-as, then it will be an inherently intentional (i.e. object directed) act, not different in kind from the acts of perceptual interpretation which (we have suggested) may be properly ascribed to the imagination. All imaging would be 'imaging-as'.

In fact there is now some very good empirical evidence suggesting that imagery is indeed inherently intentional, that it is experienced as already interpreted, rather than being open to reinterpretation like a physical picture. Chambers and Reisberg (1985) have shown that visualizing the duck-rabbit figure as a duck differs from visualizing it as a rabbit. They briefly showed people the unfamiliar duck-rabbit figure (or another such 'ambiguous' figure, such as 1B, the Necker cube). The presentation was too brief for the subjects to see more than one of the interpretations whilst they actually viewed the figure, but they were asked to remember it so that they could later draw the figure. They were then asked them to form a mental image of it. Despite hints and much coaxing, and despite the fact that they had been familiarized with this general type of 'ambiguous figure' before the experiment began, in none of the 55 trials was any subject able to construe their image as representing anything other than what they had originally seen the figure as representing. This was not because they had failed to notice or memorize salient features of the figure when they saw it: when they subsequently made their own drawings of what they had seen the subjects soon found the alternative interpretation in their drawing (with the exception of four out of the 55 trials, where subjects were unable satisfactorily to draw
the rather complex Schroder staircase figure). As 'seeing-as' theories of imagery would predict, the 'meaning' and the sensory component of imagery cannot be pulled apart. The experimental data strongly supports the well known view of Sartre (1940) that the images that we experience are always images of something.

This point is sometimes expressed by saying that images are always experienced 'under a description', but this expression may be misleading in that it again seems to insinuate a form of pictorialism, with an uninterpreted picture modified by a descriptive label which is merely contingently, if tightly, associated with it. Such a model has, indeed, been proposed to render the experimental results compatible with picture theory: Reisberg (1994a) interprets them as showing that pictorial images are always read through, or created in accordance with, what he calls a 'reference frame', a representational structure that determines what the images are experienced as being of. Although I find this explanation somewhat strained (Thomas, forthcoming), I am not concerned to reject it here, for it will not help White's argument. The point remains that even if mental images are pictures, they are not experienced as uninterpreted pictures; imagery does not occur in the absence of (interpretative) imagination.

Of course, no reading of experimental results is beyond question, but the burden of proof has surely now decisively shifted to those like White who would treat imagery as not intentional. Examples like the sailor twins and the duck-rabbit, I conclude, do nothing to show that imaging is not the species of imagining which ordinary language, as opposed to philosophers' jargon, would make it out to be.

However, there is another reason why some have thought that having imagery does not necessarily involve imagination (p.91; Scruton, 1974 p. 97). Imagery may be involved in mental episodes that we would call acts of remembering, dreaming, wishing, thinking, etc., as well as those which we would call exercises of our imagination. However, the conclusion that imagination is not involved in the former sorts of cases does not follow. These usages can be accounted for on the following model: 'imagination' is, in the first place, the name of the capacity to have imagery (as Aristotle so defined it at the beginning of the game (De Anima 428a - Hett, 1936)), but this imagery may be utilized as a general representational medium in the performance of all sorts of more specific mental functions. Wedin (1988) argues that this was how Aristotle himself regarded the matter, and White shows that Hobbes, Locke, Berkeley, Hume and even, to a considerable extent, Descartes and Kant also held such a view. So does the present Poet Laureate (Hughes, 1988). Imagery is so ubiquitous in our mental life that, in most contexts, it is more useful for us to mention the particular mental task - remembering, considering, dreaming etc. - that our imagery is subserving, rather than the fact that they call for exercises of the imagination (that would be rather like referring to rockets, trees and people not as such, but as lumps of stuff). I submit that the non-theoretical occasions
when we actually talk about imagining are usually when we want to refer to mental acts which do not readily fall into any of the more specific mental categories. If it is not remembering, thinking, or whatever, perhaps it is just imagining (as unidentifiable stuff is just stuff), and maybe when it is too special and rare a type of thought to have its own name it is imagining as well.

Admittedly there is an alternative convention, as found, for example, in Hartley, where imagination is not so much the power which forms the images (or 'ideas') which faculties like 'Memory', 'Understanding' and 'Will' then employ, but another faculty on a par with these, whose specific function is to call up 'Ideas and Trains of Ideas . . . in a vivid manner, and without regard to the Order of former actual Impressions and Perceptions' (Hartley, 1749 Part 1, iii). Apart from the fact that it gives rise to pseudo-pleonastic horrors like 'imagination imagery' there can be no objection to this usage. But there is no reason at all to think that it 'trumps' the conception of imagination as the basic image forming power. Mental imagery, I conclude, may always and everywhere be said to imply the operation of the imagination. At least, White has failed in his attempt to show otherwise.

§4. Imagery in imagining.

White's converse claim, that 'imagination does not imply imagery' (pp. 88, 91), is clearly right: we sometimes speak of imagination, or imagining something, in cases where there seems to be no necessity for imagery to be involved. It is widely agreed, and seemingly beyond question, that if we imagine that something is the case - for instance 'that the black horse is here now or not there then' (p. 90) - then we need not form any imagery. Although we often may form an image of some circumstance that we imagine to be the case (e.g. I may 'see' a black horse here with me now in my office, or visualize some scene from memory without a black horse, perhaps when there really was one), the imaging is incidental, and does not amount to imagining that it is so. Pace Wittgenstein (1967 §69), I can imagine (i.e. visualize) my dog Rusty in the back garden, but I cannot thereby imagine that Rusty is in the back garden, for Rusty is, alas, long dead.

However, I contend that, apart from cases of 'imagining that' (and noting that the 'that' is often left implicit), all imagining does involve imagery (or seeing-as) in an essential way. White tries to argue otherwise, but none of his examples stand up. Imagining mowing the lawn, for example (p. 88), might possibly be thinking idly that I might mow the lawn, but a less strained interpretation would be having imagery (no doubt multi-modal, including kinaesthetic - what psychologists call enactive imagery) resembling the experience of carrying out that chore. Likewise, imagining a difficulty or objection (pp. 88-9) might either be imagining that a (perhaps unspecified) difficulty or objection might arise, or it might be imagining, in the sense of vicariously experiencing, imaging, the actual circumstance of a particular difficulty arising or a particular objection being made (we might 'hear' it being put to us, perhaps in our own voice if we have no specific objector in
Similarly, it seems to me simply false that imagining 'how a problem could or would be solved' (p. 90) is possible without imagery of some kind, especially when we remember that 'inner speech' is itself a form of imagery (auditory and/or vocal- kinaesthetic) (Paivio, 1971; 1986; Reisberg, 1992). If I think of how Köhler's (1927) apes managed to get at their coveted bananas I have imagery of chimpanzees piling up boxes, reaching between cage bars with sticks, and so forth. What is more, if I were trying to solve this type of problem, if it were of any difficulty, I would try to think it through in imagery myself. Certainly there is evidence that people often, I do not say always, rely on imagery in solving many sorts of problem (e.g. Kaufmann 1980; Miller, 1984; Finke, Ward & Smith, 1992). This is true even in such abstract domains as logic and arithmetic (e.g. Clement and Falmange, 1986; Hayes, 1973). White might say that to have such imagery is not in itself to solve or be attempting to solve the problem, just as diagrams showing how to solve a problem do not in themselves constitute a solution unless they are understood. But this again relies on the already rejected assumption that mental images are, like physical pictures, inert, inherently meaningless objects, requiring imaginative interpretation.

Admittedly, the actual mental process of solving a problem (as opposed to imagining how it might be solved) need not necessarily involve either imagery or any imageable actions. The answer may 'just come'. However, inasmuch as we can imagine solving a problem this way (as opposed to imagining that it was, or might be, solved this way) that surely will involve imagery (perhaps something like imagery of darkness and silence inside our head, and then the solution popping into it as a verbal or a visual image). Anything less would hardly amount to imagining.

If what I have suggested about the nature of imagery is on the right track then, even in some examples where actual imaging does not seem likely to be involved, something closely related to it probably is. 'The persecution of the paranoiac,' White rightly tells us, 'is as much a figment of his imagination as Macbeth's dagger is of his,' (p. 89), the point being that the former is 'non-sensory' and therefore cannot be imaged. However, the relevance of imagination here undoubtedly goes beyond the fact that the paranoiac imagines that he is being persecuted. To be sure, paranoia is probably not essentially a matter of having certain pictures in one's head (although hallucinations may be involved), but neither is it merely a matter of entertaining certain propositions. Much more plausibly, it may be construed as a disorder of intentional perception, of perceiving-as. The paranoiac over-interprets (in a particular biased way) his perceptual input, and sees little or nothing as something bad. He hears an innocent remark as a threat, sees a smile as mockery, and sees a shadow in the alley as a lurking spy. A plausible rationale for why the paranoiac's delusions are called imaginary would thus be that, like ordinary imagery, they involve the mechanisms of perceiving-as operating in a non-veridical manner. (Of course, what makes the paranoiac insane is not the fact that he imagines things - we all do that - but that he does not recognize the non-veridicality of his imaginings.)
§5. Supposing and imagining that.

But what are we to make of the very common construction 'imagine that p'? After all, the proposition p may describe a quite unvisualizeable (or otherwise unimageable) circumstance. 'I am inclined to imagine that Fermat's last theorem is true,' or 'Imagine that all men have red hair,' (p. 90) seem to be perfectly acceptable sentences, but neither circumstance can be imaged. Indeed, 'Image (or visualize) that p,' does not seem to make sense at all. I can visualize a black horse here, now, and I can imagine that a black horse is here, now, but I cannot visualize that a black horse is here, now. It is these types of uses of 'imagine', surely, which so many recent philosophers have taken to be essentially synonymous with 'suppose', 'believe' or 'pretend'. Since they generally continue to hold (rightly, I have argued) that 'to imagine' sometimes can mean 'to image', they conclude that 'imagine' must have multiple meanings. But White rejects this line, and here I think his analysis is on track. The proposed alternative senses do not fit. I will consider White's discussion of 'suppose', which is the most important case, and the one which he treats most fully, but similar remarks would apply to the other alleged synonyms.

Even White admits that 'suppose' and 'imagine' are 'often both applicable in the same case . . . as when one either imagines or supposes that one is being followed, or is asked either to imagine or suppose that one is alone on a desert island' (p. 139), but he vehemently rejects the suggestion that there is a sense of 'imagine' which is equivalent, or closely similar, to 'suppose'. (He seems to regard this, and the other suggested synonyms, as a stratagem designed simply to neutralize counter-examples to the linkage of imagining and imaging (p. 85), to set them aside as special cases.) Certainly imagining and supposing are not always equivalent; for example, one may go along with a supposition, but not an imagination (p. 136). But White argues persuasively that even in contexts where either word seems to fit they nevertheless have different implications (p. 139). Although 'imagine' and 'suppose' may be inter- substitutable, their 'center of gravity' remains different, they give different scope for continuation: I suppose there is a cat in my room and I try to find it; I imagine there is a cat there, and then I imagine it under the bed, green eyes glowing (c.f. p. 139). If we are told that Philip Marlowe, going down some mean street, supposed that someone was following him, the story might continue with a description of how he attempted to shake off the unseen pursuer. If we were told that he imagined that someone was following him, the story might continue with a description of how he attempted to shake off the unseen pursuer. If we were told that he imagined that someone was following him the continuation might be similar, but it might instead be that he persuaded himself that it was nothing but a delusion induced by long days of sleeplessness and fear. The latter would not appropriately follow 'supposed'. Unlike 'imagined', 'supposed' seems necessarily to carry the implication that something is taken, at least for the sake of argument, as true. If we believe that someone is supposing something, we will expect them to take or be ready to take appropriate actions or to draw appropriate inferences, but we may have no such expectations if we believe that they are merely imagining something. As White has it: The real difference is that to say 'Suppose that p' invites a statement of the consequences or implications of p, whereas to say 'Imagine that p' sets the stage for various kinds of embroidery. Thus, on the one hand, we commonly say 'Suppose (supposing) that p, what then?' but not 'Imagine
(much less 'imagining') that p, what then?. On the other hand we commonly say 'I want you all to sit back and imagine for the next few minutes that you are marooned on a desert island', but not, 'I want you to all sit back and suppose . . .'. We are inviting our audience to give free rein to their imagination but not to their supposition. (p. 141-2, White's ellipsis).

I am much inclined to think that this is right, that White has uncovered an important and widespread error here, and that, indeed, 'there is no sense of "imagine" in which it is equivalent to "suppose"' (p. 135). However, in showing this White may have opened the door again to imagery. Much of the 'embroidery' he mentions is surely likely to be a matter of imaging. What I would do if asked to sit back and imagine being marooned on a desert island would be to try to 'feel' the sand beneath my feet, the heat of the sun, and the fear and hunger in the pit of my stomach, to 'see' the palm trees and the empty horizon, and 'hear' the crashing of the waves on the reef. Perhaps I would also imagine what I might try to do - build a shelter, a signal fire, catch fish or shake down coconuts. But if I just considered the notion of these activities without trying to some degree to vicariously experience them, then that would hardly be imagining anything; I would just be thinking of consequences and implications, of what I would do supposing I were marooned on a desert island. To imagine that all men have red hair is not merely to suppose it, to acknowledge the proposition's truth, or, at least, to provisionally grant it (perhaps for the sake of some syllogistic exercise). Rather it is to 'embroider' the supposition with imagery, such as of crowds of redheads, our brunette friends with red hair, and so on. Marlowe's imagining that he is being followed certainly need not involve such out and out imaging ('seeing' his pursuer in his 'mind's eye'), but it might well involve his 'embroidering' his perceptions by, for example, hearing vague noises behind him as stealthy footsteps. At the least it would imply his being on the alert for such sensory 'evidence', being ready and inclined thus to 'embroider'. Conversely, he might suppose someone to be following him - he knows they need to keep track of his whereabouts - without at all trying to detect their actual presence - he is convinced that they are there but knows they are much too skillful to give themselves away.

'Imagining that', therefore, is not equivalent to 'supposing that'. To be sure, one cannot image, or visualize, that p, but to imagine that p does seem in many, and perhaps the paradigmatic, cases to be to produce p-relevant imagery, or to relevantly perceive-as.

§6. Imaginativeness and possibility.

Let us now consider White's positive theory of imagination. This is announced in the contention that 'To imagine something is to think of it as possibly being so' (p. 184, White's emphasis; White, 1989). There is no doubt that this formula will substitute very nicely for 'imagine' in many contexts, as will 'suppose', 'pretend', 'think falsely' etc. in others. However, White is not claiming to have unearthed yet another meaning of 'imagine' but the meaning: 'I claim that one and the same sense of "imagine" is being used' in all cases (p. 187). But it is not clear that his candidate is any more universally
appropriate than any of the others. For instance, as he properly insists, one may wrongly imagine something (p. 142), but while you may certainly wrongly imagine that the cat is on the mat, unless you already have unequivocal evidence to the contrary, you can hardly be wrong in thinking of the cat as possibly being on the mat: it is a possibility.

In fact White is a little less severe with his own theory than he tends to be with other candidate equivalents, such as 'suppose' for 'imagine' (see pp. 135-6) or 'imagine seeing' for 'picture' (see p. 104), where he seems to demand that any substitution should strictly preserve the surface syntactic form. He realizes that his formula will (at best) only work for cases of imagining that something, and he loosens it accordingly. To imagine something may be to think of a possible experience or occurrence (p. 187). For White, imagination is essentially the capacity to think of possibilities (logical possibilities, I take it, for physical impossibilities may be perfectly imaginable) (c.f. Rorty, 1988; Sparshott, 1990; Nozick, 1993; Johnson, 1993). But although some people may be able to think of possibilities more quickly or copiously than others (at least in particular spheres), could such an ability in itself be properly said to be 'powerful or weak, rich or poor, vivid or faint', as White (p. 185), and the world, says an imagination may be? Note that the adjectives 'rich', 'vivid' and 'faint', especially, are thoroughly appropriate to imagery.

Let us consider some of the examples which White himself adduces to support his view: 'When we try to imagine why a friend betrayed us [or] where we put the parcel . . . we are trying to think of possible answers to these questions' (p. 184). True, but anything is possible. It is possible that I threw the parcel in the sea, or that my friend betrayed me because he was bribed by Martians with a million tons of platinum. What I am trying to think of are not merely possible but probable answers, and it seems to me that I am most likely to say specifically that I am trying to imagine them, rather than just think of them, if I am thinking about the situation concretely. I will try vicariously to re-experience holding the parcel and wondering where to put it, or to experience what my friend's situation must have felt like 'from the inside'. That is to say, I will try to recall or construct appropriate imagery.

I am appealing, here, to something like the 'simulation theory' of 'folk psychology' (Gordon, 1986; Goldman, 1992a, 1992b; Harris, 1992), which holds that to predict, or retrodict, the behavior of others (or of ourselves in other than the actual present circumstances), we imagine being in the relevant situation (with the details as richly 'embroidered' as we can manage), and take note of what we then find ourselves doing, or deciding to do, in the imagined scenario. At root this idea is not just some newfangled and controversial cognitivist theory, but the time honored notion of 'putting yourself in someone else's shoes'. It is itself based upon a 'folk theory' of 'folk psychology'. The same goes, of course, for the rival 'theory theory' (Morton, 1980; Leslie, 1992), but, whether considered in its scientific or its 'folk' form, this does not make appeal to imagination, but to inference. Thus, even if we deny that the simulation theory gives a true account of how people actually do predict and retrodict behavior, we must still acknowledge that when we 'folk', use 'imagine' in these contexts, we mean
'vicariously experience', not merely 'think of possibilities'.

White also tells us that for a child to imagine a chair as a fortress amounts to the child's thinking of the chair as a fortress (p. 184). Again this is true\textsuperscript{25}, but has little to do with what is supposed to be the key notion of possibility. The sane child, no matter how imaginative, does not think that the chair possibly is a fortress. He knows quite well that it is a chair and that he is only playing. White says that 'An imaginative person is one with the ability to think of lots of possibilities, usually with some richness of detail' (p. 185). Would the child really be playing more imaginatively if he thought of the possibility that the fort, which is a chair, might be decorated with giant purple dandelions, or submerged under a lake of treacle? Rather it is that he imagines it appropriately, and does so in rich, sensuous, concrete detail: the angle of the chair's arm and back is 'seen' as a crenelation; the upholstery is 'seen' and 'felt' as stone, perhaps he 'hears' and even 'smells' the besieging armies and 'feels' his own fear. We may also consider him the more imaginative the less the chair really resembles a fort. A kitchen chair will call for more imagination than an armchair. A really imaginative child will not need the chair at all. All this has much more to do with imagery, or at least with seeing-as, than with possibility\textsuperscript{26}.

Similar points apply to the role of imagination in the arts, which White's theory is also meant to capture. Perhaps there is a 'thin' sense of 'imaginative' in which the more imaginative writer is merely the one who 'thinks of possibilities unthought of by his inferior colleagues, [and] he also, by mentioning them, leads us . . . to think, like him, of these possibilities' (p. 186), but this is not the sense in which 'imaginative' is used as a resonant term of approbation: if so, science fiction would be the acme of literature. But art, even writing, that we admire for the imagination it shows need not be fiction at all. Imaginativeness is not mere copious inventiveness\textsuperscript{27}. Shakespeare and Wordsworth are favorite examples of especially imaginative writers. At least, they were probably Coleridge's favorite examples, and it is Coleridge (as White seems to agree (p. 46)), who has been the chief apostle and theorist of the importance of imagination in literature. But neither Shakespeare nor Wordsworth are notable for their fictional inventions. What they, and other 'great' writers, are noted for is the acuteness and depth of their 'folk psychological' insight, and the concrete, sensuous evocative power of their writing, its capacity to induce imagery (both perceptual and emotional).

But the principal reason that imagination is thought to be particularly relevant to the arts arises from the ability of artists to see and to induce the rest of us to see aspects of reality differently or more fully than is ordinary - to see things as we otherwise might not. ('See' is used here, in a quite conventionally metaphorical way, to mean 'perceive' in its broadest sense). Art can be worthwhile without being sensuous or evoking mental imagery, but I take leave to doubt whether it can transcend mere entertainment or titillation unless it makes us see the world afresh.

The imaginativeness which may be displayed in other pursuits, I would suggest, has a
similar basis, at least when the term is being used seriously for approbation (it may just be used to indicate a tendency to produce copious and vivid imagery, or, indeed, toward inventiveness, copious spinning of possibilities, but in such cases it does not operate as an important, culturally loaded, evaluative term). The imaginative, creative scientist is the one who sees some aspect of the world in a new way (as, for instance, Faraday saw magnets as surrounded by lines of force, or Darwin saw nature as an arena of struggle). More mundanely, the more imaginative footballer is the one who is more adept than his teammates at seeing a particular situation on the field as a potential threat or opportunity. The more imaginative detective is the one who can see some otherwise unregarded detail as a vital clue. He is not the one able to think (through imagery or otherwise) of lots and lots of possible culprits or modi operandi, so that he can spin many wild and unlikely theories of the crime. Barrow (1988) has suggested that imaginativeness is 'the inclination and ability consciously to conceive of the unusual and effective in particular contexts', but such an ability, I would contend, depends directly on having the skill (and inclination) for looking and seeing for oneself how things are. Without insight into the real situation, one may often be effective, by rote and diligence, or one may throw off original ideas that, except for the rare lucky hit, will be unworkable. Neither of these deserves praise as imaginative. Being original and effective requires us to see the world for ourselves, as it is.

§7. The prototype of imagination.

By this point we should be able to see why the fragmentation of the concept of imagination has seemed so compelling to so many recent philosophers. They may find the idea that creativity depends on the imagination in the sense of the capacity for seeing-as plausible enough. Certainly it is quite widespread, and is much more plausible than any suggestion that creativity might depend on having particularly vivid or copious imagery. However, the picture theory of imagery, as we saw in §3, pushes us towards drawing a sharp distinction between imagination in the sense of the imagery producing faculty and imagination in the sense of the capacity for seeing-as. Thus, when, as is almost always the case, thinking about imagery is colored by the perspective of pictorialism, a scrupulous thinker will be likely to conclude that there is no deep connection between these two usages. Our consideration of White's thought has shown us that, in the absence of a developed alternative, even overt rejection of picture theory does not guarantee immunity from its pervasive influence. Imagination in its most significant, value laden sense is thus broken off from imagination in the prototypical sense that gives it its name, and the cracks begin to spread. Possibility will not stop the rot; but a good non-pictorialist imagery theory just might.

I have rejected White's contention that 'imagery does not imply imagination' (p. 91), and also his attempt to characterize imagination as just the capacity to think of possibilities. I have also tried to suggest that imagining, or something very like it, is much more often and more intimately bound up with imagining than White would allow. I think he has failed to break the link. However, I have accepted that we sometimes speak of imagining that
something is the case when no imagery (at least, no imagery of that circumstance) is involved. We cannot, then, say that imagining just is imaging. The usual response has been to suggest that one, important, meaning of 'to imagine' is 'to image', but that it can also sometimes mean 'to suppose', 'to believe', 'to pretend', 'to be inventive', or a number of other things (to which list 'to think of as possibly being so' might very well be added). However, I share White's dissatisfaction with this approach, which amounts to the unparsimonious view that we do not have a single word 'imagine' at all, but a collection of homonyms. Although such a scenario cannot be ruled out a priori - homonyms do exist - I think White destroys most of its appeal by his critique of the more popular suggestions as to what 'imagine' might sometimes mean. Although he fails to eliminate 'visualize', I have argued that he succeeds in showing that 'imagine' and 'suppose' are never simply synonyms. He also has a creditable go at other candidate synonyms, such as 'pretend' (ch. 17) and 'believe' (pp. 147-8). ('Think falsely' is dealt with more summarily (p. 142).)

None of this proves that 'imagine' is univocal, but I do want to claim that, between White's arguments and mine, the motivation for thinking otherwise has been undermined. In the absence of good reasons to the contrary, it is sensible to affirm the traditional view of a word's meaning, which is usually compatible with what can be 'read off' the phonological structure of the language. In this light, 'imagination' and its cognates are clearly revealed as univocal terms whose basic meaning is closely bound up with the subjective phenomenon of mental imagery. Of course, traditional 'folk wisdom' is by no means always right, but all our philosophizing must start from there, drawing out and adjudicating the contradictions implicit within it. The fundamental claim in this article is that philosophical concerns about the meaning of 'imagination' arise, ultimately, not from inherent contradictions in the way the word is used, but from an incompatibility between its traditional sense and the, equally traditional, pictorial theory of imagery; and that it is by no means clear that it is the former that should give way.

However, there can be no denial that in particular contexts 'suppose', or one of the other alternatives, can often be substituted for 'imagine' with no, or infinitesimal, alteration in sense, and that we sometimes speak of 'imagining' when no directly relevant imagery is involved. How can this be explained? Let us hypothesize that 'imagination' or its conceptual ancestor originally meant the capacity for perceiving-as. This, indeed, is how Nussbaum (1978) understands the Aristotelian phantasma. We have already noted that Aristotle defined this as 'the process by which we say that an image [phantasma] is presented to us' (De Anima 428a - Hett, 1936), but the word 'phantasma' can also often plausibly be translated as 'appearance' or 'perceptual presentation' (Lycos, 1964; Nussbaum, 1978; K. White, 1985), being applied, as White (p. 8) notes, just as much to what things look like during ordinary perception as to 'pure' imagery. Indeed, Beare (1906 p. 290ff) seems to regard this as the primary meaning, and often preferred to translate 'phantasia' as 'faculty of presentation'. If, as White claims (p. 13), Aristotle extended his usage of 'phantasia' beyond the realm of merely sensory, let alone visual,
appearances, then so much the better. On this view the production of mental imagery might not be the most fundamental function of imagination, but it would be its purest exercise - seeing-as uncontaminated by actual seeing, as it were. Furthermore, in ordinary conversation, it is only in cases where there is no X to see as a Y, only during relatively pure cases of imaging, that any expression beyond 'see as' seems called for. Imagery production might thereby come to seem the representative function of the imagination, the plainest mark of its operation. This is especially so since the terminology of imagination has now (sometime post-Kant) largely dropped out of our theorizing about perception.

But another person's imagery cannot be directly observed and there are doubtless cases where one person's thought about a particular subject is rich with imagery, heavily embroidered, where another's is not. Also, what we say about the content of our thought processes is often neither very detailed nor very clear. There is thus much scope for misunderstanding and consequent 'broadening' of mentalistic terms like 'imagine'. I hear you say you are imagining where I would not have any, or any very elaborate, imagery (although you, actually, do) and so I come to learn to use 'imagine' not only when I do have such imagery, but also when I merely suppose, or otherwise think of, something. Others can now learn this usage from me, but it is not so much a new discrete meaning as an extension of meaning (c.f. Wittgenstein, 1958 §67), a broadening or stretching of the sense.

Perhaps, then, words like 'imagine', 'suppose' or 'believe' do not have one or a few sharply defined meanings, but rather a range of meaning, an 'area' with 'blurred edges', as Wittgenstein (1958 §71) has it. Parts of the range of 'imagine' may overlap with those of 'suppose', 'pretend', 'think of as possible' etc., and sometimes the context will constrain the interpretation of a particular instance of usage to such a part of the range. Then we have an appearance of synonymy. Sometimes the context will push the interpretation way out on the blurred edge of the range, and we may wonder if the word is being used quite correctly. Does it not sound at least a little stilted to say 'I am inclined to imagine [rather than 'believe'] that Fermat's last theorem is true'? But even an area with a blurred edge must have a center, or at least a central region. Indeed, without a true edge it is this center, the word's prototypical sense, that must define it. (Some maintain that this is the standard way in which concepts are structured (Smith and Medin, 1981).) I have argued that most claims or calls to imagine that something is the case can and ought to be construed as claims or calls to produce 'embroidering' imagery relevant to that situation, and that seeing something as some sort of thing involves essentially the same cognitive processes as imaging (or, as we might now allow ourselves to say, imagining) a thing of that sort. I suggest that what holds together all usages of 'imagine' and its cognates, what constitutes imagination as a concept, is the greater or lesser (perhaps indirect) resemblance or relation of all the acts in question to the prototypical cases where mental imagery, or the more basic process of perceiving-as, really is involved; or, perhaps it would be better to say, to cases which fall under the ancestral Aristotelian notion of phantasia.
Notes

1. The initial version of this article was written whilst I was Mellon Postdoctoral Instructor in Philosophy at the California Institute of Technology. I would like to thank David Hilbert and James Woodward for helpful discussions. The final form has been significantly affected by comments from anonymous referees.

2. White (1990, p. 135 n.1) gives fourteen examples of recent philosophers who have nominated 'suppose' in addition to 'visualize', and three who suggest 'pretend' (p. 149 n.2&4). Others who support all these options include Gross (1973) and Newton (1989). White (1990) also gives six advocates of 'believe' (p. 147 n.18) and four (not including Annis Flew) of 'think falsely' (p. 142 n.10).

3. Dix (1985) identifies 13 common sense and two additional philosophical 'areas of association' in the 'conceptual thicket' around 'imagination'.

4. Whether this movement significantly influenced 'the folk' is debatable, but it was certainly much abetted by the work of Behaviorist psychologists, who were also inclined to deny the reality of images and to treat all thought as linguistic (Watson, 1928; Thomas, 1989).

5. Respectively David Hume (1739-40), William Wordsworth (1805-6), and Gianfrancesco Pico della Mirandola (c.1500) (not to be confused with his more famous, and more heterodox, uncle, Giovanni).

6. There is also, now, much scientific evidence for imagery's functional significance in human thinking (e.g. Shepard, 1978; Kosslyn, 1983; Paivio, 1986).

7. Page references, unless otherwise indicated, are to this work.

8. Sparshott (1990) offers some tentative arguments for a view of imagination that seems (it is rather vaguely sketched) to be close to White's overall position; but he ultimately declines to endorse it.

9. For some documentation as it applies to folk see Sutherland (1971, p. 8).


11. Gross (1973) asserts that this sentence is 'incorrect' (he will only allow things like, 'I imagined my boyhood home as a castle,' or 'I used to imagine that my boyhood home was in Wales', neither of which, he thinks, will involve imagery) but it strikes my ear perfectly naturally.

13. For reviews see Morris and Hampson (1983 ch. 6), Thomas (1987, forthcoming).

14. I fear the only reasonably thorough and sympathetic review of this extensive and various material is chapter II.B of Thomas (1987) (updated in Thomas (forthcoming)). Although Tye (1988; 1991) persuasively rebuts some of the best known conceptual objections in his recent defence of a modified type of 'pictorial' theory, he fails adequately to address some of the most telling empirical problems (Thomas, 1994, forthcoming; Reisberg, 1994b).

15. Unless the statement that 'To visualize something is to think what it does or would look like. One could not do the former without doing the latter,' (p. 122) is supposed to amount to such an alternative. But though doubtless true, this is clearly inadequate. One can think about how things look without visualizing them.

16. For examples of similar characterizations see Marr (1982), Horn (1986), and Pentland (1986).

17. White presents six brief arguments against this position (pp. 114-5), but they are not very compelling. The first, indeed, is merely to the effect that the view cannot be legitimately fathered on Wittgenstein, and the second depends entirely on tenuous intuitions about the differential appropriateness of scare quotes: is it really a fact that we see a duck in the duck-rabbit figure but only 'see' the duck that we visualize without its aid? The third argument is that in seeing X as Y the visual character of X puts constrains on what Y might be - 'the duck-rabbit can hardly be seen as an elephant' (p. 114) - whereas there are no such constraints on what we can visualize. Quite so - but is this not just what the theory would lead us to expect? If X is nothing, and thus has no characteristics, then there is nothing that must be incorporated into Y, nothing to constrain us in what we might try to 'see'.

The fourth argument is to the effect that 'to some extent . . . to see something as so-and-so or take it in a particular way amounts to being ready to react . . . in certain ways. But this is not what visualizing something amounts to,' (p. 115). But surely it is much too strong - implausibly behavioristic - to say that seeing the duck-rabbit as a duck, or a cloud as a weasel, amounts to a difference in reaction propensities. What may reasonably be said is that seeing something in a particular way is likely to cause a readiness to react in certain, appropriate ways. Seeing the duck in the duck-rabbit will doubtless increase our propensity to admit that we see a picture of a duck, and mistakenly seeing a bush as a bear, or a distant fellow hunter as a stag, will cause increased propensities to run away or to shoot. But White has given no grounds for the contention that visualizing something does not cause similarly relevant differences in reaction propensities. Surely imaging something causes at least an increased propensity to admit that we 'see' that thing. Furthermore, Aristotle, and a very strong subsequent tradition (Nussbaum, 1978;
McMahon, 1973), held that *phantasmata* (images) are necessary to mediate our desires for (and, indeed, all attitudes towards) things not present to our senses. If this is anything like right, imagery has very far reaching effects on our behavioral propensities.

White's fifth argument against the 'seeing-as' theory of visualization simply amounts to the observation that 'though seeing-as, like visualizing, can be voluntary, it is usually, unlike visualizing, something which happens to us' (p. 115). But to the extent that this contrast is genuine (there is reason to think that we do a lot more 'involuntary', often largely unattended, imaging than is commonly realized (see Paivio, 1971), and we certainly do some) it is no more than the sort of difference in degree that the theory should lead us to expect. While 'seeing-as' is partly determined by the stimulus, pure imaging, having no such stimulus, may reasonably leave more scope for voluntary control. White does not seem disposed to deny either that imagery may often come upon us unbidden (e.g. p. 91), or that we can deliberately try, sometimes successfully, to see something *as* something: Polonius, to placate Hamlet, succeeded in seeing the same cloud as like a whale, a weasel, and a camel; likewise, we can easily see the duck-rabbit figure, at will, as either a duck or a rabbit.

The sixth and last 'argument' is simply a citation of Hannay's (1971, 1973) claim that if visualizing Y is a case of seeing-as Y then there must be something, a mental image (rather than, as we have so far taken it, nothing), which is seen as Y. Why White takes this as an objection to the 'seeing-as' view is not clear. Perhaps he regards it as a *reductio*, but, lacking a refutation of, or even an alternative to, pictorialism, he is hardly entitled to do so. Hannay, in fact, argues for the truth of the antecedent of his claim, so his own view would seem to amount to an extension of, rather than an objection to, the 'seeing-as' theory. But in any case, Hannay's claim is far from unassailable (Candlish, 1975; Audi 1978), and White himself has summarily rejected it earlier in the book (pp. 98-9)!

18. White (p. 190) seems to accept that this can be properly described as imagining the figure in various ways.

19. A related view is the so called 'adverbial' theory of imagery (Rabb, 1975; Heil, 1982; Tye, 1984), wherein it is held that a sentence like 'I have an image of a red car' would be more perspicuously (if unidiomatically) rendered by something like 'I am imaging red-car-ly', the implication being that there are no images, only modes of the act of imaging.

20. Wright (1983) shows that there can be no purely *a priori* refutation of picture theory, or demonstration that mental imagery *must* be intentional. These are empirical questions, which is why I offer some empirical evidence below. By the same token, however, Wright's argument for the reality of non-intentional imagery is not compelling. Just because he has no specific names for the 'phantasmagoric forms' which he experiences in his 'abstract' imagery, it does not follow that the imagery is not of these forms.

21. This needs qualification. It is, of course, possible to *assign* what we might call a
secondary meaning to an image, to use it to represent something more than, or other than, what it represents 'naturally', just as we may arbitrarily use physical objects to represent something other than themselves. We may tell ourselves that we will use the mental image of a pink equilateral triangle to represent triangles in general, or homosexuality, or anything we like, none of which impugns the fact that it is an image of a pink equilateral triangle. It is in this secondary sense that we may not know, or may be mistaken about, what our images are images of. As a photograph of the White House might be mislabeled 'U.S. Capitol' without ceasing to be of the White House (it not only resembles, but was appropriately caused by it), so I may verbally mislabel intentional imagery in my head, or change my mind about what label is appropriate (or fail to label it altogether).

22. Effects similar to, and corroborative of, those discussed have since been reported by: Reisberg, Smith, Baxter and Sonenshine (1989); Reisberg and Chambers (1991); Council, Chambers, Jundt and Good (1991); and Slezak, (1991, 1992). However, it has now been shown that images of certain rather different figures can be reconstrued somewhat more easily, and that, under certain rather special conditions, even images of the duck-rabbit and its ilk can sometimes be reconstrued (Peterson, Kihlstrom, Rose and Glisky, 1992; Brandimonte & Gerbino 1993; Finke, Pinker and Farah, 1989). But as Slezak (1993) points out, this latter work does little to undermine the theoretical significance of the original findings; certainly nothing in it shows that it is possible to experience a completely uninterpreted image.

23. White later finds it needful to make a similar point about imagination even as he conceives it (p. 189).

24. As opposed, for example, to memory or dream imagery: Richardson (1969 ch. 5); McKellar (1957 p. 202).

25. He is right, I think, to reject Ryle's (1949) apparent view that such imagining amounts to pretending that, or acting as if, the chair were a fort. One may perfectly well pretend that something is the case without imagining it; actors (non-method) and liars do it regularly. As with 'suppose', White (chap. 17) is quite persuasive that 'imagine' cannot ever simply mean 'pretend'.

26. It may, however, have something to do with probability, with how a fortress is likely to be (as opposed to how it might possibly be). It is a virtue of imagery that, unless deliberately separated and deliberately and arbitrarily recombined, its elements tend to hang together much as they originally hung together in the experiences, perhaps second hand experiences, from which it derives. Association strength is a fair index of probabilities of co-occurrence.

27. For this reason, I would argue, theories of inventiveness, whatever their merits as such, and however much attention they give to the role of imagery in inventive thought, do not amount to theories of imagination. The psychological tradition of 'creativity
research' (a recent and particularly sophisticated example being the work of Finke, Ward & Smith (1992)) for the most part concerns itself with such inventiveness. Stressing the fact (as these authors do) that imagery is very often (perhaps even always) involved in inventive thinking does not account for the special association that is traditionally made between imagination and creativity. After all, as we have argued above, imagery is often involved in non-inventive thinking as well. Very plausibly (remembering that inner speech is a form of imagery) it is involved in all forms of thinking; certainly Aristotle (De Anima 431a, 432a - Hett, 1936) thought so, and so did most subsequent thinkers before the 'linguistic turn' and Behaviorism turned their heads. To vindicate, or even to understand, the special association between imagination and creativity we need an account of how these notions might be conceptually connected (see Thomas, forthcoming).

28. I am taking it that confidence in the reliability of scientific findings and methods is itself an important component of our culture's 'folk wisdom'.

29. See Beare's Oxford translation of the Parva Naturalia. For Beare, amongst others (e.g.: Nussbaum, 1978; Ando, 1965; Modrak, 1987), the Aristotelian phantasia and the Aristotelian 'common sense' or general sense faculty are different aspects of the same thing. The clearest textual support for this is in De Insomniis (459a 17).

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