On the Ambiguity of Imagery and Particularity of Imaginings

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Abstract: It is often observed that images—including mental images—are in some sense representationally ambiguous. Some, including Jerry Fodor, have added that mental images only come to have determinate contents through the contribution of non-imagistic representations that accompany them. This paper agrees that a kind of ambiguity holds with respect to mental imagery, while arguing (*pace* Fodor) that this does not prevent imagery from having determinate contents in the absence of other, non-imagistic representations. Specifically, I argue that mental images can represent determinate types of outlays of properties without help from any non-imagistic representations, yet can only become involved in the representation of particular objects through pairing with a non-imagistic representation of the right sort. These points are defended through reflection on the "Picture Principle," the nature of depiction, and general principles for typing and individuating mental states.

1. Introduction

"What makes my image of him an image of *him?*" Wittgenstein asks. "Not its looking like him." In another famous passage, Wittgenstein notes that an image of a man climbing up a mountain will look just the same as an image of man sliding backwards down one (1953, p. 139). The important implication: our capacity to think *of* something cannot simply be a capacity to have mental images that resemble (or "look like") those things. A particular image will equally resemble multiple different individuals doing multiple different things, at different times and places. If our mental images allow us to think of individuals, they do not do so *merely* in virtue

of resembling them. The point extends from particular individuals to kinds, such as tigers, chairs, and mountains as well. Consider the famous duck-rabbit image, which equally resembles a duck's head and a rabbit's head. If we can be said to imagine a duck—but no particular duck—by generating a mental image corresponding to the duck-rabbit image, the fact that we are imagining a duck (and not a rabbit) must be determined by something other than what the image resembles. Supposing that we can indeed imagine ducks, rabbits, people we know, and so on, it seems that the resemblance of such imaginings to their objects does not account for why they have the objects they do.

However, one may nevertheless think that such ambiguities disappear that the level of *kinds of configurations of shapes and colors.* Suppose that there are three red cubes sitting on my desk, all identical in appearance. Let us assume that, when I close my eyes and imagine just one of them, the image's resemblance to that cube is not sufficient to determine which cube it is that I imagine, as it equally resembles all three. Nevertheless, it may be that the image remains determinate with respect to representing *a red cube at thus and such orientation.* We could then say that the object of the imagining—what it is that we are imagistically imagining, strictly speaking—is *a red cube at thus and such orientation,* but no red cube in particular. And, indeed, it may seem that the image resembles a red cube at thus and such orientation more than it resembles any other configuration of three-dimensional shapes. Likewise, with respect to the duck-rabbit image, one could say that, in forming the corresponding image, we (strictly speaking) imagistically image neither a duck nor a rabbit, but rather a black and white form of a certain sort—one roughly elliptical, with two finger-shaped points emerging from one side.

Jerry Fodor, however, argues that the duck-rabbit ambiguity can arise even at the level of kinds of configurations of shapes (1975, pp. 182-184). He asks us to look at an image of "a pinwheel sort of thing" (reproduced in Figure 1a) and then to form a mental image of what we have seen.
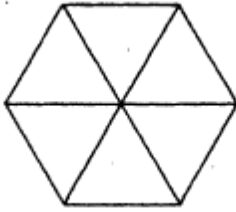
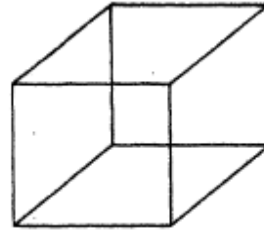*Figure 1a*   *Figure 1b*

Figure 1: Fodor's (1975) "pinwheel sort of thing" (in (a)) and the Necker cube (in (b))

It turns out that the image in Figure 1a can, with a bit of prompting, be seen as a three-dimensional cube, in the manner of the better-known Necker Cube (Figure 1b). Fodor notes that the mental image we formed of the pinwheel sort of thing resembled a three-dimensional cube even before we recognized it as doing so. Therefore, it is not resemblance alone that leads it to have a cube at thus and such orientation as its object when we eventually "see it as" one. It appears that even reference to shapes of a certain kind, and perspective-relative three-dimensional orientation, is not secured by what an image uniquely resembles; for there is no single three-dimensional shape or outlay of properties that a two-dimensional image will uniquely resemble. A similar example occurs in the imagining of photographs and representational paintings. One and the same mental image might faithfully resemble both a photograph of the first moon landing and the moon landing itself—even if these objects and events have quite different three-dimensional shapes and colors.

Thus, a mental image's content appears not to be determined by what the image resembles—and not even when we recede to the level of types of outlays of superficial properties. How, then, does a mental image come to have any content at all? A popular idea has been that a non-imagistic representation of some kind works in tandem with the image to secure its object. This is Fodor's proposal. When imagistic representations are used in thought, he explains, they are tokened "under a description." "What refer," he remarks, "are not images, but images-under-descriptions… It is in part the description that determines what such an image is an image *of*" (1975, pp. 182, 190).

In a similar vein, Tye (1991, Ch. 5) argues that images must be understood as interpreted "symbol-filled arrays"—and thus as not purely imagistic—in order to have determinate objects.[1] And it is, indeed, a common assumption in much other work on imagistic (or "sensory") imagining that aspects of the content of an imagining are contributed by non-imagistic states that pair, in one way or another, with mental images (Kung, 2010; Langland-Hassan, 2015, 2020; Peacocke, 1985; Wiltsher, 2016).[2]

If Fodor and Tye are correct, there can be no *purely* imagistic images. This is because there are no images that lack objects—that is, there are no images that are images *of nothing*— and, if they are right, there are no objects of images without the contribution of a non-imagistic mental representation of some kind. In this paper, I want to say what is right and what is wrong in this way of thinking. My argument will be that (*pace* Fodor and Tye) there *can be* purely imagistic images—images that have a determinate content without help from non-imagistic mental representations. However, there is a grain of truth in the traditional critiques, as images remain indeterminate in the sense that they cannot have *particulars* as contents. More precisely, while an image can be used in an act of representing a particular, the particular will not be part of the content of the image itself. When we imagistically imagine particulars, it is thanks to the contribution of a non-imagistic representation that is a proper part of the imagining. Thus, while there are purely imagistic *images*, there are not purely imagistic *imaginings of particulars*. While these claims mesh with a framework I've developed elsewhere (Langland-Hassan, 2015, 2020), I advance new (and, I think, better) arguments for accepting it here.

Here is a map of what is to come: Section 2 provides a rebuttal to Fodor's claim that images need help from non-imagistic representations in order to have any determinate representational content at all. Section 3 then outlines the positive view to come and provides an intuitive argument for why, despite their not needing non-imagistic representations to have determinate contents, images still cannot have particulars as contents. Section 4 attempts to put that intuitive argument on stronger theoretical footing, by showing how it is grounded in the

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[1] According to Tye, "a mental image of an *F* (though of no one *F* in particular) is a symbol-filled array to which a sentential interpretation having the content 'This represents an *F*' is affixed" (1991, p. 90). Notably, Tye provides some reasons distinct from Fodor's for this view that I cannot address here.

[2] In Wiltsher's case, non-imagistic states only play a role in fixing the content of an imagining insofar as non-imagistic concepts are used in the generation of images that then inherit the content of the non-imagistic concepts (2016, p. 273).

metaphysics of imagehood. Section 5 then outlines the way in which non-imagistic states combine with images to allow for the imagining of particulars.

As a last bit of housekeeping: when I speak of 'imagining,' I will mean *imagistic imagining.* Imagistic imagining is sometimes understood simply as the use of mental imagery in occurrent cognition (Langland-Hassan, 2020; Van Leeuwen, 2013). Not everyone endorses this broad conception of imagistic imagining, however. Some hold that only *some* uses of mental imagery are to be considered imagistic imagining; and, in particular, they exclude cases of episodic remembering from the imagistic imaginings (Arcangeli, 2020; Kind, 2001). While I naturally favor my own and Van Leeuwen's broad characterization, I will work with the narrower one that excludes episodic remembering. By excluding episodic remembering, we are able to avoid some difficult questions that would take the present discussion too far afield (though see (Langland-Hassan, 2023) for related discussion). So, I will understand imagistic imagining as the use of mental imagery in the consideration of mere possibilities. We can follow Nanay in defining *mental imagery* as perceptual processing that is not triggered by corresponding sensory stimulation in a given sense modality (2018, p. 127). Finally, imagistic imaginings are commonly ascribed with sentences where 'imagines' takes an object as complement—as in "Sally imagines the Eiffel Tower"—leading some to refer to the phenomenon as *objectual* imagining (Yablo, 1993). I will remain focused on cases of imagistic imagining that take such a complement and which can therefore also be considered objectual imaginings.

2. *On the possibility of purely imagistic images*

We have seen that an image can resemble multiple objects and multiple kinds of things in relevant ways and that, therefore, such resemblances cannot be what determine the actual content of the image. Again, this is true even if we conceive of the content of an image as a type of three-dimensional outlay of superficial properties, such as colors and shapes. Some have concluded, on this basis, that the best explanation for how images secure determinate content is to hold that they combine with non-imagistic mental representations of some kind.

However, we can blunt that conclusion in its full generality. Recall that the explicit conclusion drawn from Wittgenstein and Fodor's examples was that matters of resemblance do

not suffice to determine which object, or which type of scenario, an image represents. Another way to express that idea is to say that certain of the intrinsic, vehicular features of an image fail by themselves to determine an object for the image. An intrinsic, vehicular property of an image is, in general, a non-relational property the image has that can be specified in non-intentional (i.e. non-representational) terms. For instance, the intrinsic, vehicular properties of an image of a tennis ball in shadow may include the circular shape and grayish-green color of a region of the image (namely, the region representing a bright yellowish sphere that is in shadow). These are non-intentional properties insofar as, in describing the regions as circular and grayish-green, we are not describing how the referent of that part of image is represented as being but, rather, intrinsic properties of the image itself. In the case of mental images, the intrinsic properties may be specified in neurobiological terms.

Whether and how some image *I* resembles object *O* in the manner relevant to being an image of *O* will certainly depend in part on *I's* intrinsic properties. Nevertheless, Wittgenstein and Fodor's examples show that resemblances between the most salient intrinsic properties of an image and those of its object cannot by themselves provide the image with its content. How, then, does something that is not an image (because it lacks any content) acquire a content, and so become an image *of* something? It turns out that this is one instance of the more general question: how does something that is not a representation acquire an object (or a content) and so become a representation? After all, it is not a distinctive feature of images that their intrinsic properties seem to leave their content undetermined. Strings of letters are like that, too. For any string of letters—such as 'c-u-b-e'—to rightly be said to be about one kind of thing as opposed to another, there must be something outside of the string itself that determines its referent. In the case of the English word 'cube,' context and conventions of use are obvious candidates. In the case of *mental* representations, a variety of other proposals have been made—some implicating facts about causal dependence of the right sort (Dretske, 1994; Fodor, 1990) or other teleological considerations related to our evolutionary histories (Millikan, 1989; Neander, 1995), and some implicating facts about the causal role of the state in the cognitive system (Block, 1998; Harman, 1982). The need for such an account is vivid in the case of amodal, language-like representations. The question of whether they might gain reference through their intrinsic features, such as their shape or neurobiological properties, never gets off the ground.

Yet now the accusation that images cannot be purely imagistic—and, in particular, that they need help from non-imagistic representations in order to have content at all—appears somewhat unfair. If non-imagistic, language-like representations can acquire their objects due to extrinsic causal or teleological factors—and without the help of *other* non-imagistic, language-like representations—then so, too, can mental images. The door is open to mental images that have determinate contents without help from non-imagistic representations, where the same kind of story that explains how amodal, non-imagistic representations get their contents is told for images as well.

Interestingly, what cases like the duck-rabbit and Fodor's "pinwheel sort of thing" highlight is not the special ambiguity of imagistic representation, but, rather, the considerable constraints it imposes: we are *surprised* when one and the same set of marks can faithfully depict two quite different *kinds* of things. Whatever their ambiguity, images are not *arbitrarily* related to their objects; they are constrained to resemble their objects in certain ways (more on the nature of such "resemblances" below). The reality of these constraints can give the impression that images are representationally *less* ambiguous than words, and, in turn, the illusion that an image's intrinsic properties suffice to fix at least certain aspects of the image's content. But then, to the extent that there remain open questions concerning what an image represents, it may seem that these ambiguities can only be resolved through the accompaniment of non-imagistic representations. Yet that is to forget that non-imagistic representations are even more ambiguous when considered merely in terms of their intrinsic properties.

Note, however, that these observations still involve a concession to Fodor and Wittgenstein: it remains true that images don't acquire their objects *as a matter of resemblance alone*. We are appealing now to broader causal or teleological factors—factors relating to the history of the type of mental state in question, or factors about the state's typical cognitive role, which outstrip facts about the state's intrinsic properties considered by themselves. What we have seen is that the fact that matters of resemblance fail to fix the content of an image does not entail that images need help from non-imagistic representations in order to have any content at all, as non-imagistic representations need the same sort of help.

Nevertheless, even if we accept that there can be purely imagistic images—i.e., images that have determine contents without the help of accompanying non-imagistic representations—

we can ask whether there are limits on the kinds of contents that images can have. In the balance of this paper, I want to suggest that there are indeed such limits and to clarify the way in which these limits both vindicate and temper the claim that images need help from non-imagistic representations in acquiring their objects.

3.   *Two principles and an argument*

The view I will end up supporting is that the content of a mental image is determinate and non-ambiguous in much the same way that the content of an indefinite description, couched in a natural language, is determinate and non-ambiguous. Consider, for example, the indefinite description: 'a bright red tomato.' Such a description is not ambiguous about what it represents. It represents the property of being a bright red tomato. However, it does not represent any particular object as being a bright red tomato. Instead, the description is the sort of thing that can predicate the property of being a bright red tomato to an object that we have otherwise identified. If we can speak of the indefinite description itself as having an object, its object is a complex property that can be instantiated by multiple particulars. The image represents a way that many distinct individuals could be. They could all be bright red tomatoes.

Like an indefinite description, an image will not, on the view I'll propose, have a particular as its object. To become involved in representing a particular, an image will need to be paired with a non-imagistic representation. Thus, mental images are not, strictly speaking, images of particulars, even if they can be used to predicate properties of particulars. It is *imaginings* that are (sometimes) of particulars. Such imaginings, I'll suggest, will incorporate both mental images and non-imagistic representations. While the content of an image may well be determined by facts about causal history or cognitive role of the kind already discussed, such contents will nevertheless not involve particulars.

Now to the arguments for that view. I begin with a general theoretical argument that combines two attractive principles. First, many agree that the same type of image can be used to imagine different objects or scenarios—or, as it is sometimes put, in different "imaginative projects." This has been called the "Multiple Use Thesis" (Langland-Hassan, 2020; Noordhof, 2002; Peacocke, 1985). For instance, I might use the same type of image to imagine Harry's

new Corvette as I use to imagine Jennifer's new Corvette, supposing that the cars are of the same year and color. A second principle—call it the 'Essential Contents Thesis'—is that two token images with different representational contents cannot be the same type of image. This follows if we grant that the representational content of any representation (images included) is one of its essential features. Given that having a content is what makes something a representation at all, this does not seem an unreasonable candidate for an essential feature. (Note, also, that this principle does not entail that having the same content *suffices* for being the same type of image or representation, only that it is necessary.) So, if two images of the same type (and which therefore have the same content) can be used to imagine different individuals (in line with the Multiple Use Thesis), then the fact that each is involved in representing one particular, and not another, cannot be entailed by either's representational content. Images must have contents that abstract away from whichever particulars they are being used to imagine in individual cases.

A way to describe the overall situation, then, is to say that, while images have determinate contents—perhaps akin to those of indefinite descriptions—our ability to imagine (and thereby represent) particulars requires the contribution of something outside of the image. This makes it possible to uphold both the Multiple Use Thesis and Essential Contents Thesis in maintaining that we can imagine distinct objects with the same type of image, even if images are typed (in part) by their contents.

Nevertheless, there are intuitions that run in the opposite direction. It may seem that, akin to a photograph, a mental image is an image *of* whichever particular it causally derives from through a past act of perception. Munro & Strohminger (2021) rely on this intuition to argue that a person may sometimes imagine things they do not intend to imagine. In their example, someone is shown Trinity College and told, incorrectly, that it is King's College. The misinformed individual later imagines with the intention of imagining King's College on fire and (unwittingly) draws on the image causally deriving from his viewing of Trinity. Munro & Strohminger argue that such a person in fact imagines Trinity, due to the causal source of the image. They further argue that the image has this particular as its content due to its causal source and regardless of the fact that the imaginer did not intend to imagine (or otherwise represent) Trinity.

I have argued elsewhere (Langland-Hassan, under review) that we need not follow Munro & Strohminger in their conclusion that intentions fail to fix the object of an imagining and that there are in fact insuperable barriers to doing so. In that work, I hold that we should interpret their cases as situations where a person succeeds in imagining the object they intend to imagine, but not in the manner they intend to imagine it (i.e., not through use of an image causally deriving from it). I also develop puzzles concerning why and how we can ever alter the object of an imagining to something other than its causal source, on such a view. I won't repeat those arguments here. Instead, I want to put the contrary approach I recommend—where images lack particulars as contents—on more solid theoretical footing, by exploring how it follows from the metaphysics of image-hood. If that argument succeeds, it provides an additional reason to question Munro & Strohminger's approach.

4. Image-hood and the D-Relation

What distinguishes images from other forms of representation? [3] The difference is typically located in a specific relation they bear to their objects. Images *depict* their objects, and depiction is normally thought to require a certain kind of resemblance between intrinsic features of the depiction and of the thing depicted—one in virtue of which the referent is represented as having various (depicted) features, and not others. We can allow that depiction relation may not involve just *one* kind of resemblance, but, rather, a class of different "systematic transformations" or "geometrical projections" of properties of the object onto properties of the image. (See, e.g., Greenberg (2013, pp. 282-284) for a view of this kind.) Either way, this form of resemblance-or-systematic-transformation enables a mapping of any part of the image to some part of whatever the image is an image of. That is, for any part of a drawing, photograph, or representational painting—and, indeed, for any part of anything we are prepared to count as an image—there is always an answer to the question of which part of the depicted object is depicted

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[3] The arguments to come assume that mental images are indeed *images* of a kind and thus have the same representational format as *non*-mental images, such as drawings, photographs, representational paintings, and other paradigmatic images. Some deny that mental images are truly imagistic in their representational format (Pylyshyn, 2002, 2003). Engaging in that debate is beyond the scope of this paper. The arguments to come will not apply to views that deny that mental imagery occurs in an imagistic, pictorial, or analog format.

by that part of the image. Here I am echoing, with some embellishment, Fodor's (2003, 2007) account of "iconic" representation, which he summarizes in the "Picture Principle":

> *Picture Principle*: If P is a picture of X, then parts of P are pictures of parts of X (2007, p. 108).

The only emendation to the Picture Principle I suggest is not to require that every part of a picture P of X is itself a *picture* of X. Think of the white spaces between dots in a grayscale photograph; it seems wrong to count such spaces as *pictures*. Instead, we should take it as a necessary condition on Picture P's being a picture of X that every part of P represents some part of X as being some way. Call this the 'Picture Principle*'. If mental images really are images of a kind, they too must satisfy the principle.[4]

Now, as remarked, images do not *merely* satisfy the Picture Principle*; they satisfy it *in a systematic way* characteristic of depiction. Providing a formal account of that way—of the rule or principle that governs why such-and-such image part represents such-and-such object part—is a non-trivial task that is beyond the scope of this paper (again, see Greenberg (2013)). Without advancing a theory of the relation, let us call the particular mapping at work in depiction, whereby each part of the image systematically represents some part of the depicted object as being some way or other, the *d-relation* ('*d*' is for 'depiction'). We exercise our implicit understanding of the *d*-relation when we indicate, for any arbitrary part of an image, which part of its object is depicted, and how it is depicted as being. A theorist will rely upon that implicit grasp when attempting to give a rigorous characterization of the *d*-relation. Other kinds of representation do not take part in the *d*-relation. There is, for instance, no sense to the question of what part of the Canadian Prime Minister the 'P' in 'The Canadian Prime Minister' represents. By contrast, when dealing with an image of the Canadian Prime Minister, we can point to any part of it and ask what part of the Prime Minister it represents and how it represents that part as being. Taking part in the *d*-relation is indeed essential to an image's being an imagistic representation, as opposed to a representation of some other kind.

Having clarified the *d*-relation's importance to image-hood, we are in a position to see why images cannot have particulars as their contents. When we pick out *parts* of an image in

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[4] See Kulvicki (2015) for an argument that something very close to the Picture Principle* is true for all analog representations. Thanks to [redacted] for posing the challenge concerning the space between dots in a grayscale image.

order to ask which properties of the image's object they represent (in line with the Picture Principle*), we must describe those parts in non-intentional terms—that is, in terms of their intrinsic properties. However, an image cannot have an intrinsic, vehicular feature that represents a particular, because this would require some part of the image—specified in terms of its intrinsic properties—to do *more than* map certain properties to some part of whatever is being represented. Such a part would, in addition, need to represent the particular (or type of thing) to which the property is attributed. This would require there to be a part of the image that not only took part in the *d*-relation, where some intrinsic property of the image is mapped to some corresponding proper part of the image's object (thereby attributing to it a certain property). It would require the part also to indicate the particular, or type of thing, to which the property is attributed. To allow the image such a component would be to hold that the image is not *purely* imagistic—that it has parts whose content is not a function of the *d*-relation definitive of being an image. In short, it would need to have proper parts that function as symbols.

Now, even if an image cannot have a particular as its content simply in virtue of its intrinsic properties (and their participation in the *d*-relation), it may yet seem possible that an image could acquire a particular as its content due to other, extrinsic factors of the sort we've considered above—such as its causal history, or its role in the survival of our species, or its cognitive role. We saw that Munro and Strohminger (2021) propose a factor of this kind, where an image used in an imagining acquires a particular (viz. Trinity College) as its object due to the image's causal source in the individual's perceptual history. However, as we also saw earlier, granting that an image can have a particular as its content prevents us from holding that the same type of image can be used to represent a *distinct* particular. So, which way should we go? Should we give up on the Multiple Use Thesis and hold that (for at least some images) we cannot use the same type of image to imagine distinct particulars? Or shall we maintain the Multiple Use Thesis and push back on the idea that the mental images can have particulars as their objects?

I suggest the latter path. We have good reason to defend the Multiple Use Thesis in its full generality—and to do so by insisting that any image could be used in a representation of multiple distinct particulars, and that, therefore, no image has a particular as its content. The reason for doing so traces again to the *d*-relation definitive of image-hood. We've seen that the *d*-relation is a relation that holds between two things, where parts of one thing (the image) map

to parts of the other (its content). Thus, when we call something an image, distinguishing it from other kinds of representation, there are at least two things we commit to: first, that, like any representation, it has a content that is essential to its being the type of representation it is (*viz.,* the Essential Contents Thesis); second, that each part of the image maps to some part of whatever the image is being used to represent (*viz.,* the Picture Principle*). These two commitments only march in lockstep when we hold that images do not represent particulars. For only then we are able to maintain that every part of what we are calling an image plays a role in predicating some property to a certain object via the *d*-relation (satisfying the Picture Principle*), while every aspect of the image's content—in virtue of which it is typed as the kind of representation it is—remains grounded in the *d*-relation. It is grounded in the d-relation in the specific sense that there is no aspect of the image's content that is not dependent upon some intrinsic property of the image. This grounding connects our principle for typing the image as the type of image it is to its status as an imagistic representation in the first place. It also allows us to say that images are *purely imagistic* in the specific sense of having all their contents grounded in the *d*-relation.

As earlier remarked, these points do not show (or require) that images have their content just as a matter of resemblance. An image's intrinsic properties still do not by themselves suffice to fix it with any determinate content (as is the case with any form of representation). Nor does the view I am suggesting require that nothing outside of the image itself is relevant to determining its content. Causal-historical, teleological, or causal role factors will be relevant. Importantly, these can play a role in resolving the kinds of ambiguities noted by Fodor that seemed to prevent our holding that purely imagistic images could represent kinds of three-dimensional outlays of superficial properties. What makes an image an image of a cube, as opposed to an image of a "pinwheel sort of thing," may be the fact that the kind of state in question enabled our evolutionary ancestors to successfully discriminate and interact with cubes as opposed to pinwheel sorts of things (or vice versa). In short, extrinsic factors may help to fix the content of the image, without yet providing a particular as the content—and thus without violating the idea that every aspect of the content of an image is grounded in the d-relation definitive of image-hood. It does not conflict with this grounding in the d-relation to say that an image represents a certain *type* of entity, so long as, once the type in question is set by extrinsic

factors, there is no other type of thing (or scenario) that partakes in the *d*-relation with the image in the very same way.

I have suggested that the general, non-particular-involving content of an image can be analogized to that of an indefinite description. Which sorts of properties should we expect to be involved in such a "description"? This is closely related to the question of which sorts of properties can be said to be represented by perception itself (as opposed to which are inferred on the basis of perception). A natural suggestion—and one that coheres with the present proposal for understanding the contents of mental imagery—is to use indiscriminability for ordinary perceivers as a guide to the properties that are (and are not) represented by perception and, by extension, perceptual imagery.[5] In cases where objects x and y are indiscriminable to ordinary perceivers, it is because the properties that distinguish them are not represented by the perceivers. To the extent that x and y are perceptually discriminable, this is because our perceptual systems represent properties that make them so. As there can always be two particulars that (when presented sequentially) are indiscriminable for a subject, their particularity should not be considered a part of the content of the perceptual states used to represent them. Further, were it to be considered such, there would be an aspect of the image's content that flies free of the *d*-relation, which, I've argued, is an entailment we should avoid. By contrast, there are certain types of scenarios, involving the representation of superficial properties, where each property represented in the scenario traces to the d-relation, and where there cannot be another type of scenario that partakes in the d-relation *in the same way*. Extrinsic factors can determine which scenario this is without our running afoul of the principle that every aspect of an image's content is grounded in the *d*-relation definitive of image-hood. We have arrived again at the conclusion that, while images can be both purely imagistic and have determinate contents, they do not have particulars as their contents.

5. *Imagining particulars*

If mental images cannot have particulars as their contents, how do we imagine particulars? I suggest that the particularity of an imagining (when there is one) is inherited from one's imaginative intentions. Intentions, as I will understand them, are (in part) non-imagistic mental

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[5] Granted, this assumes, controversially, that expert perceivers in a domain do not literally perceive different properties in that domain than do non-experts. See Siegel (2006) and Stokes (2021) for dissent.

states capable of representing particulars. They both initiate the imagining and contribute non-imagistic content to it. So, for instance, I might intend to imagine King's College on fire and, as a result, generate a hybrid state with the following content:

(KC) King's College on fire would be **a large cathedral-looking stone building with flames on its roof and fire emerging from its many windows.**

Here the text in bold is meant to symbolize the contribution to the imagining of a mental image (without suggesting that the image represents in the manner of a sentence, or that it represents the specific properties mentioned in its description).[6] This is why the content in bold takes the form of an indefinite description. The non-bolded text represents the non-imagistic content contributed by my intentions, which enables a particular object—*viz.,* King's College—to be the object of the imagining. We can then describe the situation as one where we are using an image of a large cathedral-looking stone building with flames coming out of it to imagine King's College on fire. The same type of image could be used to imagine some other college or building on fire if the initiating intentions differ accordingly.

Of course, we are left with the question of how the non-imagistic states at work are able to acquire particulars as their contents. Causal-historical, teleological, functional, or other extrinsic and relational factors will again need to play a role. The difference is that, in the cases of non-imagistic representations, there is nothing in their nature (i.e., nothing akin to the *d*-relation) that stands in the way of their having particulars as their contents.

I will end by considering two possible objections to this proposal. First, one might ask why we shouldn't simply identify the content of the image used in example (KC), above, with the entire *hybrid* content outlined there. This would entail that images *can* represent particulars. The problem is that, on such a view, images would be only partly imagistic, as they would also have non-imagistic representations as proper parts. There is no law against saying that images are only partly imagistic, of course. What we lack is a good reason for saying it. There is also the danger of a slippery slope. If the mind harbors and makes use of both imagistic and non-imagistic representations, there will be many contexts where they interact and support each other in different ways. We will not want to say that any such interaction or mutual support involves

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[6] I have outlined the same general schema (absent the above arguments) for understanding the hybrid contents of imagistic imaginings in my (2020) and (2015). Further examples of how the schema can be implemented in imaginings of different kinds are available there.

states that are only images, simply because such cognition *partly* involves imagistic representations. To divorce the question of what constitutes an image from what is represented imagistically threatens to dilute the significance of the cognitive scientific construct of a "mental image" (or an iconic, or analogue representation) beyond any useful limit.

Another problem one might raise traces to the possibility of unintentional imaginings. It may seem that we sometimes imagine without intending to do so—for instance, during idle daydreams. If the arguments I have presented here are cogent, such unintentional imaginings cannot have particulars as their objects. This may seem counterintuitive. There are a couple of things that can be said in response. First, I have not held that contentful unintentional imaginings are impossible—only that they will not have particulars as their objects. This is compatible with our at times enjoying sequences of imagery that are not caused by intentions and that represent general propositions, such as that *a bright red tomato is hanging from a banana tree.* Second, the fact that we are at times unaware of an intention that initiates an imaging does not entail that there is no intention operating sub-consciously. Our daydreams, for instance, may at times be initiated by sub-conscious drives that both fix the object of the imagining and cause related imagery to be generated. One could reasonably ask whether such "deeper drives" are properly termed "intentions." What matters, for present purposes, is simply that they are non-imagistic states of a kind capable of initiating an imagining, and from which the imagining may inherit a particular as an object.

6. Conclusion

Wittgenstein's observations concerning the ambiguity of imagery have long been influential. Fodor extended the line of thinking to hold that images are not merely ambiguous with respect to the particulars they represent, but also concerning the types of things represented. A natural next step—taken by Fodor, Tye, and others—is to hold that, to the extent that an imagistic imagining acquires a determinate content, this is only through the contribution of a suitably paired non-imagistic representation. I have argued here that Fodor was right about the inability of images to represent particulars, but wrong about their need to be paired with non-imagistic representations in order to have determinate contents at all. Mental images can be purely imagistic while having determinate, non-ambiguous contents—contents that are fixed due to extrinsic causal-historical factors or functional characteristics, in the same way as non-imagistic representations.

However, the point that images cannot have particulars as contents stands. I have tried to go beyond the isolated question-begging claim that the same type of image can be used to imagine different things to put that thesis on better footing, by showing how it flows from deeper principles concerning what makes something an imagistic representation in the first place. The hybrid view of imagistic imagining we are left with allows the same type of image to be used in the imagining of distinct particulars, while remaining compatible with the view that images themselves are purely imagistic, in having their full contents grounded in the d-relation definitive of image-hood.

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