

The Heterogeneity of the Imagination

Amy Kind

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Abstract Imagination has been assigned an important explanatory role in a multitude of philosophical contexts. This paper examines four such contexts: mindreading, pretense, our engagement with fiction, and modal epistemology. Close attention to each of these contexts suggests that the mental activity of imagining is considerably more heterogeneous than previously realized. In short, no single mental activity can do all the explanatory work that has been assigned to imagining.

Hume famously wrote in the *Treatise* that nowhere are we more free than in our exercise of the imagination. A review of the contemporary philosophical discussion of the imagination suggests what seems to be an odd corollary to Hume’s remark: Nowhere do philosophers take themselves to be more free than in the philosophical uses to which they put the imagination. Over the last couple of decades, imagination has been increasingly invoked across a wide swath of philosophical terrain—from aesthetics to epistemology, from ethics to philosophy of mind—and the list of philosophical problems in which imagination is implicated continues to grow. Though Hume took our powers of imagination to be virtually unlimited, I don’t think this is quite what he had in mind.

Given the increasing importance that imagination has been assigned in philosophy, it is important to try to get clear on what this mental activity is. But, in Brian O’Shaughnessy’s words, to put the question this way is already to “assume too much”—namely, it is to assume that “there exists something that is the Imagination” and that “there is some one thing that is the phenomenon of Imagining.” (O’Shaughnessy 2000, 339–340) Thus we have the question that motivates this paper: is there such a thing as *the* phenomenon of imagining, i.e., is

A. Kind (✉)
Claremont McKenna College, 850 Columbia Avenue, Claremont, CA 91711, USA
e-mail: akind@cmc.edu

there a single mental activity that can do all the explanatory work that has been assigned to imagination?¹

To help motivate this question, let's consider the following four descriptions of relatively common activities:

1. *Engagement with fiction.* Dennis is reading *Harry Potter and the Goblet of Fire*, and he's completely caught up in the story. At the dénouement, when Cedric dies in the graveyard in Little Hangleton, Dennis finds himself overcome by sadness. Then, as Voldemort begins to fight Harry, he feels anxious and desperately wants Harry to get away safely.
2. *Pretense.* Christopher is pretending to be Obi-Wan Kenobi and his brother Sean is pretending to be Darth Vader. Each boy also pretends that the long tree branch in his hand is a light saber. Christopher forcefully swings his tree branch at Sean, who parries it with his own tree branch.
3. *Mindreading.* Carole is playing the board game *Settlers of Catan*. In order to place her settlement in the most strategic location possible, she wants to determine what her opponent is likely to do on his next turn.
4. *Modal epistemology.* Sam plans to rearrange the furniture in his living room, but before he moves any of the very heavy pieces, he wants to determine whether it's possible for the piano to fit where the couch currently is.

Philosophers have assigned imagination an especially central role in each of these activities. Imagination is supposed to explain how we engage with fiction, and it seems to have the power to cause strong affective responses: Dennis is overcome by emotion precisely because he imagines the activities depicted in the book. Imagination is supposed to explain why we take the actions that we do when engaging in games of pretend: In pretending to be a Jedi Knight, Christopher imagines that the tree branch in his hand is a light saber. Imagination is supposed to explain how we can understand and predict the mental states of others, as well as to understand and predict their behavior: Carole's predictions of her opponent's game-playing behavior are achieved by simulating his mental states via imagination. And imagination is also supposed to provide justificatory support for our modal conclusions: It is by imagining the room in the proposed configuration that Sam becomes justified in believing that it would be possible for the piano to fit in the alternate location.²

¹ In *The Concept of Mind*, Gilbert Ryle argues that "There is no special Faculty of Imagination" (Ryle 1984, 257) and then proceeds to give what is essentially an eliminativist account of imagining. But Ryle is motivated primarily by behaviorist worries about mental imagery, and this differs significantly from the worry about singularity (expressed in the quotation from O'Shaughnessy) that is my concern in this paper. It is perhaps worth my noting explicitly that I do believe that there is a distinctive mental activity properly picked out as imagining. However, this comes with two qualifications: First, a commitment to a distinct *activity* of imagining is different from a commitment to a distinct *faculty* of imagination. Second, as I will argue in the text, I do not think that the distinct mental activity of imagining can carry all the philosophical weight that has been placed on it.

² Related to the role that imagination plays in modal epistemology is the role that it plays in modal psychology. As Shaun Nichols notes, despite the diversity of views offered by modal primitivists, modal realists, modal fictionalists, and modal expressivists, "there is wide agreement about one aspect of modal psychology—that modal judgment depends crucially on the imagination." (Nichols 2006, 238).

These are just a small sample of the many activities in which imagination has been assigned an important role. To mention a few other examples, imagination has also been invoked to explain dreams, delusions, empathy, and our ability to engage in counterfactual reasoning.³ It is, unfortunately, too big a task for a single paper to survey all of the many activities in which philosophers have assigned imagination an important function, so I here limit myself to the four above. In what follows, I explore whether a single mental activity can do the requisite explanatory work across all four of these contexts. Can we explain Dennis' engagement with *Harry Potter* in terms of the same mental activity that explains Carole's attempt to predict what her opponent will do? Is either of their projects explained in terms of the same mental activity that explains Christopher's pretend play? And are any of their projects explained in the terms of the same activity that explains Sam's exploration of possibilities? Ultimately, I suggest that the answer to at least some of these questions is most likely "no." Insofar as philosophers have invoked imagination to explain these very varied activities, they have not always had the same sort of mental activity in mind.

Perhaps this conclusion is, at some level, unsurprising. The philosophical literature is rife with distinctions drawn between different kinds of imagination—propositional imagining versus objectual imagining, sympathetic imagining versus perceptual imagining, hypothetical imagining versus dramatic imagining.⁴ As P. F. Strawson has claimed, "The uses, and applications, of the terms 'image,' 'imagine,' 'imagination,' 'imaginative,' and so forth make up a very diverse and scattered family. Even this image of a family seems too definite." (Strawson 1970, 31)⁵ Likewise, Richard Moran has noted that "It's no secret that the concept of imagination is a heterogeneous and ill-understood one in philosophy." (Moran 1994, 106) But even if the heterogeneity of the imagination is no secret, the significance of this heterogeneity has not been sufficiently appreciated. Moreover, it's not clear to me that the specific kind of heterogeneity in which I will be interested—namely, a heterogeneity across different philosophical contexts in which imagination has been invoked—has generally been recognized. Consider, for example, the following claim from a recent paper by Tyler Doggett and Andy Egan: "By 'imagining' we mean what you do when you daydream or pretend or when you take on board, without believing, the contents of books or movies. We assume there

³ Kendall Walton, for example, claims that dreaming is a particular kind of imagining, one which is spontaneous and not deliberate, out of the conscious control of the imaginer (Walton 1990, 16, 47). Other philosophers who invoke imagination to explain dreaming include Ichikawa 2009 and McGinn 2004. McGinn (2004) also assigns imagination a role in delusion. Alvin Goldman argues that empathy requires us to use imagination in adopting the perspective of someone else (Goldman 1995); see also Goldie 2000, esp. Ch. 7. Timothy Williamson argues that the imagination has a "fallible but vital role in evaluating counterfactual conditionals." (Williamson 2007) I should also mention that although my example above focuses on our engagement with fiction, the imagination has been invoked to explain our engagement with non-literary art and music as well.

⁴ See Yablo 1993 for the distinction between propositional and objectual imagining. I return to this distinction in Sect. 4, below. Nagel 1974 distinguishes sympathetic imagining from perceptual imagining in a footnote; see Hill 1997 for a nice discussion of this distinction. Moran 1994 distinguishes hypothetical from dramatic imagining.

⁵ See also Stevenson 2003.

is a single something you do in these three disparate activities, but we don't think much hangs on this assumption." (Doggett and Egan 2007, 1) In what follows, I aim not only to show that this assumption is mistaken—i.e., there is no “single something” that we do that underpins the kinds of activities they mention—but also to show that something does indeed hang on it.

1 One Harmless Heterogeneity

In fact, as was already suggested in the previous paragraph, not only is there heterogeneity surrounding the notion of imagination but there is also what might be described as a heterogeneity of heterogeneities. The imagination is heterogeneous in several different ways and along several different dimensions. Before I can turn to the kind of problematic heterogeneity that will primarily occupy my attention in what follows, it will be worth explicitly setting aside one kind of heterogeneity that is relatively harmless.

Consider the following two areas of discourse where the vocabulary of imagination is commonly used:

False belief. When a teenage boy sneaks out his bedroom window for a night of mischief with his friends, we might say that his naïve mother imagines that he's asleep in his bed. This is an instance of what has been called “(perhaps mistaken) thinking” (Flew 1953) or “belief gone wrong.” (Currie and Ravenscroft 2002, 9)⁶

Creativity. When someone demonstrates unusual creativity or originality, we might say that he has great powers of imagination; for example, we might say that it took remarkable imagination for Albert Einstein to develop his theories of special and general relativity. (Einstein himself famously said that “Imagination is more important than knowledge.”)⁷

In the context of cases of false belief, it's fairly uncontroversial that the vocabulary of imagination does not correspond to the phenomenon of imagining.⁸ When we say that the mother imagines her wayward son is asleep in bed, we mean simply that she has made an incorrect assumption; we've invoked the vocabulary of imagination to signal a gap between belief and reality, not to pick out an instance where someone is engaged in the mental activity of imagining. A similar point applies to at least some cases of creativity. Granted, there are some cases of creativity where the vocabulary of imagination is being used to signal the employment of the imagination, as when an imaginative scientific breakthrough is achieved precisely by way of imagination. But sometimes (maybe even most of the time) when we use the vocabulary of

⁶ See also Peacocke 1985, 20; Scruton 1974, 95. This roughly corresponds with the third of twelve senses of the imagination distinguished by Stevenson 2003.

⁷ This roughly corresponds with the tenth and twelfth senses of imagination distinguished by Stevenson 2003.

⁸ But see White 1990, 147–148.

imagination to signal unusual examples of inventiveness, we're not intending to make a claim about imagination at all. Consider Vilaya-nur Ramachandran, who has developed a novel mirror therapy for curing phantom pain in amputees. Ramachandran has been referred to as one of the most imaginative neurologists of all time. But his own description of how he came up with the idea for mirror therapy does not have anything to do with imagination: "There was a mirror in the lab, so that must have been in my mind, and I said, 'Let's try it.' It's not any more mysterious than if you say something 'popped into' your mind." (Colapinto 2009, 84) An idea that pops into one's mind can be properly described as imaginative even if one doesn't exercise the imagination to come up with the idea, and in general, one can do all sorts of imaginative things without specifically exercising one's imagination.⁹

Thus, one way in which the notion—or at least the vocabulary—of imagination is heterogeneous is that it is sometimes used to pick out phenomena other than exercises of the imagination. When the vocabulary of imagination *is* used to pick out actual exercises of the imagination, I will say (somewhat tendentiously) that the vocabulary is used in its *primary sense*.¹⁰ Moreover, I take it as uncontroversial that we have an intuitive grasp of when it is being used in its primary sense and when it is not, even if our intuitive grasp of what the primary sense of imagining corresponds to is not fully fleshed out. Perhaps there are some borderline cases, but I expect that most of these can be clarified by providing further context. I also take it as uncontroversial that when philosophers use the vocabulary of imagination in the context of the four activities above—engagement with fiction, pretense, mindreading, and modal epistemology—they intend to use the term in its primary sense. Each of these activities is supposed to involve actual exercises of the imagination. Thus, for our purposes here, the heterogeneity resulting from cases like False Belief and Creativity is relatively harmless; such a heterogeneity is perfectly compatible with homogeneity about imagination in its primary sense. As I will suggest, however, there is also a fundamental heterogeneity surrounding the notion of imagining in its primary sense—one that has unfortunately escaped attention. That there is such heterogeneity will become clear once we look more closely at the different contexts in which imagination has been invoked and, as we will see, it is not one that can be dismissed as harmless.

⁹ Gregory Currie and Ian Ravenscroft call this imaginative capacity the *creative imagination*: "We see it when someone puts together ideas in a way that defies expectation or convention: the kind of imaginative 'leap' that leads to the creation of something valuable in art, science, or practical life." (Currie and Ravenscroft 2002, 9) They explicitly note that we might be creatively imaginative without exercising our imagination, i.e., what they call the *recreative imagination* (see Sect. 2, below).

¹⁰ Not everyone agrees that we can distinguish a "primary" sense of the vocabulary of imagination. Roger Scruton claims that "there are links of an important kind between the various phenomena grouped under the heading of imagination ... [I]n effect, there is only one concept expressed in the use of this term." (Scruton 1974, 91). And Alan White has argued that any acceptable theory of imagination must be able to account for all common uses of the term in ordinary language (White 1990, 85).

2 The Simulationist Treatment of Imagination

Let's return to our mindreading example, where game-player Carole wants to predict what her opponent will do on his next turn. According to the simulation theory, we should understand her mental activity in terms of imaginative projection: Carole imaginatively projects herself into her opponent's situation, which allows herself to consider the board from his perspective. Simulationists claim that it is this process of imaginative projection that enables us to mindread and, correspondingly, to predict and explain the actions of other individuals.¹¹ As Tony Stone and Martin Davies describe it, "The simulation strategy involves using imagination to cantilever out from our own theoretical and practical reasoning—leading to judgments and decisions—to an understanding of the beliefs and actions of another." (Stone and Martin 1996, 128) Or, as the simulationist Alvin Goldman puts it, people standardly "ascribe mental states to others by pretending or imagining themselves to be in the other's shoes, constructing or generating the (further) state that they would then be in, and ascribing that state to the other. In short, we *simulate* the situation of others, and interpret them accordingly." (Goldman 1989, 169)¹²

In his effort to explain how imaginative projection works, Goldman draws a distinction between two different "concepts" of imagination. The first is what he calls *supposition-imagination*, or *S-imagination*:

S-imagination is typically formulated with a 'that' clause, 'X imagines that *p*,' where *p* can refer, unrestrictedly to any sort of state of affairs. To S-imagine that *p* is to entertain the hypothesis that *p*, to posit that *p*, to assume that *p*. Unlike some forms of the imagination, S-imagination has no sensory aspect; it is purely conceptual. (Goldman 2006b, 42)

But imagining need not always take a "that"-clause. Just as I might imagine that my son scored the winning goal in his soccer game, I might instead imagine seeing him score the goal. Likewise, just as I might imagine that I am elated about his achievement, I might instead imagine being elated about it. When I imagine seeing him score the goal, I produce a mental state with a quasi-visual character; when I imagine being elated, I "conjure up a state that feels, phenomenologically, rather like a trace of tincture of elation." (Goldman 2006a, 47) Exercises of the

¹¹ Simulation theory contrasts with what's called the *theory theory of mind*. Proponents of the theory theory argue that we possess a tacit body of knowledge—a tacit theory—which underlies our mindreading abilities. See, e.g., Carruthers 1996. How exactly we are to delineate the difference between the theory theory and the simulationist theory has been the matter of some dispute (see, e.g., Davies 1994; Stone and Martin 1996; Carruthers and Smith 1996) and many hybrid theories have also been proposed; see, e.g., Perner 1996. For my purposes here, I can sidestep many of these issues—what's important for me is not how exactly to distinguish the simulation theory from the theory theory or whether simulation must be accompanied by some theorizing; rather, I'm interested in the simulationists' invocation of the imagination.

¹² For other simulationist accounts, see Gordon 1986 and Currie 1995. On Gordon's view, it's important that when Carole simulates her opponent, she doesn't first determine what she herself would do in the projected situation and then make an inference to what her opponent would do; rather she imaginatively transforms herself into her opponent. For this reason, he worries about Goldman's description of simulation in terms of putting oneself in another's shoes. See, e.g., Gordon 1995.

imagination like these, ones not involving “that”-clauses, proceed by what Goldman calls *enactment-imagination*, or *E-imagination*. In his view: “Enactment-imagination is a matter of creating or trying to create in one’s own mind a selected mental state, or at least a rough facsimile of such a state, through the faculty of the imagination.” (Goldman 2006b, 42).

Compare the account given by fellow simulationists Gregory Currie and Ian Ravenscroft of what they call the *recreative imagination*. According to Currie and Ravenscroft, when we use the recreative imagination, we engage in “perspective shifting,” i.e., we imaginatively project ourselves into a different situation or state:

Imaginative projection involves the capacity to have, and in good measure to control the having of, states that are not perceptions or beliefs or decision or experiences of movements of one’s body, but which are in various ways like those states—like them in ways that enable the states possessed through imagination to mimic and, relative to certain purposes, to substitute for perceptions, beliefs, decisions, and experiences of movements. (Currie and Ravenscroft 2002, 11)

As this passage suggests, there is a great deal of similarity between Goldman’s E-imagination and Currie and Ravenscroft’s recreative imagination. The differences between them are largely a matter of presentation rather than substance.¹³ In what follows, then, I’ll treat them together, referring to them jointly as the *simulationist treatment of imagination*.

For our purposes, three aspects of the simulationist treatment of imagination need to be highlighted. First, the simulationists do not draw a sharp distinction between supposition and imagination, i.e., they do not see them as fundamentally two different types of mental activity. Although Goldman distinguishes S-imagination from E-imagination, he tentatively suggests that the former can be reduced to the latter. In particular, he suggests that S-imagining that p could plausibly be analyzed as E-imagining believing that p. (Goldman 2006a, 48) Currie and Ravenscroft are even more definitive that supposition should be included under the umbrella of imagining. For them, supposing is a special sort of belief-like imagining. (Currie and Ravenscroft 2002, 35).

Second, on the simulationist view, the imagination produces states of many different sorts: vision-like states, belief-like states, desire-like states, sensation-like states, etc. As Goldman notes, “if people use simulation across a wide spectrum of mindreading tasks, they must E-imagine many types of mental states, including beliefs, desires, plans, and hopes.” (Goldman 2006a, 151) When we project ourselves into another’s situation, we do not limit ourselves to simulating his beliefs; we will also simulate his perceptions, desires, emotions, etc. Moreover, to achieve this simulation, we do not merely imagine that he has such perceptions, desires, and sensations. Rather, we imagine the perceptions, desires, and sensations themselves. When I imaginatively project myself into the place of Alan, who believes p and desires q, I don’t merely imagine that I believe p and imagine that I desire q; rather, I come to i-believe p and

¹³ Insofar as there are any substantive differences between E-imagination and recreative imagination, that will only add to my argument about the heterogeneity of the imagination.

i-desire q.¹⁴ In Currie’s terms, “These states act as substitutes for belief and desire; and imagining being in someone else’s shoes is a matter of having substitute versions of the states he possesses.” (Currie 1997, 67).

Though all simulationists thus see the imagination as producing a diverse range of substitute states, there is a split within the simulationist camp about exactly which mental state types can be recreated in imagination. Currie and Ravenscroft note specifically that we should not take the fact that belief and desire have imaginative counterparts to imply that every mental state type has an imaginative counterpart. While they recognize the existence of pain-like imaginings and perception-like imaginings, they deny that there are emotion-like imaginings. On their view, when we recreate emotion via an imaginative projection, the state produced is an actual emotion. (Currie and Ravenscroft 2002, 189–191) Goldman disagrees, explicitly including both fear and elation among the substitute states that can be produced by E-imagination. Despite this disagreement, however, the simulationist is at least minimally committed to at least two types of imaginative states: belief-like imaginings (i-beliefs) and desire-like imaginings (i-desires).¹⁵

Unsurprisingly perhaps, these first two aspects of the simulationist treatment of imagination—(1) that supposition is a form of imagination, and (2) that the imagination produces a diverse range of states—are related to one another. When we suppose that p, our supposition is normally understood to be a belief-like state. Given that the simulationists postulate a special class of imaginings that are belief-like, it is natural for them to identify these with supposing.

The third aspect of the simulationist treatment of imagination that I want to highlight concerns the role that these substitute states produced by the imagination play with respect to action. In imaginatively projecting herself into her opponent’s situation, Carole comes to have substitute versions of his beliefs and desires. For example, she might come to i-believe that a particular spot on the board provides the best access to wheat and she might come to i-desire that resource. But this i-belief/i-desire pair does not lead her to take the action that the corresponding belief/desire pair would lead her to take. As Currie and Ravenscroft describe it:

There is, let us assume, a mechanism dedicated to forming decisions on the basis of our beliefs and desires ... When it operates solely on the basis of beliefs and desires as inputs, we have practical reasoning that delivers decisions. This mechanism can then be run ‘off-line’, disconnected from action-generating systems. When operated this way, it takes as inputs belief-like and desire-like imaginings and delivers imaginary-substitutes for decisions. (Currie and Ravenscroft 2002, 66–7)¹⁶

¹⁴ The i-desire terminology comes from Doggett and Andy (2007), although they do not use the corresponding notion of i-belief. Currie sometimes refers to these states as *beliefsⁱ* and *desiresⁱ*, with the superscript-“i” for imagining (Currie 1997, 67) and sometimes as *belief-like* and *desire-like imaginings* (Currie 2002). Alternatively, these states are sometimes referred to as *pretend* desires and beliefs (Goldman 2006a, 48) and sometimes as *off-line* desires and beliefs.

¹⁵ Davies also sees simulation theory as making at least this commitment (Davies 1994, 117).

¹⁶ Some simulationists reject what’s known as the *off-line simulation theory*, that is, they do not like to think of simulation as requiring us to take our action-generating mechanism off-line (see, e.g., Heal 1998). They still agree, however, that the substitute states produced by simulation do not lead to action.

To various degrees, each of these three aspects of the simulationist treatment of imagination may seem surprising, i.e., they may seem at odds with our pretheoretic understanding of it. This discrepancy is explicitly recognized by the simulationists themselves. Goldman, for example, notes that he intends *E-imagination* to be “a term of art, not beholden to naïve conceptions of the imagination. ... E-imagination is introduced here as a psychological construct.” (Goldman 2006b, 151) Currie, who identifies the imagination with an internal strategy testing mechanism that he calls the *simulator*, also wants to distance himself from the naïve conception of the imagination. He admits that there are counter-intuitive consequences to his proposal, and he is explicit that its acceptance requires us to correct some of our “unreflective presuppositions” about the nature of the imagination. (Currie 1995, 160).

For the purposes of our discussion here, I’ll just grant that an adequate philosophical account of imagination may have to depart—perhaps even dramatically so—from our pretheoretic conception of it. I’ll also grant for the purposes of this discussion that the simulationist treatment of imagining enables us to explain our capacity for mindreading. Even granting these points, however, this treatment of imagination presents us with a problem.¹⁷ If imagination functions as the simulationist thinks it does, then it looks like we are faced with heterogeneity, and moreover, a kind of heterogeneity that cannot be dismissed as harmless. As we will see, the very aspects of imagination that enable it to do explanatory work in the context of mindreading prevent it from doing explanatory work in the other imaginative contexts that we laid out above. Moreover, once we start to look more closely at those contexts, we will see that this problem is more general: Despite what is generally thought, the explanatory roles that imagination has been assigned across various imaginative contexts are in significant tension with one another. Defending these claims will be the work of the next two sections.

3 Heterogeneity and Its Harms, Part I

Let me start with what is perhaps the most obvious heterogeneity resulting from the simulationist treatment of imagination, namely, the one that arises from their identification of supposing as a type of imagining. When imagination is discussed in the philosophical literature outside the context of mindreading, it is generally agreed that imagining needs to be distinguished from supposing.¹⁸ This distinction is particularly important in the context of modal epistemology, and it also features significantly in discussions of the role of imagination in our engagement with fiction.

¹⁷ These points can be granted because my argument does not rely on facts about our pre-theoretic understanding of imagination; rather, it relies on facts about imagination gleaned from the four contexts discussed.

¹⁸ To give just a few examples, see, e.g., Doggett and Egan 2007; Chalmers 2002; Gendler 2000; White 1990 and Peacocke 1985. For a particularly well-developed discussion of some differences between supposition and imagination as these notions are used in “ordinary practice,” see Meskin and Weinberg 2006, 193.

In both of those contexts, philosophers typically motivate the distinction between imagination and supposition by reflecting on the kind of mental activity involved in developing or evaluating logical arguments. During a lesson on *reductio* proofs, for example, a professor of logic might ask her students to suppose that California is further north than Oregon or that snakes are mammals. The students can make these suppositions without any difficulty at all, and they need not exert much mental energy in order to do so. Merely bringing the proposition to mind is enough to comply with the professor's instruction. But in order to imagine these things, it seems that more would be required. As Walton has suggested, imagining "is *doing* something *with* a proposition one has in mind." (Walton 1990, 20).

Walton's comment might seem reminiscent of Descartes' claim in the *Meditations* that imagination "requires a peculiar effort of mind." (Descartes 1641/1986, 51)¹⁹ The kind of effort that Descartes had in mind involves the production of mental imagery:

When I imagine a triangle, for example, I do not merely understand that it is a figure bounded by three lines, but at the same time I also see the three lines with my mind's eye as if they were present before me; and this is what I call imagining. But if I want to think of a chiliagon, although I understand that it is a figure consisting of a thousand sides just as well as I understand the triangle to be a three-sided figure, I do not in the same way imagine the thousand sides or see them as if they were present before me. (Descartes 1641/1986, 50)

Thus, to imagine the first scenario presented by the logic professor, a student might see in her "mind's eye" the map of the United States with the distinctive shape of California now occupying the location normally occupied by Oregon and vice versa. Alternatively, she might picture a driver travelling north on the 101 freeway, with the ocean on the left, who encounters a large sign saying, "Now leaving Oregon. Welcome to California." To imagine the second scenario presented by her professor, she might conjure up an image of snakes with mammary glands, or she might picture the *Wikipedia* entry for mammals containing the following list: Seals, shrews, sloths, snakes, squirrels... etc.

Unlike Descartes, however, Walton does not have mental imagery in mind when he characterizes imagining as doing something with a proposition, for he explicitly claims that "imagining can occur without imagery." And most philosophers agree with Walton on this point, i.e., they deny that we must produce mental imagery—visual or otherwise—in order to imagine.²⁰ Imaging is one sort of mental effort that counts as imagining, but there are other sorts as well. So what does distinguish imagination from supposition? The literature unfortunately does not provide a well-developed answer to that question. In the context of our engagement with fiction, one suggestion comes from Richard Moran, who proposes that imagining requires something like dramatic rehearsal or empathetic identification (Moran 1994, 105).

¹⁹ Although Descartes is here concerned to distinguish the faculty of imagination from the faculty of pure understanding, his point also seems relevant to the distinction between imagination and supposition.

²⁰ See, e.g., Yablo's comment that "I do *not* require a sensory-like image for imagining." (Yablo 1993, 27) For an exception, see Kind 2001.

Along similar lines, Tamar Gendler has claimed that “imagination requires a sort of participation that mere hypothetical reasoning does not.” (Gendler 2000, 80) Though one might reasonably worry that the notions of identification and participation are too vague to do any real work here, perhaps we can say at a minimum that when philosophers distinguish imagination and supposition, they take imagining to be a more robust activity than supposing; imagining a given scenario requires someone to be considerably more actively engaged with respect to it than she need be if she were merely to suppose it.

Now consider an addition to the two examples we looked at above. What if the logic professor also were to instruct her class to suppose that there exists a round square? The students should have no trouble complying with this instruction; as Jonathan Weinberg and Aaron Meskin note, “it seems that *anything* can be easily supposed, even patent contradictions and ethically repulsive propositions.” (Meskin and Weinberg 2006, 193) Students learning *reductio ad absurdum* for the first time may have trouble grasping the idea that anything follows from a contradiction, but they don’t have trouble supposing $P \ \& \ \sim P$ when they’re engaged in this kind of proof. In contrast, what exactly a student would have to do to imagine that there exists a round square (or any other case in which she is presented with something that is logically impossible), and whether it’s even something that the student (or any of us) is able to do, is more controversial. Some philosophers accept that this kind of case can be imagined in some non-robust sense of the term; Chalmers, for example, suggests that one might imagine a geometric object with contradictory properties if one is imagining the situation “in less than full detail.” (Chalmers 2002, 152) But most philosophers deny that a logical impossibility can be imagined in any robust way.²¹

The same intuitions that motivate this denial also motivate the thought that imagination has an important role to play in modal epistemology, a thought that dates back to at least the early modern period. In line with Hume, who declared in the *Treatise* that “nothing we imagine is absolutely impossible,” philosophers have taken our imaginings to provide evidence for, and to justify, our modal judgments of what’s possible. (Hume 1739/1978, 89) Recall Sam from our modal epistemology example above, who visually imagines a new furniture arrangement in the living room. Sam engages in this mental effort in an attempt to avoid wasted physical exertion; before he bothers to move the heavy piano, he wants some justification for his belief that it is possible for the piano to fit against the opposite wall. Imagination also serves to ease our philosophical labors, as our imaginings are taken to provide support for dualism, for psychological theories of personal identity, and for numerous other metaphysical claims.

What features does imagining have that would plausibly allow it to fulfill this role in modal epistemology? Although philosophers have not agreed on a single answer to this question, one thing is clear: If we collapse the distinction between imagining and supposing, we sever the evidentiary connection between imagination and possibility. Perhaps some related connection can be restored, i.e., it could still be true that some sub-class of imagining—the non-suppositional imaginings—provide justification for

²¹ But see Gendler’s story of the Tower of Goldbach, which is supposed to present us with a case in which we imagine that 12 is not the sum of two primes, i.e., that $5 + 7$ does not equal 12 (Gendler 2000, 67–68). See also Kung 2009.

modal claims. But, if supposing is a kind of imagining, then it would be a mistake to think that imagining can, in general, serve as an epistemological guide to modality.

This may not seem particularly problematic, since there is already widespread philosophical agreement that Hume's maxim must be qualified in some way. Even if we don't identify supposition with imagination, most philosophers grant that not every imagining has justificatory force with respect to our modal beliefs. We noted above that imaginings may be so lacking in detail, for example, that they enable one to imagine an impossible situation. So the class of imaginings will probably need to be circumscribed in some way—perhaps, in David Chalmers' terms, to the subclass of those that hold up under “idealized reflection”—in order for Hume's maxim to come out true. (Chalmers 2002).

To my mind, the kind of qualification to this maxim that becomes necessary if we accept the simulationist treatment of imagination is of an entirely different magnitude than the suggestion just considered. But I don't actually need to defend this claim to show that the simulationist treatment of imagination presents us with a harmful heterogeneity. For the simulationist, recall, supposition is belief-like imagining—or at least, belief-like imagining of a special kind. And we produce these belief-like imaginings when we simulate the beliefs of another in an effort to predict and explain their behavior. So the kind of imagining that explains our capacity for mindreading cannot be the same kind of imagining that explains how we come to have justification for our modal claims.

We can see further support for this point if we think a bit more about how imagining is meant to explain mindreading. The simulationist claims that our mindreading abilities stem from simulation, and they then suggest that simulation is to be understood in terms of imagination. For Carole to simulate her opponent, she must imagine his beliefs and desires. But this doesn't seem to be a matter of her simply imagining *herself* having those beliefs and desires, since she might have very different background states from her opponent. Rather, in some sense at least, she must imagine herself to be him, a state of affairs that is logically impossible. Given that I am not actually Napoleon, it is impossible for me to be Napoleon; thus, if I imaginatively identify myself with Napoleon, it looks as though I am imagining something impossible. Likewise, given that Carole is not identical to her opponent, she imagines something impossible when she imaginatively identifies herself with him.

Admittedly, the above picture is oversimplified. Both simulationists and non-simulationists alike have had much to say on the question of whether, and how, a person can imagine herself to be someone else.²² Although there are various plausible suggestions for how I might imagine myself to be Napoleon without imagining something that is logically impossible, it is not clear whether any of these suggestions are compatible with the kind of imagining that one must do to simulate the mental states of someone else. So again, it looks as though the kind of mental activity needed to explain our capacity for mindreading must be quite different from the kind of mental activity that explains how we come to have justification for our modal claims.

Moreover, both of these mental activities seem to be importantly different from the mental activity that explains our engagement with fiction. Of particular importance in

²² See, e.g. Goldie 2000; Reynolds 1989; Velleman 2000.

this context is that imagination be able to explain affect. As Timothy Schroeder and Carl Matheson put it, “it is our imaginative engagement with a fiction that allows fiction to move us.” (Schroeder and Matheson 2006, 22) When we read novels, and when we watch movies and plays, we’re not just engaged with the story—we’re emotionally engaged with it. In fact, whether we’re shedding tears, shuddering with fear, wincing in disgust, or laughing aloud, we’re often quite emotionally invested in what’s going on. In light of the simulationist identification of imagination with supposition, it is hard to see how imagination would be capable of causing these reactions.

It should be fairly uncontroversial that acts of supposition do not of themselves have the power to cause emotional responses. Consider again the standard use of supposition we discussed earlier, namely, in reasoning by *reductio*. In addition to asking her students to suppose that snakes are mammals, the logic teacher might have asked her students to suppose that the classroom is snake-infested. If the students were to *imagine* that snakes were slithering about, they needn’t be ophidiophobic to react with some degree of fear—perhaps not as dramatically as if they were to come to believe that snakes were slithering about, but with some degree of fear nonetheless. But the corresponding supposition does not elicit any such response. One can suppose all sorts of horrific things without feeling any horror, all sorts of joyous things without feeling any joy, and all sorts of revolting things without feeling any disgust.

In some instances, however, supposition may lead to further mental activity, perhaps even unintentionally. For example, once the logic professor mentions snakes to her students—whether she’s just asked them to suppose that snakes are mammals, or to suppose that the classroom is snake-infested—some of them may not be able to stop themselves from imagining the snakes, and this in turn may give rise to feelings of fear. Or, to take an example from Shaun Nichols (and I follow him in apologizing for using it), it is hard not to let one’s imagination run wild when asked to suppose that someone has eviscerated a cat at the table and eaten its dripping entrails, and thus correspondingly hard not to feel some degree of disgust. (Nichols 2006) In these cases, however, the feelings of fear and disgust are generated by what one has imagined, not by the supposition itself.

Thus, it looks like the simulationist account of imagination is in tension with our ability to use the imagination to explain our engagement with fiction. Now, the simulationist has a response to this: He will claim that belief-like imaginings cause affective responses only in the presence of appropriate desire-like imaginings.²³ But

²³ In fact, the simulationists take it to be a virtue of their treatment of the imagination that they explain our engagement with fiction in terms of a conjunction of belief-like and desire-like imaginings, for they think this account enables them to solve two much-discussed puzzles that arise in this context. The first is what’s become known (following Gendler 2000) as *the puzzle of imaginative resistance*: Why are our powers of imagination considerably more constrained when it comes to moral falsehoods compared to non-moral falsehoods? For example, we can easily imagine a world in which an alien species inhabits the moon, and we can even imagine that these aliens hold monthly infanticide parties. But when we’re asked to imagine that this practice is morally acceptable—not just believed to be morally acceptable, but actually morally acceptable—we’re stymied; in fact, it’s hard to see how we’d even go about imagining this at all. The second is what’s known as the *paradox of fiction*: How can we be rational in having emotions about fictional characters that we know do not exist? For example, given that we know there is no such being as Voldemort, how can we rationally be scared by him? I do not have the space here to discuss how the simulationist treatment of the imagination purports to solve these problems, nor to assess whether the proffered solution is adequate. But even if it is, the point I make in the text about heterogeneity will still apply.

this response does nothing to answer the worry about heterogeneity. For what's now become clear is that only when we have a particular conjunction of imaginative efforts will be able to explain affect; it is not imagining itself that does the explanatory work.

This point gains further support if we return to the context of modal epistemology. In this context, the act of imagining generally proceeds completely without affect. When I imagine philosophical zombies, beings who are microphysically identical to conscious beings yet who are not themselves conscious, I do not experience any dismay about their dreary lives. When I imagine Frank Jackson's Mary, a color scientist who has been locked in a black and white room for her entire life, I do not experience any anger or indignation about her imprisonment. When I imagine Donald Davidson's Swampman, a creature who suddenly emerges from a swamp when a flash of lightning transforms a log into human form, I don't experience any wonder, or any fright, at this remarkable occurrence.

Thus, the mere act of imagining is not enough to produce affect; rather, we must be employing some particular kind of imagining when we emotionally engage with fiction. Likewise, as we saw earlier, the mere act of imagining is not enough to justify a modal conclusion; rather, only a particular kind of imagining seems to be able to explain our epistemological access to modality. In short, we have begun to see that there is nothing about the imagination itself that allows it to play all the different explanatory roles that it has been assigned. In the next section, as we look more closely at the other two aspects of the simulationist treatment of imagination that I highlighted in Sect. 2—namely, that the imagination produces a diversity of states, and that the imagination is importantly disconnected from the action-generating system—I will be able to develop this point further.

4 Heterogeneity and Its Harms, Part II

In Sect. 2, we saw that the simulationist believes that imagination produces multiple kinds of states—at a minimum, it produces belief-like imaginings (*i*-beliefs) and desire-like imaginings (*i*-desires). Even this minimal commitment to two types of imaginative states is enough to differentiate the simulationist treatment of the imagination from other treatments of the imagination, since *i*-desires tend not to be recognized in other imaginative contexts (or at least, not by non-simulationists). More generally, unlike the simulationists, philosophers working in other contexts typically do not see the imagination as producing states of fundamentally different types.

I should be careful here, however, because it would be a mistake to say that these philosophers class all imaginings together as having exactly the same form or structure. For example, it is fairly standard in these other contexts to draw a distinction between propositional imagining and objectual imagining.²⁴ I might (propositionally) imagine that Captain Kirk has just beamed into my living room; alternatively, I might (objectually) imagine Captain Kirk himself. Depending on

²⁴ See footnote. 4, above.

exactly how that distinction is construed, it might seem to map onto the simulationists' distinction between belief-like imaginings and perception-like imaginings. But I think that mapping would be a mistake. When philosophers distinguish propositional imaginings from objectual imaginings, they do not consider an imagining with propositional structure to be a *substitute* or *pretend* belief.

For the simulationists, although i-beliefs and i-desires are both produced by the imagination, it is somewhat misleading to think of them essentially as imaginings. As Goldman explicitly notes, imagination “isn't yet another mental state category, analogous to belief, desire, fear, and so forth. Rather, E-imagination is a method or faculty that causes mental states of the various categories.” (Goldman 2006b, 46) Or to put it another way: The imagination “is an operation or process capable of creating a wide variety of mental states. Imagination's output, so understood, is not a single type of state, but any one of a number of mental-state types...” (Goldman 2006a, 47) But the distinction between propositional and objectual imagining isn't meant to be a distinction between fundamentally different kinds of states. Consider an analogy to perception: Sometimes philosophers of perception distinguish between what we might call *objectual* perceptions and what we might call *propositional* perceptions: We see the cat, but we also see that the cat is on the mat. Drawing this distinction, however, does not entail that perception itself is not a fundamental category of mental representation. Thus, when non-simulationist philosophers distinguish between propositional and objectual imaginings, they still see imagining, like perception, as a fundamental mental state type.

This aspect of the simulationist treatment of imagination, that it is taken to be a faculty producing a diversity of mental state types, thus marks a significant difference from accounts of imagination given by non-simulationists. But does that also mean that imagination as the simulationists see it cannot do the explanatory work that it needs to do in contexts other than mindreading? In fact, the simulationists tend to take it as a virtue of their account of imagining that it empowers imagination to play a key role in multiple imaginative contexts.

Recall our example of engagement with fiction, and to make things a little simpler, let's amend it slightly so that Dennis is caught up in the Harry Potter film that he is watching rather than being engrossed in a book. Currie has suggested that i-desires have an important role to play in this context. Consider the fact that Dennis remains sitting passively in his seat while anxiously watching the battle between Harry and Voldemort unfold before him. Why doesn't he intercede in some way, or run to get help? His passivity seems puzzling if we attribute to him desires about the events being depicted, such as the desire that Harry win the battle and/or the desire that Harry get away safely. But it seems easily explained if we see these mental states as i-desires instead. Although i-desires and desires are in many ways quite alike, i-desires do not motivate action in the way that real desires do. This point connects to the third aspect of the simulationist treatment of the imagination that we saw in Sect. 2, namely, that the products of the imagination should be thought of as off-line states. When our action-generating system takes beliefs and desires as inputs, it issues real decisions and actions. But when that same system takes i-beliefs

and *i*-desires as inputs, we should see it as having been taken off-line, and thus it does not result in real decisions and actions.

Given that non-simulationists do not countenance the existence of *i*-desires, they naturally reject this explanation of what's going on in cases like engagement with fiction.²⁵ But for our purposes here, we do not need to adjudicate this debate.²⁶ What's important is not whether the simulationists are right to claim that offline imaginative states explain our engagement with fiction as well as mindreading, but rather, that their characterization of the imagination in these contexts comes into tension with the explanatory role that it has been assigned in the context of pretense.

This might seem surprising, since the simulationists think that *i*-desires have an important role to play in this context as well. Recall our initial example of pretense: As part of the game he plays with his brother, Christopher pretends that the tree branch in his hand is a light saber and forcefully swings it towards Sean. But why does he do this? An explanation that attributes to him a desire to hurt his brother seems implausible. Although there might be many occasions when the boys really do want to hurt one another, this doesn't seem to be one of those times—after all, they're not really fighting with one another but just play fighting. For this reason, Currie has suggested that the best way to explain actions like Christopher's is in terms of an appropriate *i*-desire. In connection with his belief-like imaginings that the tree branch in his hand is a light saber and that he is fighting Darth Vader, Christopher's action is motivated by a desire-like imagining to eradicate his opponent.²⁷

Remember, however, that the simulationists see *i*-desires as off-line states. It's supposed to be important that these states are disconnected from the action-generating mechanism. It is thus unclear how an *i*-desire could be what causes Christopher to swing the tree branch.²⁸ More generally, it is hard to see how *i*-desires could play any role in explaining action, whether in a pretend context or elsewhere.²⁹ If we are to see these states as off-line states, then they cannot be what explains pretense.

²⁵ Peter Carruthers, for example, argues that we can easily explain movie-goers' inaction without invoking *i*-desires; we don't act to stop fictional danger because "real desires will normally lead to real action only when interacting with real beliefs." (Carruthers 2006, 99) Movie-goers typically do not believe that the events being depicted before them are real. Thus, there is no problem attributing to Dennis the desire that Harry Potter get away safely. The reason that this desire doesn't lead him to take any action is that he doesn't believe that there is any real danger; rather, he only imagines the danger.

²⁶ But see Kind, forthcoming.

²⁷ This theory of pretense behavior—that it is best explained by the postulation of *i*-desires—has been defended by some non-simulationists as well, most notably, Tyler Doggett and Andy Egan (Doggett and Egan 2007) and David Velleman (Velleman 2000), though he calls the relevant states "wishes." Doggett and Egan have also invoked *i*-desires in the context of our engagement with fiction.

²⁸ For an alternative, non-simulationist explanation of pretense, see Nichols and Stich (2003), who argue that we can explain pretense behavior in terms of belief-desire pairs. On their view, a pretender typically has (1) the desire to behave similarly to how one would behave were an imagined situation actual; and (2) beliefs about what the relevant behavior would be in an actual situation. (Nichols and Stich 2003, 39) For example, in our example of Pretense, Nichols and Stich would explain Christopher's action in terms of his desire to pretend to be Obi-Wan Kenobi and his various beliefs about how Obi-Wan Kenobi would act in a light saber battle with Darth Vader.

²⁹ For related discussion, see Funkhouser and Spaulding (2009).

In the context of mindreading, and perhaps also in the context of our engagement with fiction, it looks to be critical that the imagination produces a diverse range of states, and moreover, that these states are off-line. As I have suggested, however, these aspects of the imagination cannot be what's important to its role in pretense. What about the final context that we've been considering, namely, modal epistemology? Generally in this context, the imagination is not associated with action, so the fact that imaginative states are thought to be off-line poses no problem. But it's also true that in the context of modal epistemology, there seems to be no role for states like *i*-desires to play. When Sam imagines the proposed alternate arrangement of his living room, or when we imagine philosophical zombies or Swampman, our mental activity seems to be limited only to *i*-beliefs. It thus looks like imagining behaves quite differently in the context of mindreading from the way it behaves in the context of modal epistemology, and we thus have further reason to doubt that a single mental activity can discharge its explanatory burden in both of these contexts.

5 Concluding Remarks

In this paper, I've been looking at four contexts in which imagination has been invoked in an effort to determine whether we can plausibly claim that the same mental activity is playing a role across them. As we have seen, the explanatory burden that imagination must carry varies greatly from context to context. Not only do features that are essential to imagination in one context drop out entirely in another context, but even worse, features of imagination that play an essential role in one context are sometimes inconsistent with features of imagination that play an essential role in another context. At the very least, the picture of imagination that we get by focusing on any one of these contexts is very different from the picture of imagination that we get in any of the other contexts.

So, to return to our question from the start, is there such a thing as *the* phenomenon of imagining? This discussion has suggested that we must answer in the negative: There is no single "something" that can play all of the explanatory roles that have been assigned to it. When philosophers invoke imagination to explain one of the phenomena that we've been discussing, the thought is that there is something special about imagination itself that can do the explanatory work. In each individual context, this claim may well seem plausible. But once we look at the contexts together, the initial plausibility of the claim dissipates.

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