Erkenntnis
https://doi.org/10.1007/s10670-024-00847-y

ORIGINAL RESEARCH

Imagination Cannot Generate Empirical Justification or Knowledge

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Received: 5 July 2023 / Accepted: 22 July 2024

Abstract
What is the epistemic function of imagination? Traditionally, philosophers have claimed that the epistemic function of imagination is exhausted by its ability to provide justification for modal beliefs, or that it is epistemically irrelevant. However, in recent years a number of philosophers have broken with the tradition by arguing that imagination can generate justification or knowledge about contingent empirical facts. This paper argues against this view by developing a new dilemma. The upshot of the argument is that although imagination does have an important epistemic function that has evaded the traditional view, it cannot give rise to new empirical justification or knowledge.

1 Introduction

Imagination plays an important role in our social and personal lives. One's imagination is actively engaged when one reads a work of fiction, when one engages in pretense, when one ponders thought experiments or hypothetical scenarios, and when one simply relaxes and daydreams. With this much virtually everyone agrees. But what about learning from imagination? Is it the case that engaging in imagination can provide us with new knowledge, and if so, what kind of knowledge is it?

Traditionally, philosophers have argued that imagination can be of epistemic importance, but that it only can provide justification or knowledge for modal beliefs. Indeed, proponents of the traditional view often argue that imaginative episodes can justify beliefs about what is possible, but not about what is actual and contingent. Recently, however, some have argued that imagination can play a much larger epis-

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Published online: 01 August 2024

temic role by providing us with justification or knowledge about empirical reality. According to this view—which I call *imaginative generativism*—imaginative episodes that satisfy certain constraints can improve our epistemic position by generating new justification or knowledge about contingent empirical facts.

In this paper, I will argue against this view. The argument takes the form of a dilemma, and it purports to demonstrate that imagination has a more modest epistemic function than some commentators recently have suggested. More specifically, the dilemma shows that regardless of whether imagination is appropriately constrained or not, it cannot generate new empirical justification or knowledge, even though it can play an important role in improving our epistemic position.

In Sect. 2 I begin by offering some clarificatory remarks on the nature of imagination. In Sect. 3 I introduce the traditional view of the epistemology of imagination and the reason provided by its proponents for why imagination cannot give rise to empirical justification or knowledge. In Sect. 4 I introduce imaginative generativism and say a little bit about why it has become such a popular position. Then, in Sect. 5 I present the dilemma and offer reasons for believing each of its premises. Finally, in Sect. 6 I provide some concluding remarks on the epistemic function of imagination.

2 The Nature of Imagination

Imagination is a heterogeneous concept, in the sense that there are many different types of imagination, and they play different philosophical roles (see, e.g., Moran, 1994; Kind, 2013). It is common to draw a distinction between propositional imagination and imagistic imagination. Propositional imagination is often thought to be belief–like, since it involves imagining *that* something is the case, and it need not be accompanied by any mental imagery or phenomenology. An example of propositional imagination is when someone imagines that tomorrow will be rainy, or that a particular scientist is going to win the Nobel Prize next year. On the other hand, imagistic imagination does have mental imagery and often also some associated phenomenal aspect.[1] Imaginative episodes of this kind involve some sort of quasi–perceptual representation, which is why they sometimes are called perceptual imaginings. An example of imagistic imagination is when someone imagines the physical features of a loved one's face, or the taste of vanilla ice cream.[2]

Continuing, I will primarily focus on imagistic imagination, since that is what the arguments favoring the view that imagination can generate empirical justification or knowledge tend to do (e.g., Myers, 2021b). That said, since it is my belief that

[1] Some, like Brogaard and Gatzia (2017) and Nanay (2020), have argued that there can be unconscious imagistic imaginings, without a phenomenal aspect. Moreover, another complicating issue is that imagistic imaginings presumably can have propositional content, and that belief involves commitment to the truth of its content in a way that propositional imaginings don't. For these reasons, the distinction, as it usually figures in the literature, might need refinement. However, these issues are somewhat orthogonal to the purposes of this text, so I won't focus on them going forward.

[2] The distinction between propositional and imagistic imagination is often drawn using slightly different terminology. For more about this and other distinctions highlighting diverse types of imagination, see Kind (2013).

similar arguments plausibly can be made with respect to propositional imagination, the dilemma presented in Sect. 5 applies to both types. However, before presenting the dilemma, I first need to say a little bit more about what differentiates imagination from other similar capacities or states.

Imaginative episodes, whether they are of the propositional or imagistic type, are not identical with suppositions or the mere considering of propositions.[3] Merely considering or entertaining some proposition is not the same as imagining it, and neither is supposing that something is the case. Consider, for example, a student who engages in the construction of an elaborate argument, and who supposes for that purpose that birds both can and cannot be mammals. Now, it is clear that a contradictory proposition like the one just mentioned can be supposed with no real difficulty. Indeed, supposing that birds both can and cannot be mammals requires very little cognitive effort—one simply assumes that it is the case. However, imagining the same proposition will no doubt be very difficult, and some might even argue that it is impossible to do so.[4] This suggests that an important difference between supposing or merely considering on the one hand, and imagining on the other, is that the former activity is relatively easy and effortless, whereas the latter typically involves more limitations on the kinds of content that can be imagined.[5]

But this raises an interesting question: what kind of relationship does imagination require that one has to the imagined content? Or, as Walton (1990, p. 20) might put it, what is it that an imaginer *does* with what is imagined? Although this is a question that I will not try to answer in this paper, it is nevertheless interesting to note that the proponents of the idea that imagination can increase our knowledge of the world by generating empirical justification or knowledge do claim that it is necessary to have a special sort of relationship to the content of an imaginative episode, if it is to prove epistemically useful in that way. Indeed, they generally think that imagination must be guided by certain constraints, if we are to receive any new justification or knowledge about empirical reality from it. In the following sections I will say more about what these constraints look like and whether they successfully show that imagination is of greater epistemic importance than what philosophers traditionally have believed.

[3] The claim is not entirely uncontroversial. For example, Ichikawa and Jarvis (2013) appear to think of all hypothetical attitudes (not just imaginings and suppositions) as somehow being of the same type and as sharing their most important epistemic properties. For an interesting critique of their view, see Balcerak Jackson (2016), who tries to establish a tripartite distinction between supposing, imagining, and conceiving.

[4] Many philosophers agree with the claim from Hume's *Treatise* that "nothing we imagine is absolutely impossible" (1739/1978, p. 89), which is the contrapositive of the claim that what is impossible cannot be imagined. For a useful discussion of imagination and the conceivability–possibility link, see Gendler and Hawthorne (2002).

[5] It should be mentioned that simulationists, like for example Currie and Ravenscroft (2002) and Goldman (2006), generally don't believe that suppositions and imaginings are of different types. According to simulationism, imagining is fundamentally about taking on or simulating the perspective of someone who has certain beliefs, perceptions, or emotions. Thus, as they see it, suppositions are simply a sort of belief–like propositional imagination. However, it remains a problem that when I suppose a certain proposition, such as that birds both can and cannot be mammals, I do not appear to do anything as active as simulating the mental perspective of someone who actually believes that to be the case.

3 The Traditional View and the Voluntary Control Objection

For the longest time, philosophers have thought that the epistemic significance of imagination is exhausted by its ability to justify modal beliefs and to provide us with knowledge about what is possible,[6] or that it cannot provide any justification or knowledge at all. But why is it that according to the traditional view, imaginative episodes cannot teach us anything about what the world is actually like? One prominent reason is that many people have a strong intuition or introspective seeming that the imagination is under one's voluntary control, and that it therefore does not exhibit the necessary sort of sensitivity to what the world is like in order for it to be a source of empirical justification or knowledge. This idea has aptly been summarized by Wittgenstein as follows:

> Imaginings tell us nothing about the external world. . . Imaginings are subject to the will. . . It is just because forming an imagining is a voluntary activity that it does not instruct us about the external world. (1981, § 632; cf. Wittgenstein, 1948/1980, § 80.)

Similarly, McGinn claims that since imaginative episodes are governed by the subject's own will, they automatically become decoupled from the world in a way that renders them epistemically irrelevant:

> Imagining is subject to the will, while believing is not. . . Belief is a commitment to truth, and the truth cannot be willed into being. But imagining is not a commitment to truth, even possible truth, so there is no obstacle to willing it; imagining is simply contemplating it, holding it before the mind. . . That there is strong evidence against a proposition is no bar to imagining that it is true, since I am not, qua imaginer, in the business of conducting an investigation of how the world is. . . When I am in the business of investigating the world, I adopt an attitude of evidential sensitivity, and my beliefs are formed accordingly; but not so when I am merely imagining. Here I am indifferent to how things actually are. (2004, p. 132; cf. Brewer, 1999, p. 226; O'Shaugnessy, 2000, p. 359.)[7]

So, what should we make of this objection? Consider first the claim that imaginative episodes are under one's voluntary control. Introspectively, this certainly seems to be true in many cases when one engages in imagination. For example, when one daydreams, the contents of one's imaginative episodes are more or less entirely up to oneself. One can imagine soaring through the sky like a bird, or being the villain

[6] It is of course uncontroversial that imaginative episodes play a central role when it comes to justifying beliefs about our own imaginative states: imagining that *P* puts you in a position to know that you currently are imagining that *P*—at least under normal circumstances. However, the traditional view claims that imagination is epistemically irrelevant when it comes to all non–modal beliefs that *are not* about such inner mental states. Continuing, I will therefore ignore such beliefs.

[7] See also O'Shaughnessy (2000); Huemer (2001); and Markie (2005), all of whom claim either that imaginative episodes invariably are without any epistemic value, or that their epistemic value is limited to the modal domain.

of a Sherlock Holmes novel. Indeed, the contents of one's imaginative episodes are entirely unconstrained by the features of the world and one's evidence of what the world is like. However, as we will see in the next section, there are conditions under which one's imaginative episodes are constrained in a manner which ensures that their contents are not entirely up to us. For this reason, the claim that imaginative episodes are under one's voluntary control is not true under all conditions.[8]

But what about the second claim presented by McGinn—namely, that imaginative episodes are not sensitive to what the world actually is like and therefore cannot provide any new empirical justification or knowledge, *insofar* as they are unconstrained and under one's voluntary control? The claim seems reasonable. If we only consider cases of unconstrained imaginings, it is clear that they do not track relevant features of the actual world. Indeed, not only do they fail to track such features, they do not even purport to do so. After all, when you engage in unconstrained imagination, such as daydreaming, the contents are generally speaking *entirely and knowingly up to you*, and this has the effect of preventing their contents from having assertive force.

A propositional attitude has a certain representational force, which is the *way* in which the attitude represents its content (see, e.g., Heck, 2000). For example, a pain might be said to represent its content as to be turned false (assuming pains actually have propositional content)[9], whereas a desire might be said to represent its content as to be turned true. Now, when it comes to propositional attitudes that represent their contents *as true*, following Pryor (2005, p. 187 f.), we say that they have *assertive force*.[10]

In contrast to mental states that typically do provide us with empirical justification or knowledge, imaginings do not have assertive force. When you believe, perceive, or have a memory that *P*, *P* is either represented as being true, or you are disposed to have states that represent *P* as true.[11] However, that is not the case when it comes to imaginings that are unconstrained: when you imagine soaring through the sky like a bird, or being the villain of a Sherlock Holmes novel, your imaginative episodes do not represent that as actually being the case, and neither are they disposed to cause states that do so.[12] Moreover, it should be clear that by failing, or not even purporting to have assertive force, unconstrained imaginations cannot provide any empirical justification or knowledge. After all, how could a mental state that does not even rep-

[8] Consider a case where you try to imagine what a friend whom you haven't seen in over 10 years looks like. The content of your imagination will no doubt be constrained by your memories of what your friend used to look like. If your friend used to be 6 feet tall, then you are normally not "free" to imagine that he now only is 5 feet and 5 inches, given that you are trying to imagine his actual appearance.

[9] For a relevant argument, see Cutter and Tye (2011).

[10] In the philosophical literature on perception, some say that propositional attitudes that represent their contents *as true* are *strongly representational*, as opposed to *weakly representational attitudes*, which do not represent their contents *as true*. See for example Glüer (2009).

[11] In the case of memories, they typically have assertive force only when they are consciously entertained. However, they are nevertheless disposed to cause states that do have assertive force—such as beliefs, or consciously entertained memories—and that is sufficient for enabling them to provide us with empirical justification or knowledge.

[12] Focusing on why perception and imagination have different epistemic functions, Huemer (2001, p. 77) remarks: "The reason lies in what I call the 'forcefulness' of perceptual experiences: perceptual experiences represent their contents as actualized; states of merely imagining do not."

resent its content as being true possibly teach us anything new about what the world actually is like? It seems intuitive that such a scenario cannot possibly arise.

Now, given that unconstrained imaginations plausibly cannot give rise to new justification or knowledge about contingent empirical facts, but that there may be cases in which our imaginations aren't unconstrained, this gives rise to the following objection:

> *The Voluntary Control Objection (VCO):* since imaginative episodes that are not appropriately constrained do not even purport to track relevant features of the world, they do not have assertive force. And mental states that do not have assertive force cannot generate justification or knowledge about contingent empirical facts.[13]

4 Imaginative Generativism

In recent years, a number of philosophers have broken with the traditional view by arguing that imagination can give rise to justification or knowledge about contingent empirical facts. This has become a quite popular position in the epistemology of imagination, as it is argued that imagination functions as a *source* of justification or knowledge about the world, rather than simply being a capacity that causally contributes to the formation of certain beliefs (Kind, 2016, 2018; Kind & Kung, 2016; Langland-Hassan, 2016; Williamson, 2016; Myers, 2021b; Miyazono & Tooming, forthcoming). The position can be defined as follows:

> *Imaginative Generativism:* imagination can generate justification or knowledge about contingent empirical facts.[14]

Proponents of imaginative generativism make use of an interesting strategy when they argue for this thesis. Generally speaking, they endorse the *VCO* and therefore acknowledge that unconstrained imaginings that are under the subject's voluntary control cannot generate any justification or knowledge about the world (although the next section will discuss some dissenting views). However, they argue that there are conditions under which our imaginative episodes *are* appropriately constrained and,

[13] It should be noted that there are some who interpret VCO in a somewhat different manner. For example, Balcerak Jackson (2018) and Kind (2016, 2018) claim that the voluntary nature of our imaginative episodes undermines their reliability.

[14] The term "generativism" is borrowed from the literature on the epistemology of memory. In that literature there is a debate between generativists, who claim that memory can generate new justification or knowledge, and anti-generativists, who claim that it can't. Moreover, it should be noted that denying generativism does not lead to skepticism, since many epistemologists still endorse the preservationist view according to which memory can preserve existing justification. Similarly, those who deny generativism about imaginative justification can maintain that imagination nevertheless can serve an epistemically preservationist function. For more on generativism and preservationism in the epistemology of memory, see Egeland (2021a) and Frise (IEP article on the epistemology of memory).

moreover, that when they are, they can generate justification or knowledge about the world.

Before I present a standard case that proponents of imaginative generativism appeal to in order to elicit the intuition that imagination can function as a source of new justification or knowledge, I will say a little bit about constrainers. In the current context, a constrainer is functionally defined as something that limits the ways in which imaginative episodes are allowed to unfold in order to increase the accuracy of the imaginative content. Consider an example: you want to imagine what your child currently is doing. In this case, you do not simply let your imaginative mind wander freely, so to speak. Rather, you force your imaginings to draw upon, and become guided by, relevant information that you already have. It is 10 o'clock, so he is likely to be in school. It is Monday, and since your child does not have any math classes on Mondays, you imagine that he must be doing something else. Then you remember that he has a geography test today, and that geography class usually starts at 10 o'clock. As a result, you imagine that your child is getting ready for his geography test and that he probably is somewhat nervous. By guiding your imagination in this way, the information stored in your memory functions as constrainers that increase the accuracy of the imagined content. It is likely that your child is getting ready for his geography test.

Now, among imaginative generativists, two proposals have been suggested as to what constrainers must be like in order for them to guide our imaginings in such a way that they can generate justification or knowledge. The first suggestion is provided by Amy Kind, who claims that our imaginative episodes must be constrained by certain facts about the world. More specifically, she tells us that our imaginings must be guided by the following (paraphrased) constraints:

> *The Reality Constraint:* The world must be imagined as it really is in all relevant respects.
>
> *The Change Constraint:* If one's imaginative project requires one to imagine a change to how one believes the world to be, then it must be constrained by all and only the relevant consequences of that change. (Kind, 2016, pp. 150–151.)

However, there are a couple of problems with this suggestion. First, we do not have unmediated access to facts about the world. In practical terms, this means that we can only constrain our imaginings in accordance with our experiences, beliefs, and memories. Information about reality can only constrain our imaginings, if it has been encoded in our mental representations.[15]

Second, even if we could constrain our imaginings in accordance with reality (rather than in accordance with information encoded in our mental representations), it is doubtful that this would be of any help to imaginative generativism. And the rea-

[15] "We cannot directly constrain our imaginings according to what the world is like. The best we can do is constrain our imaginings according to how we represent the world to be. And the epistemic status of those constrainers—whether our representations of the world are supported by our evidence or not—mediates the ability of the imagination to justify beliefs." (Myers, 2021b, p. 3260.)

son is simply that it seems to be a typical feature of the imagination that it combines, splits up, or re-combines information that we *already are in possession of*.[16] If the proponent of imaginative generativism claims that our imaginative episodes easily can be guided by reality without any mental or cognitive mediation, then it seems that the relevant capacity should be described as some sort of quasi-clairvoyance, rather than imagination. And, moreover, there are strong arguments to the effect that clairvoyance or any similar capacity cannot generate justification or knowledge, since the justification would not be reflectively accessible (BonJour, 1985; cf. Egeland, 2020, for a recent discussion of the clairvoyance argument).

This brings us to the second suggestion as to what the constrainers must be like, if they are to guide the imagination in such a way that it can generate justification or knowledge. The suggestion comes from Joshua Myers, who recognizes not just that the constrainers must be internal representational states, but also that they themselves have to be justified. This gives us the following view of constrainers:

> *The Justificatory Force Condition:* The justificatory force of an imagining is determined, at least in part, by the justificatory force of its constrainers. (Myers, 2021b, p. 3258.)

The idea is simply that the constrainers must be mental states, such as beliefs or memories, that are justified. For if the constrainers are unjustified, then the imaginative episodes they guide are likely to be highly inaccurate. Given the problems facing Kind's suggestion, I believe Myers' conception of constrainers to be superior. However, regardless of whether one opts for external or internal constrainers, the dilemma presented in the next section will undermine imaginative generativism either way.

Now, before we move on to the dilemma, let us briefly consider one of the standard cases that proponents of imaginative generativism appeal to in order to elicit relevant intuitions.

> *Bed*
> You are at a furniture store looking to buy a new bed. You have found one that you like very much, and it is within your price range. However, you are unsure whether the bed will fit through your unusually narrow bedroom doorway. In order to try to figure out whether it will, you imagine yourself attempting to carry the bed through the doorway in a way that is constrained by your experiences and beliefs about the size and shape of the bed, as well as your memories of the proportions of the doorway. Your experiences and memories are vivid, and your beliefs justified. After having imagined for a while, you form the belief that the bed indeed will fit through the doorway.

[16] White (1990, p. 91) claims that "one can't be surprised by the features of what one imagines, since one put them there". Although I disagree with the claim that one cannot be surprised by one's own imaginings, it does seem clear that imagination is a way of (re-)representing informational content that one already is in possession of—although not necessarily in the same way that the information is represented by other states.

Intuitively, the belief appears to be justified. Given that your imagination was guided by relevant and justified representational states (i.e., constrainers), it seems that the belief you formed afterwards should be justified. This is the sort of case typically made use of by imaginative generativists. Although they generally agree with the *VCO*, they argue that *Bed* and other similar examples are cases of constrained imaginings, and that those imaginings can generate justification or knowledge about contingent empirical facts—such as that a particular bed is going to fit through one's bedroom doorway.

5 The Dilemma

My strategy is to argue that proponents of imaginative generativism face a dilemma. Appropriate constraints either guide one's imaginative episodes, or they don't. If one's imaginative episodes are not guided by appropriate constraints, then they become vulnerable to the *VCO*. On the other hand, if they are guided by appropriate constraints, then they cannot provide any new empirical information. Either way, our imaginative episodes cannot generate empirical justification of knowledge. Summarizing the argument, this is what it looks like:

(1) If one's imaginative episodes are not guided by appropriate constraints, then they become vulnerable to the *VCO.*
(2) If one's imaginative episodes are guided by appropriate constraints, then they cannot provide any new empirical information.
(3) If one's imaginative episodes either are vulnerable to the *VCO* or cannot provide any new empirical information, then they cannot generate justification or knowledge about contingent empirical facts.
(4) Hence, imaginative generativism is false.

Since the conclusion that imaginative generativism is false follows from the premises, those who want to deny it must reject at least one of the argument's premises. Continuing, let us therefore examine how one might go about doing so.

Rejecting premise 1 is to claim that one can have imaginative episodes that are not guided by appropriate constraints and also avoid the *VCO.* But this naturally raises the question: how can imaginative episodes that are either not constrained at all, or that only are inappropriately constrained, have (or be disposed to cause states with) the sort of assertive force that clearly appears to be necessary for the generation of empirical justification or knowledge? Consider first unconstrained imaginings. You may for example imagine being a 16th century explorer trying to find new lands across the Pacific Ocean, or that we have discovered intelligent life in outer space. However, due to their unconstrained nature, those imaginings will be under your voluntary control, and their contents will knowingly be up to you. Moreover, as we have seen in Sect. 3, this has the consequence of ensuring that your imaginative episodes do not have assertive force, in the sense that their contents are not represented as true. And when your representational states don't have assertive force, it would be absurd to think that they can function as a source of new empirical justification or knowl-

edge. If that were the case, then simply allowing your imaginative mind to wander freely could be considered a viable means of learning about what the word actually is like—and that would of course be absurd.

But what about imaginative episodes that are constrained, albeit in an inappropriate manner? I think there are two ways this could look like. First, your imaginings can be constrained by factors that are completely irrelevant with respect to the imaginative purpose. For example, you can try to imagine whether a particular piece of furniture will fit through your doorway, but constrain your imaginings by representational states whose contents specify what the physical proportions of your neighbor's garage door are like. Second, your imaginings can be constrained by factors that do not themselves have any justificatory support. For example, you can try to imagine what the fastest way from the airport to the University is in a city that you have never been to before, but constrain your imaginings by unjustified representational states, such as vague memory beliefs of reading an old map of the city that you know to be unreliable. However, in neither case does it appear that you will be in a position to learn anything of value from your imaginings. And, moreover, it seems that the reason why such inappropriately constrained imaginings cannot function as a source of new empirical justification or knowledge is that their contents don't have assertive force.[17]

This should not be all that surprising, since even proponents of imaginative generativism do their best to avoid the first horn of the dilemma. Premise 1 can be supported by intuitive examples indicating that imaginings that are not guided by appropriate constraints cannot function as a source of new justification or knowledge about the world. And these intuitions can be supported by explaining that inappropriately constrained imaginings cannot have the sort of assertive force that is necessary for the generation of empirical justification or knowledge. However, it must be noted that some commentators recently have suggested that unconstrained or inappropriately constrained imaginings can justify empirical belief (Stuart, 2020; Gauker, 2024). They argue that the analyses of what constraints fundamentally *are* that can

[17] An anonymous referee presented two objections to this claim: one, that "inappropriately constrained imaginings are constrained and thus are not under voluntary control in the same way [as unconstrained imaginings]"; and two, that a subject can be unaware that their imaginings are inappropriately constrained, which implies that the subject's imaginings would have assertive, but not justificatory force. In response to the first point, I agree that inappropriately constrained imaginings aren't under voluntary control in the same way as unconstrained imaginings; after all, in the latter case only is there a very strong sense in which the content is entirely up to the subject. However, it does not follow that the content is not up to the subject's control in *another way* in the case of inappropriately constrained imaginings. In fact, I take it that this is precisely what is the case when it comes to inappropriately constrained imaginings. If, let's say, we consider the first example of inappropriately constrained imagining above, then it seems that it too is under the subject's voluntary control (although in a somewhat weaker sense than in the case of completely unconstrained imagining)—perhaps because the constrainers also are under the voluntary control of the imaginer. But—and this brings us to the second point—what about cases where the inappropriate constrainers seem appropriate to the subject; might not such imaginings have assertive force without justificatory force, which means that "the justificatory force of the imagination is not grounded in its assertive force"? Concerning this latter kind of case, I doubt that it is possible. Consider the example of trying to imagine the fastest way from the airport to the University. If your memory beliefs about the city's structure are not known to be unreliable (as stipulated above), but rather genuinely seem to be truth-conducive (e.g., due to their clarity and vividness), then the imagining does help you form a justified (albeit likely mistaken) belief *because* it is after all appropriately constrained.

be found in the literature, which generally either have to do with logical inference rules or accurate modelling of the dynamics of some target system, are either too permissive or too restrictive. The upshot is that there are counterexamples to premise 1, such as Einstein's famous thought experiment concerning the speed of light, whereby unconstrained or inappropriately constrained imaginings generate empirical justification or knowledge. In response to this line of argument, I note that it only provides counterexamples to premise 1, given the assumption that constraints actually have been given a correct analysis by one of the previous proposals discussed by, for example, Stuart (2020) and Gauker (2024). However, this is not an assumption that is made in this paper. We have an intuitive conception of what constitutes appropriate constraints—a conception on which Einstein's imaginative episodes were appropriately constrained in a way that restricted his voluntary control over their contents and that made them sensitive to certain features of reality—and it is on the basis of *this* that premise 1 can be supported by cases and thought experiments, like those that are discussed above.

For the reasons given above, I therefore think that premise 1 should be accepted: if one's imaginative episodes are not guided by appropriate constraints, then they become vulnerable to the *VCO*.

Rejecting premise 2 is to claim that one can have appropriately constrained imaginative episodes that provide new empirical information.[18] However, constrained imagination does not appear to be the sort of state or capacity that increases one's empirical information about the world. To see why that is so, I present the following argument:

(1) Appropriately constrained imagination can provide new empirical information, only if it involves reception of new information from one's senses, or it provides new information about contingent facts.
(2) Appropriately constrained imagination does not involve reception of new information from one's senses, and it does not provide new information about contingent facts.
(3) Hence, it is not the case that appropriately constrained imagination can provide new empirical information.

Since the argument is a *modus tollens*, one must reject either the first or the second premise, if one is to avoid the conclusion. However, there are strong reasons for supporting both of them.[19]

[18] Choosing to face this second horn of the dilemma is something that would be natural for those who follow Williamson in assuming that our capacity for imagination has evolved in such a way that it typically is constrained by our beliefs and memories: "The default for the imagination in its primary function may be to proceed as 'realistically' as it can, subject to whatever derivations the thinker imposes by brute force." (Williamson, 2007, p. 143.)

[19] Note that the argument that I rely on to motivate premise 2 of the main dilemma easily can be extended to all imaginings, including those that are not appropriately constrained. For this reason, the main argument arguably need not be presented as a dilemma but could be formulated in a simpler manner. However, as I believe that the VCO also provides another important objection to generativism, I prefer to keep the dilemma form and note that there actually are two problems with unconstrained imaginings: that they are

Consider first the claim that constrained imagination can provide new empirical information, only if it involves reception of new information from one's senses, or it provides new information about contingent facts. A mental state or capacity can (re-) represent empirical information, without involving reception of new sensory information, and without offering new information about contingent facts about the world. This is what for example memories and, I argue, constrained imaginings do. But if it is to provide *new empirical* information, which is to say information that one is not already in possession of, then it must either involve reception of new sensory information or new information about contingent facts about the world.[20] Otherwise, the information provided would either not be new or not empirical.

Consider next the claim that appropriately constrained imagination does not involve reception of new information from one's senses, and that it does not provide new information about contingent facts. The first conjunct is strongly supported by introspective reflection on the actual psychological functioning of the imagination. For illustrative purposes, consider the *Bed* scenario again. When you try to figure out whether the bed will fit through your bedroom doorway by imagining yourself carrying the bed through the doorway, your imaginings are constrained by your experiences and your beliefs about the size and shape of the bed, as well as your memories of the proportions of the doorway. Now, when you allow your imaginative episodes to be guided by these constraints, they do not involve reception of any new sensory information. Sure, your perceptual experiences of the bed in question arise as a result of the fact that you receive sensory information about it. However, when you subsequently engage in imagination, those imaginings do not involve the reception of any such information. Rather, what they do is try to figure out how likely it is that the bed will fit through your doorway, by imagining in a way that teases out the entailments of the relevant information that you *already have*. Indeed, it seems to be the case that all imaginings, whether constrained or unconstrained, involve (re-)representation of information that one already has in one's cognitive possession.[21]

Moreover, this is a view that proponents of imaginative generativism also appear to find reasonable upon introspective reflection. Consider the following reflections from Myers, who focuses on constrained imaginings:

> While deductive reasoning is good for tracing out the logical entailments of a set of beliefs, imagination is quite good for tracing out other kinds of entail-

vulnerable to the VCO, and that they don't provide new empirical information, which is necessary for generating empirical justification.

[20] It seems to me that generativists also generally opt for either of these interpretations of "empirical information". For example, immediately after the quoted paragraph below, Kind (2018, p. 242, emphasis added) provides the following suggestive examples: "A baker can be provided with new information once she *tastes* her newly-baked cake, even though the cake contains nothing but what she put in it. An artist can be provided with new information once she *sees* her artistic composition, even though the artwork contains nothing but what she put in it. So too can an imaginer be provided with new information by an imagining that contains nothing but what she put in it." Moreover, whereas Kind (2018) seems to focus on sensory information, other generativists focus on contingent facts about the world (e.g., Myers, 2021b, 3255; Miyazono & Tooming, forthcoming, 1).

[21] Cf. White (1990, p. 91); and Sartre (1972, p. 7), the latter of which says: "The image teaches us nothing … No matter how long I look at an image, I shall never find anything in it but what I put there."

> ments, such as spatial, causal, or nomological entailments. . This process is clearly epistemically relevant. It makes apparent to the subject what was only implicit in the constrainers. . . Without going through the process of tracing out what follows from the constrainers in imagination, the resulting belief would not be justified. (Myers, 2021b, p. 3258.)

Concerning the second conjunct, that constrained imagination does not provide new information about contingent facts, Kind has offered the following counterargument (which, considering footnote 20, also could be interpreted as an objection to the first conjunct):

> A computer simulation contains only the facts that are put into it, but it can nonetheless provide us with information about the world. That this point generalizes to imaginative simulations should not be surprising, especially since we can see applications of it in so many different domains. A computer programmer can be provided with new information by the outputs of her program, even though the program contains nothing but what she put in it. (Kind, 2018, pp. 241–242.)

Now, for a regular person running a computer simulation, it seems quite obvious that she can gain new information from it. However, that kind of case does not support Kind's argument, since the regular person observing the outcome of a computer simulation is not in an analogous position with respect to a person engaging in a so-called imaginative simulation. The reason is that she only makes the argument with reference to constrained imaginings that are guided by relevant background beliefs, and the person observing the outcome of a computer simulation typically does not have access to all of the constraining factors that guide the computer simulation. So, to analogize the positions of the person watching the computer simulation and the person engaging in imaginative simulation, she stipulates that the person watching the computer simulation "has all the beliefs that are embedded in the programming of the computer simulation" (2018, p. 238).

But this is not a helpful dialectical move. Although the stipulation analogizes the positions of the person watching the computer simulation and the person who engages in imagination, it is no longer clear that the person watching the computer simulation does gain new information about the world. After all, the computer simulation only serves to tease out the consequences of the beliefs that the person watching already has, indicating that the information provided by the simulation already was (implicitly) encoded in his beliefs.[22] What this means is that although a regular person observing the outcome of a computer simulation plausibly can get new information in that way, this is not true of the idealized person who "has all the beliefs that

[22] Here I assume that the simulation is run using deterministic or probabilistic algorithms. If the simulation were to be run using algorithms that allow for some extent of randomized outcomes, then this would only serve to reintroduce the disanalogy that motivated the aforementioned stipulation in the first place.

are embedded in the programming of the computer simulation" and who therefore is in the same position as the person engaged in imaginative simulation.[23]

As another possible objection, it has been suggested to me that perhaps imagination can do this by virtue of enabling abductive or inductive inference where the conclusion has more empirical content than the premise(s), and that the *Bed* scenario may be an apt example of this. In response, I want to motivate the second conjunct by noting that it is simply not clear that the information provided by inferences like the one discussed in the *Bed* scenario comes from the imagination. Sure, one may imagine that the bed will fit through the bedroom doorway, but that information does not have its *source* in imagination. Now it is very difficult to say exactly where the information comes from, but I will try to offer a tentative suggestion. In the case of deductive inference, it seems plausible (or at least so I would argue) that there is a sense in which the proposition *P* already contains the information *P or Q*, and that this is why we can deductively infer the latter from the former. The issue of induction and abduction is of course somewhat different, but I think something analogous may be going on in those cases. The inductive or abductive inferences one makes involve the teasing out of information that *already is* contained in the premise propositions. That the bed will fit through the bedroom doorway is of course not contained in the informational contents of one's perceptual experience of the bed or one's memory of the bedroom doorway in the way that *P* might be said to contain *P or Q*; rather, my claim is that we can analogize the cases when we properly take into account *all* of the constrainers that the subject relies on in the imaginative process that enables their abductive or inductive inferences, many of which the subject may not be consciously aware of, but which surely will include (dispositional or occurrent) beliefs about the spatial relations between the two objects. Although this is a somewhat tentative suggestion, I also want to note that this is a *general problem*, and that my argument does not require any specific solution so long as the information in question does not come from one's appropriately constrained imaginings—and I do maintain that this is plausible.

Given that the first and second premises of the modus tollens argument are true, imagination cannot provide new empirical information. In general, it seems that a mental state or capacity can only provide *new* empirical information, if its content is not contained in, or inferred from, other representational states within the same system. However, this is precisely what happens when one engages in constrained imagination. When one's imaginative episodes are constrained, they are guided by information already encoded in one's other representational states. Premise 2 should

[23] A possible objection is that my response to Kind implausibly assumes that we always have access to our constrainers. In response, I note that I do make this assumption, but I don't claim that we have *psychological* access to our constrainers; rather, we have *epistemic* access to them. In other words, my response to Kind assumes a kind of access internalism, similar to that of Egeland (2020b) and Smithies (2015), whereby we have higher-order propositional justification to believe what our constrainers are. Another way of putting the point is to say that an ideally rational counterpart—who has the exact same evidence and constrainers as you, but who always believes what they have propositional justification to believe (as long as they have any beliefs about the matter in question)—believes that they have the constrainers that they indeed do have (insofar as they have any doxastic attitude about the matter).

therefore be accepted: if one's imaginative episodes are guided by appropriate constraints, then they cannot provide any new empirical information.

Rejecting premise 3 is to claim that one's imaginative episodes can be vulnerable to the *VCO* or fail to provide any new empirical information, while at the same time generating justification of knowledge about contingent empirical facts. This is a highly implausible claim. First of all, it is clear that if one has imaginings that are vulnerable to the *VCO*, then it trivially follows (due to the way in which the *VCO* has been defined) that they cannot function as a source of empirical justification or knowledge. But what about imaginings that do not provide any new empirical information? Can such imaginings provide new empirical justification or knowledge?

Kind and Myers, for example, argue that they can. Both present analogical arguments, and since the argument of Kind has been addressed in the literature before (cf. Egeland, 2021b), I will focus on that of Myers. This is how he starts his argument:

> It is plausible that there are many imaginings which are in a position to justify beliefs that the constraining states are not in a position to justify on their own. An analogy to reasoning is helpful here. Consider a case of deductive reasoning where one starts with a set of axioms and traces out their logical entailments to arrive at a complicated mathematical theorem. Even if the initial set of axioms really does logically entail the resulting belief in the mathematical theorem, it is not enough to simply form the resulting belief on their basis. If the proof is sufficiently complicated, one cannot move in a single step from the axioms to the conclusion in an epistemically appropriate manner. One must also go through a number of inferential steps tracing out a proof for the conclusion from the axioms in order for the resulting belief to be justified. Going through these inferential steps allows the subject to transition from axioms to theorem in an epistemically appropriate manner. I contend that a similar process is at work in imagination. (Myers, 2021b, pp. 3257–3258.)

Here, Myers tells us that the epistemic function of imagination is analogous to that of deduction. In either case, one starts with a set of constrainers or beliefs, and using the ability in question one can tease out relevant entailments of those beliefs in such a way that one is able to draw appropriate inferences (cf. the previous paragraph quoted from Myers).

However, he continues by arguing that since imagination and deductive reasoning can be used to draw appropriate inferences in this way, this is evidence that deductive reasoning and imagination provide new justification over and above what is provided by the constrainers:

> As in the case of deducing a complicated mathematical theorem, the process of imagining can make certain inferential steps epistemically appropriate that otherwise would not be. . Without going through the process of tracing out what follows from the constrainers in imagination, the resulting belief would not be justified. If this is right, it undermines the idea that imagination is a mere heuristic. Imagination adds something epistemically over and above the constrainers.

> It allows subjects to transition from their initial set of evidence to a new belief in an epistemically appropriate manner. (Myers, 2021b, p. 3258)[24]

Similarly, Kind (2018) argues that constrainers are not themselves sufficient for justifying beliefs that we are unable, prior to using the imagination, to infer from them. Rather, what we need is an "understanding" of the inferential relationships between the constrainers and the relevant beliefs. Such an understanding can be acquired by using the imagination, and it is only after using the imagination in a way that facilitates such understanding that the beliefs become justified.

Now, the problem with this view is that it fails to recognize that our imaginative episodes play an *epistemically enabling* role, rather than generating any empirical justification or knowledge. For given that our (constrained) imaginings do not provide any new empirical information, they can only enable us to take advantage of evidential information (or other epistemic resources[25]) that we already are in possession of. Indeed, when we consider the relevant cases more carefully, we can see that this is precisely how the imagination functions.

If we have a set of axioms that we believe in and want to figure out whether they logically entail a certain theorem, it is not the case that the process of engaging in deductive reasoning generates any justification that is not already provided by the axioms (or, alternatively, one's belief in them). Regardless of whether one does the reasoning all in one's head, or whether one uses a pen and paper in the process, it can at best only enable one to take advantage of the justification that the axioms as a matter of fact confer upon the theorem in virtue of the fact that they entail its truth. Similarly, imagining, say, that a particular bed will fit through your bedroom doorway can at best only enable you take advantage of the justification provided by your constrainers, rather than functioning as a source of any new empirical justification. Simply put, the point is that the relations of evidential or justificatory support that exist between propositions cannot be altered by any subject's psychological process of deductive reasoning or imagination.

But a critic may ask, what about the fact that the belief in the *Bed* scenario (or any other such scenario) only becomes justified *after* one engages in imagination guided by appropriate constraints? After all, both Myers and Kind tell us that the reason imagination can generate new empirical justification is that one's belief that the bed

[24] I find Myers' argument somewhat equivocal, in the sense that I think he can be interpreted as an imaginative generativist, or as someone who endorses the more moderate position that imagination preserves (but does not generate) empirical justification. This, I believe, is largely due to the fact that he does not use the language propositional and doxastic justification. However, there are three reasons why I rely on the former interpretation in this paper: (i) Myers explicitly argues that imagination "adds something epistemically over and above the constrainers", and that without imagination "the resulting belief would not be justified". This seems to indicate that imagination adds or generates justification. (ii) The second interpretation would seem to suggest that imagination functions like a heuristic that enables us to form beliefs that are justified by other states, without itself providing any new justification. However, Myers (2021b) is clear that he rejects this view—thus indicating that he also rejects the second interpretation. (iii) In other work, Myers (2021a) contrasts his view with that of Egeland (2021b), who does argue that imagination functions like a heuristic, and Myers insists that "the imagination is capable of conferring some amount of defeasible justification" (p. 104).

[25] If we are to assume that evidentialism is false.

will fit through the doorway would not have been justified had one not had appropriately constrained imaginings beforehand.

However, as pointed out by Egeland (2021b), the problem with this line of reasoning is that this confuses two different types of justification. First, you can have *justification to believe* a certain proposition, regardless of whether or not you actually believe it. For example, after listening to the evening news you can have justification to believe that the murder rates have increased, but without actually believing it. Second, you can also have *justifiably held beliefs*. For example, if you come to believe the proposition above in a way that is properly based on that which gives you justification to believe it, then your belief is justifiably held. Following Firth (1978), we can say that the first kind of justification is justification in the propositional sense, whereas the second kind of justification is justification in the doxastic sense. Propositional justification is in other words a property of propositions, whereas doxastic justification is a property of beliefs (or other doxastic attitudes). Moreover, as doxastic justification commonly is analyzed as propositional justification plus proper basing,[26] we see that propositional justification is necessary, but not sufficient, for doxastic justification.

Now, with this distinction between propositional and doxastic justification mind, we can see how it can be that certain beliefs only become justified after having engaged in appropriately constrained imagination (cf. Egeland, 2021b). The reason is that our appropriately constrained imaginative episodes provide an understanding of how our background beliefs, memories, and experiences are inferentially related to the beliefs they justify. And it is by acquiring such an understanding that we are able to form doxastically justified beliefs on their proper justificatory basis. In other words, rather than functioning as a source of new empirical justification, imagination enables us to take advantage of propositional justification that we already are in possession of by forming inferentially supported beliefs on their proper justificatory basis—thereby turning the propositional justification into doxastic justification by satisfying the basing requirement. And, moreover, it should be clear that this is how the imagination functions in *Bed* and other similar scenarios. We have representational states that provide justification for certain beliefs. However, since the relevant inferential relations are not always clear to us, we can use imagination in order to understand them better. But doing this does not add to the justification one already has any more than engaging in deductive reasoning adds to the justificatory support a theorem receives from the axioms; it only enables one to take advantage of it.[27]

[26] See Kvanvig and Menzel (1990).

[27] An anonymous reviewer has objected that the difference between generating propositional justification and enabling one to take advantage of it by forming a doxastically justified belief on its proper basis is not large enough to merit interest. In response, I note that many contemporary debates in epistemology are precisely about whether certain states function as a *source* of some valued epistemic property, like justification or entitlement. Consider, for example, the debates concerning reductionism and anti-reductionism, and internalism and externalism about testimonial justification (Egeland, 2020a; Lackey, 2008), or the similar debates about memorial justification (Frise, IEP article on the epistemology of memory). Debates of this kind are of such epistemological significance that some textbooks are even structured around them (e.g., Audi, 2011).

Thus, we should accept premise 3: if one's imaginative episodes either are vulnerable to the *VCO* or cannot provide any new empirical information, then they cannot generate justification or knowledge about contingent empirical facts. The upshot of the dilemma is that imaginative generativism is false. Our imaginings are either vulnerable to the *VCO*, or they cannot provide any new empirical information. Either way, they cannot function as a source of new empirical justification of knowledge.

6 Conclusion

In this paper I have argued that imagination cannot generate justification or knowledge about contingent empirical facts. Section 2 started by offering some remarks on the nature of imagination. Section 3 focused on the traditional philosophical view of the epistemic function of imagination, and it presented the *VCO*. Section 4 presented imaginative generativism and discussed different views of imaginative constrainers. Section 5 presented a dilemma with the conclusion that imaginative generativism is false, and it defended each of the argument's premises.

I have argued that imagination can be used to take advantage of evidence one has, but that it does not generate justification or knowledge about contingent empirical facts. Moreover, I contend that it does not follow from this that imagination is "epistemically irrelevant", as some commentators have suggested (Kind, 2018). Rather, when our imaginative episodes are appropriately constrained, they can function as what I call *epistemic enablers*. An epistemic enabler is something that helps you take advantage of epistemic resources *that you already are in possession of*, but without generating any new (relevant) justification or knowledge. And by doing this, it should be clear that the imagination does have an important epistemic function. By, for example, helping you to convert your propositional justification into doxastic justification, the imagination enables you to improve your epistemic position by forming beliefs on their proper justificatory basis. The upshot is that both the traditional view and imaginative generativism are false. As an epistemic enabler, imagination is not exhausted by its ability to justify modal beliefs, but neither does it generate justification of knowledge for empirical beliefs.

Funding Open access funding provided by University of Agder

Declarations

Conflict of Interest The author declares that there are no conflicts of interest.

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