

The Epistemic Role of Vividness

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Abstract

The vividness of mental imagery is epistemically relevant. Intuitively, vivid and intense memories are epistemically better than weak and hazy memories, and using a clear and precise mental image in the service of spatial reasoning is epistemically better than using a blurry and imprecise mental image. But *how* is vividness epistemically relevant? I argue that vividness is higher-order evidence about one's epistemic state, rather than first-order evidence about the world. More specifically, the vividness of a mental image is higher-order evidence about the amount of first-order information one has about its subject matter. When vividness is sufficiently low, it can give one reason to doubt the epistemic basis of the mental image and thereby act as a defeater. This account has important implications for theorizing about the epistemic roles of memory, imagination, mental imagery, and phenomenal consciousness.

Keywords: Vividness, Vivacity, Imagination, Memory, Mental Imagery, Higher-Order Evidence, Epistemic Justification

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1. Introduction

Mental images come in varying degrees of vividness. Some are highly forceful, rich, and 'life-like,' while others are faint, blurry, and impoverished. Although vividness has been a topic of discussion in philosophy for centuries, very little attention has been paid to the epistemology of vividness.

This is surprising, since it is highly intuitive that vividness is epistemically relevant. Surely vivid, intense memories are epistemically better than weak and hazy memories, and surely using a clear and precise mental image in the service of spatial reasoning is epistemically better than using a blurry and imprecise mental image.

Contrasts like these motivate the view that vividness is epistemically relevant. But *how* is vividness epistemically relevant? I will argue that vividness is higher-order evidence about one's own epistemic state, rather than first-order evidence about the world. More specifically, the vividness of a mental image is evidence about the amount of information one has about its subject matter. Low vividness indicates that one does not have adequate first-order evidence about the content of the mental image, thereby giving one reason to distrust its epistemic credentials.

The paper is structured as follows. §2 and §3 set the stage, §4 argues that vividness is not first-order evidence, and §5 argues that vividness is instead higher-order evidence.

2. Vividness

This section makes some preliminary remarks about the notion of vividness.

First, I will focus on the vividness of mental imagery. Mental imagery is sensory representation in the absence of corresponding sensory stimulation and is present in both sensory imagination (as when I form a mental image of a beautiful sunset while daydreaming) and episodic memory (as when I form a mental image of my favorite restaurant in the process of recollecting the last time I ate there).

Vividness is sometimes predicated of mental states other than mental images. Hume claims that perceptions have more 'force' and 'vivacity' than images, thereby predicating vividness of perceptual experiences. Langkau (2021) distinguishes between vividness of mental imagery and vividness of imaginative experiences, which may involve mental images as proper parts, but which are more complex and holistic, involving interactions between imagistic, emotional, and embodied aspects. I will set aside vivid perceptions and vivid imaginative experiences in what follows. I leave it as an open question whether the epistemic role of vividness in mental imagery extends to the vividness of other mental states.

Second, the underlying nature of vividness is hotly debated. Although nearly everyone agrees that vividness is meant to capture some aspect of the phenomenology of

mental imagery that varies in degree, beyond this there is very little common ground. Some take the concept of vividness to be so obvious and familiar that it requires no definition. Hume famously says “I believe it will not be very necessary to employ many words in explaining this distinction” between vivid perceptions and unvivid images (1739/2007 p. 7). Against this, Kind (2017) argues that the concept of vividness is so confused that it should be excised from our philosophical terminology altogether. In between these two extremes, most recent discussions of vividness opt for a healthy pluralism. Tooming & Miyazono (2021) argue that vividness is a property cluster correlating with detail, clarity, perception-likeness, and intensity. Similarly, Langkau (2021) argues that mental images are vivid to the extent that they accurately imitate perceptual content, and that “*visual* mental images can imitate perceptual content more or less accurately along several dimensions: the degree of clarity, amount of detail, brightness, color intensity, and possibly more” (p. 41).

My goal is to make progress toward understanding the epistemic role of vividness without assuming or stipulating a theory of its nature. The intuition that vividness is epistemically relevant does not presuppose any metaphysics, and the account of the epistemic role of vividness that I offer in §5 is ultimately compatible with many theories of its nature.

3. Vividness is Epistemically Relevant

Intuitively, vividness is epistemically relevant. Consider a case of imaginative spatial reasoning. Suppose you are wondering whether your suitcase will fit into the trunk of your car. To arrive at an answer, you imagine trying to fit the suitcase inside the car. Intuitively, it matters whether you imagine the suitcase fitting into the trunk vividly or non-vividly. Imagining the suitcase fitting into the trunk vividly gives you better evidence for believing that the suitcase will fit than if you are only able to imagine it non-vividly. A non-vivid imagining may be sparse, imprecise, unclear, and faint, and it is plausible that this gives the imagining less epistemic power to justify belief.

Vividness is also epistemically relevant in the context of memory. Suppose you are at the grocery store and need to decide how many bananas to buy. In order to decide, you try to recollect how many bananas were out on your kitchen counter earlier this morning. Once again, it intuitively matters whether your memory of the bananas is vivid or not. A highly vivid memory of four bananas on the kitchen counter is in some sense better evidence for the belief that there were four bananas on your counter this morning than a memory with a very low degree of vividness. A vivid memory may be more rich, precise, clear, and intense than a non-vivid memory, and it is intuitively plausible that this gives it more epistemic power to justify belief.

The intuition that vividness is epistemically relevant finds its clearest expressions in Audi (2011), who says that “as our memories become less vivid, we tend to be correspondingly less sure that our beliefs apparently based on them are justified,” (p. 5) and Langkau (2021), who says that “a high level of vividness can explain the epistemic success of imaginative projects involving mental images” (p. 44). Moreover, I suspect that the epistemic relevance of vividness is sometimes implicitly assumed. For example, Kind (2018) argues that imaginings can justify beliefs by appealing to extraordinarily skilled imaginers. I take it that at least part of the motivation behind this is that their imaginings are extremely vivid and that this makes them good candidates for conferring justification. However, although some theorists acknowledge *that* vividness is epistemically relevant, no one has advanced an account of *how* vividness is epistemically relevant. This is the project of the rest of the paper.

4. Against Vividness as First-Order Evidence

A natural way to account for the epistemic relevance of vividness is to hold that the vividness of a mental image (at least partly) determines the degree of justification that it can confer. On this view, the vividness of an image is evidence that its content is true. We can formulate this thesis as follows:

Vividness as First-Order Evidence (VFO): Mental images with a greater degree of vividness can confer a greater degree of prima facie justification.

Prima facie justification is justification that is defeasible. By appealing to prima facie justification, VFO secures a direct role for vividness in modulating the amount of justification that a mental image confers, rather than an indirect role that modulates factors external to the mental image itself, such as the presence of defeaters.¹

I will argue that VFO is false by posing a dilemma. Either vividness is a matter of content, or it is a matter of non-representational phenomenology. On either conception of vividness, vividness is not relevant to the degree of prima facie justification conferred by a mental image. Therefore, VFO is false. Let me explain each horn of the dilemma in turn.

On the first horn, vividness is a matter of content, or what is represented by a mental image. This conception of vividness is defended by Fazekas (2023) and is suggested by appeals to detail, clarity, and precision. The amount of detail in a mental image is a matter of the amount of information that the image represents and the clarity or precision of a mental image is a matter of how determinate, specific, or fine-grained that information is. Let us call this conception of vividness *content vividness*.

The content vividness of a mental image determines which beliefs it can justify. Images with more detailed contents will be able to justify beliefs with more detailed contents, images with more precise or specific contents will be able to justify beliefs with more precise or specific contents, and so on. For example, if my memory of the bananas is not very content vivid, I may only be justified in believing that there were *some* bananas on my counter, and nothing else. But if my memory is extremely rich and detailed, I may not only get justification for believing that there were a specific number of bananas on

¹ This marks an important difference between VFO and my own account, argued for in §5, which accounts for the epistemic role of vividness by appealing to defeaters rather than prima facie justification.

my counter, but also justification for forming fine-grained beliefs about their size, shape, and color.

However, VFO does not say that vividness determines *which* beliefs are justified by an image. Instead, it says that vividness determines the *degree* of justification conferred by an image. It is much less plausible that content vividness can play this role. For example, as long as your mental image is content vivid enough to represent your suitcase fitting into the trunk, then no amount of extra content vividness will increase the amount of justification you get for this belief. Adding in detail about the color, texture, and shape of the suitcase might allow the imagining to justify additional beliefs about the suitcase, but it will not give you any additional justification for the belief that the suitcase will fit in the trunk. Similarly, if your memory is vivid enough to represent four bananas on your counter, then no amount of extra content will increase the degree of justification you get for this belief. Additional content allows your memory to justify additional beliefs, but it will not give you any more evidence that there were four bananas. So, content vividness does not vindicate VFO.

On the second horn of the dilemma, vividness is a matter of non-representational phenomenology, or what it is like to have a mental image independently of what it represents.² This conception of vividness is defended by Morales (2023) and is suggested by appeals to intensity and strength. It is natural to think of these as non-representational aspects of phenomenology; the very same content can be represented by an imaginative episode of greater or lesser intensity or strength. Let us call this conception of vividness *phenomenal vividness*.

Phenomenal vividness, like content vividness, is not relevant to the degree of prima facie justification conferred by mental imagery. This is supported by the fact that phenomenal vividness does not correlate with epistemic goods like truth or reliability.

² Strong representationalists deny that there is any non-representational phenomenology. They will still be subject to the first horn of the dilemma.

Phenomenally vivid images are often inaccurate. For example, I might form a highly vivid image of aliens invading New York City. Conversely, mental images with a low degree of phenomenal vividness can still be highly reliable. There is extensive empirical evidence that subjects who are unable to form vivid imagery are just as reliable at making accurate judgments based on their mental images as normal subjects, as indicated by their performance on reasoning tasks that implicate imagery such as mental rotation, mental scanning, and visual memory tasks.³

Instead, phenomenal vividness often correlates with epistemically irrelevant factors. For example, Herff et al. 2021 found that listening to music induces more vivid imagery, and Martarelli et al. 2016 found that subjects who are listening to sad music report less vivid daydreams compared to subjects who are listening to happy music. But, of course, background music does not put one in a better epistemic position. Moreover, mental images with emotionally valenced content are experienced as more phenomenally intense than emotionally neutral images (Bywaters, Andrade, & Turpin 2004, Bohanek, Fivush, & Walker 2005), and positively valenced images are more vivid than negatively valenced images (Alter & Balcetis 2011). But, the emotional valence of a mental image does not affect its justificatory force. Whether the content of an image is experienced as positive or negative is irrelevant to the degree of justification it confers. Compare: seeing a sad scene confers the same amount of justification as seeing a happy scene. Why should we expect mental imagery to be any different from perception in this respect? Since phenomenal vividness does not correlate with epistemic value and instead often correlates with epistemically irrelevant features, it is unable to vindicate VFO.

One might object that vividness should be identified with phenomenal force and that this avoids the dilemma for VFO. An experience has phenomenal force when it is associated with the phenomenology of seeming to be true (or accurate). Identifying

³ See Berger & Gaunitz 1977, Dean & Morris 2003, Jacobs et al. 2018, and Pounder et al. 2022.

vividness with phenomenal force is independently motivated: it captures a sense in which vivid imagery is ‘life-like’—accompanied by a feeling of presence or veridicality. This conception of vividness is a version of phenomenal vividness, since phenomenal force is an aspect of phenomenology that can vary independently of content. But many theorists have argued on independent grounds that at least some *prima facie* justification is grounded in phenomenal force.⁴ So, this strategy avoids the charge that phenomenal vividness is epistemically irrelevant.

I grant for the sake of argument that the phenomenal force of a mental image can at least partially determine the degree of justification it confers. However, I deny that phenomenal force on its own can capture the guiding intuition that motivated VFO in the first place. We can stipulate that the vivid and non-vivid imaginings of the suitcase fitting into the trunk are identical with respect to their phenomenal force—that they both make their contents seem veridical to the same degree—and the intuition that there is an epistemic difference between them persists. Even if both imaginings make it seem to you as if the suitcase will fit in the car trunk to the same degree, it is still plausible that the vivid one is epistemically better than the non-vivid one. Similarly, even if we stipulate that the vivid and non-vivid memories both make it seem to you as if there were four bananas on your counter, it is still plausible that there is a further epistemic difference between them that cannot be explained by appeal to phenomenal force alone. So, even if we grant that phenomenal force is epistemically relevant, it does not vindicate the intuitions that motivated VFO in the first place. Phenomenal force cannot be all there is to the epistemic role of vividness.

I conclude that on any plausible conception of vividness, degree of vividness does not determine the degree of *prima facie* justification that a mental image confers, and therefore that VFO is false. The vividness of a mental image is not first-order evidence

⁴ This view is sometimes called ‘phenomenal dogmatism’ or ‘phenomenal conservatism.’ See Huemer 2001, Tucker 2010, and Smithies 2019 for recent defenses.

that its content is true. If vividness plays an epistemic role, we will have to look elsewhere.

5. Vividness as Higher-Order Evidence

In this section, I will argue that vividness is epistemically relevant because it is higher-order evidence about a subject's own epistemic state. We can put this as follows:

Vividness as Higher-Order Evidence (VHO): The vividness of a mental image is evidence about the amount of first-order evidence one has about its subject matter.

My argument for VHO hinges on an empirical claim about the psychological determinants of vividness. Namely, that the vividness of a mental image is in large part determined by the amount of stored information one has about its content.⁵ The empirical evidence for this claim is extensive. Several studies find that events are imagined more vividly when they take place in familiar locations. For example, Robin & Moscovitch 2014 presented subjects with landmarks of varying degrees of familiarity (measured in terms of how many times the subjects had visited them) and asked them to either remember that location or imagine a hypothetical event that takes place at that location. The experimenters found that degree of familiarity correlates with both subjective and objective measures of the vividness of the remembered and the imagined scenes.⁶ Other studies have extended this finding and found that vividness corresponds to the familiarity of content elements beyond just location, such as people and objects. For example, Baddeley & Andrade 2000 found that those with more prior knowledge about birds were able to generate more vivid imagery of birds.⁷

⁵ Tooming & Miyazono 2021 argue for a similar thesis, which they call 'vividness-as-availability.' I am indebted to their discussion. However, they leverage this claim as an account of the nature of vividness, and do not use it to explain its epistemic role. For this reason, our views are distinct but complementary.

⁶ See also Arnold, McDermott, & Szpunar 2011, and Gaesser, Keeler and Young 2018.

⁷ See also Argembeau & Van der Linden 2012.

This correlation between vividness and prior information arises because mental imagery draws on information stored in long-term memory.⁸ For example, if you have a lot of prior experience with your suitcase, then you will have more raw materials that you can use to construct a vivid image of the suitcase fitting into the trunk. Similarly, your memory of the bananas will be more vivid if, in your initial experience, you focused your attention on them for a significant length of time, and thereby stored more information in memory than if you merely briefly glanced at them in your peripheral vision. This correlation is corroborated by several empirical studies. Baddeley & Andrade 2000 found that several different methods of disrupting long-term memory all decrease the vividness of associated mental imagery. More recently, D'Angiulli et al. 2013 found that vividness of imagery predicts success at incidental recall. They asked subjects to form mental images based on verbal cues and then rate the vividness of those images. Later, subjects were unexpectedly asked to recall those verbal cues. Their vividness ratings predicted their ability to remember the corresponding cue. The authors conclude that “vividness may act as an index of availability of long-term sensory traces” (p. 1). These results suggest that vividness has a primarily metacognitive function; it tracks facts about the mental process by which imagery is formed rather than facts about what the image represents.

The stored information that goes into constructing vivid mental imagery is itself epistemically relevant. The justificatory force of mental imagery partly depends on the justificatory force of the information that it is based on.⁹ Your imagining of the suitcase fitting into the car trunk confers more justification if you have owned the suitcase and the car for many years and thus have a wealth of stored information about each object than if your imagining is merely an educated guess about their size and shape. Similarly, it is

⁸ Mental images may themselves be stored in and retrieved from memory, or they may be constructed based on other representations stored in memory. My account is compatible with both possibilities.

⁹ See Myers 2021 for a more detailed defense of this claim.

plausible that your memory of the four bananas on your counter confers more justification if you looked directly at the bananas from multiple angles than if you briefly glimpsed them in the periphery of your vision.

This puts us in a position to explain away intuitions in favor of VFO. The relationship between vividness and first-order justificatory force is a spurious correlation. The amount of available prior information about a mental image's subject matter is a third factor that simultaneously determines both its vividness and its justificatory force, and this explains why vividness might have appeared to determine the degree of first-order justification it confers in the first place.

Moreover, the fact that there is a correlation between vividness and stored first-order information supports VHO. The vividness of an image is higher-order evidence about the amount of first-order evidence one has about its subject matter. If you find that you can vividly imagine the suitcase fitting into the trunk, then this is some evidence that you have a large amount of information regarding the size and shape of the suitcase and trunk to draw on in constructing that imagining. By contrast, if you are unable to vividly imagine the suitcase fitting into the trunk, then this indicates that you do not have much evidence regarding the size and shape of the suitcase and trunk.

However, vividness only acts as a proxy for the *amount* of information one has, and not the *epistemic status* of that information. Suppose I vividly imagine an alien invasion. This imagining is vivid, in part, because I have seen many science fiction movies involving alien invasions, and thus have many stored sensory representations of alien invasions to draw on in constructing my mental image. But these representations do not justify a belief that an alien invasion is imminent. Information that is explicitly fictional cannot justify beliefs about the actual world, even if it can play a role in constructing a vivid image.

So, there is an asymmetry in the kind of higher-order evidence that vividness can provide. Vividness can only act as negative higher-order evidence and not as positive

higher-order evidence. If you are not able to form a vivid imagining of your suitcase fitting into the car trunk, this can act as higher-order evidence that you do not have adequate first-order evidence about this subject matter. This higher-order evidence gives you reason to distrust your imagining, and therefore defeats any first-order prima facie justification that it confers. But, if you instead find that your imagining is highly vivid, this only tells you that you have lots of stored representations of the suitcase and car trunk to draw on in constructing your mental image. It doesn't tell you anything about the epistemic status of those representations. You might, for example, have lots of unjustified beliefs about the shape and size of the suitcase that allow you to form a highly vivid imagining of the suitcase, but which do not themselves confer any justification. So, a high level of vividness is not evidence that an image is based on adequate evidence, even though suitably low vividness is evidence that an image is *not* based on adequate evidence. The sense in which a high level of vividness plays a positive epistemic role is more subtle; high vividness fails to generate a defeater, which can allow the prima facie justification conferred by an image to be converted into ultima facie justification. I conclude that VHO is true; vividness plays an epistemic role as higher-order evidence.¹⁰

6. Conclusion

I have argued that vividness of mental imagery is higher-order evidence about a subject's epistemic state, rather than first-order evidence about the world. More specifically, I argued that the vividness of a mental image is determined by the amount stored information it is based on, and that this supports an epistemic role for vividness according to which it is higher-order evidence about the amount of first-order evidence one has about the subject matter of a mental image. When vividness is sufficiently low, it

¹⁰ VHO is compatible with both conceptions of vividness discussed in §4. It is compatible with content conceptions of vividness insofar as it is plausible that drawing on more stored information would result in a richer and more detailed image, and it is compatible with purely phenomenal conceptions of vividness insofar as it is plausible that drawing on more stored information would result in a stronger and more intense phenomenal experience.

can give one reason to doubt the epistemic basis of a mental image and thereby act as a defeater. This account picks out an epistemic role for vividness that has gone unnoticed and that has important implications for theorizing about the epistemic roles of memory, imagination, mental imagery, and phenomenal consciousness.¹¹

¹¹ I would like to thank Seth Goldwasser, Luke Roelofs, Uku Tooming, Gabby Zhang, and two anonymous reviewers for helpful comments, as well as audiences at the 2023 meetings of the Southern Society for Philosophy and Psychology and the European Society for Philosophy and Psychology.

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