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ARTICLE

Two Kinds of Imaginative Vividness

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Abstract
This paper argues that we should distinguish two different kinds of imaginative vividness: vividness of mental images and vividness of imaginative experiences. Philosophy has focussed on mental images, but distinguishing more complex vivid imaginative experiences from vivid mental images can help us understand our intuitions concerning the notion as well as the explanatory power of vividness. In particular, it can help us understand the epistemic role imagination can play on the one hand and our emotional engagement with literary fiction on the other hand.

Keywords: vividness; imagination; mental Images; imaginative experiences

1. Vividness

The notion of vividness has traditionally served to describe a phenomenal difference between perceptions, memories, and imaginings. Famously, David Hume (2000, 11) claims that "impressions," i.e., perceptions, have more "force" and "vivacity" ("vividness" in what follows) than memories and imaginings. But vividness has also served to distinguish different kinds of imaginative engagement with text, e.g., engagement with literary fiction on the one hand and engagement with nonfiction (e.g., Currie 2014) or with thought experiments (e.g., Gendler 2011) on the other hand.

Amy Kind (2017) has cast doubt on the usefulness of the notion of vividness in our attempt to understand the nature of imagination. After scrutinizing recent accounts in philosophy and finding them all wanting, she concludes that the notion of vividness is at best poorly understood, but likely resists analysis. We should therefore not rely on it in our attempts to understand the various roles imagination can play. Kind then gives two examples which show how our expectations on vividness cannot be fulfilled given that the notion is poorly understood (48). I will call them *skeptical puzzles* concerning vividness. First, imagining in the context of literary fiction usually generates more emotions than imagining in the context of epistemological projects. Literary fiction is also thought of as evoking more vivid imaginings than modal epistemology, and it is tempting to think that this explains our emotional engagement with literary fiction. However, it is not clear how currently available accounts of vividness could help us explain why we engage emotionally with fiction but not with thought experiments or other counterfactual projects. Second, many philosophers think that imagination can be a source of knowledge about the world, similar to perception or memory. However, imagination is also thought of as less vivid than perception and memory, which suggests that imagination is not a good source of knowledge about the world. Since we don't know how exactly the lack of vividness makes imagination fall short of perception and memory, we cannot determine whether this difference in vividness is epistemically relevant. Kind concludes that we should retire our reliance on vividness.

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I agree that we should retire the notion of imaginative vividness in its general form. There is not a single notion of vividness that can explain the epistemic potential of imagination and the fact that we sometimes engage emotionally in response to (or as part of) our imaginings and sometimes not. However, I will argue that distinguishing and keeping apart two different phenomena underlying our intuitions concerning vividness helps clarify both. These two phenomena apply to two different aspects of our imaginative capacities, and distinguishing them is a precondition of our understanding of the epistemic role and affective potential of imagination. I will argue that vivid *mental images* are mental images that accurately imitate perception with respect to some features of it and to a certain degree, and vivid *imaginative experiences* are relatively intense imaginative experiences that do not necessarily imitate the corresponding real life or target experience. While the first phenomenon helps us understand the potential epistemic role of imagination, the second phenomenon explains different kinds of imaginative engagement with different kinds of text. As we will see, philosophy has focussed on the vividness of mental images and given less or no attention to the vividness of imaginative experiences.

In section 2, I present some accounts of vividness that have been given in the philosophical literature and that Kind finds wanting. In section 3, I show that we can adapt Elspeth Jajdelska et al.'s (2011) account of vividness in the imagination of faces, which directly addresses our emotional engagement in response to vivid descriptions, and I will apply it to imaginative experiences more broadly. I present an account of vividness as accuracy of mental images in section 4. In section 5, I show how the two different notions can do the explanatory work we commonly expect vividness to do, and I conclude in section 6 that we should abandon the idea that there is a single notion of vividness.

2. The notion of vividness in philosophy

According to Kind, vividness is a "phenomenological descriptor," it "distinguishes imaginings from one another on experiential grounds" (2017, 39), and it comes in degrees. Kind discusses four different phenomenal features possibly underlying the notion of vividness: clarity, amount of detail, brightness, and color intensity. She argues that neither of these features taken alone match our intuitions concerning the notion of vividness, and then considers and refutes defining the notion as a combination of said features.

The first two features are the clarity and amount of detail of the imagining, both of which Hume mentions as features of ideas.[1] Kind suggests that we should understand clarity as either opposed to fuzziness or blurriness as in perception, or as opposed to being out of focus, parallel to how clarity is understood in photography. However, she argues, while it seems appropriate to describe a mental image of a face as less clear than a perception, the mental image doesn't seem to be fuzzy, and it doesn't seem to lack clarity in the same way a photograph can lack clarity:

> When I imagine someone or something—as when I imagine my spouse while he's away—it does often seem natural to describe my imaginative experience as less clear than a typical perceptual experience of him. But my experience in imagining his face isn't fuzzy in the way my first-thing-in-the-morning perceptual experience of the clock is fuzzy, and it is not like a photograph whose edges need sharpening. (Kind 2017, 41)

Kind concludes that it is unclear what clarity is supposed to mean when applied to mental images. Note that the notion of clarity used in photography is a technical notion that should not be of further interest: we do not have to make "vividness" coherent with closely related technical terms. In contrast to Kind, I think that the notion of clarity we apply to perception might be quite

[1] See Govier (1972, 46). Clarity also features prominently in some psychological accounts of vividness Kind discusses, especially in Francis Galton (1880) and David Marks (1973); see Kind (2017, 35–38).

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appropriate when applied to mental images (though face imagining might work differently; see section 3). To me, trying to "look" at a clock in my imagination is a lot like looking at a clock without wearing my glasses: the image is blurry. But of course this doesn't mean that vividness can be reduced to clarity in this sense, i.e., there might be cases in which my inner "vision" is blurry yet the imagining is vivid.

The suggestion that imaginative vividness consists in the amount of detail of the imagining seems intuitive as well. However, Kind notes that how detailed a representation is depends both on facts about the representation and on facts about what is being represented. For instance, imagining an empty or barely lit room does not require much detail, but we can imagine an empty or barely lit room more or less vividly. Another way of understanding the amount of detail is in terms of determinacy. An imagined tiger, for instance, usually does not have a determined number of stripes, while a perceived tiger does. However, it is possible that we imagine a tiger with an indeterminate number of stripes more vividly than a solid black panther.

Kind rejects the third suggestion, that imaginative vividness consists in the brightness of the imagining, for a similar reason: vividness doesn't capture the difference between a room in dim light and a room in full light. Or, to give my own example: we can vividly imagine a cat hunting at dawn.

The fourth suggestion says that imaginative vividness consists in the color intensity of an imagining. However, Kind notes that imaginings in black and white can be as vivid or even more vivid than imaginings in color. For instance, we can vividly imagine a scene in the movie *Psycho*: "the knife coming at Marion Crane (Janet Leigh), as she screams in horror" (2017, 25) in black and white.

Finally, imaginative vividness may consist in a combination of relevant features, with at least some of them rising above a certain threshold. But according to Kind, simply giving a list of relevant features is not sufficient,[2] and providing more than such a list seems too difficult and unlikely to be successful. Kind concludes that imaginings are indeed more vivid when they are more perception-like, and that the reason we cannot be more precise must be because there is not enough content to the notion of vividness (2017, 46–47).

I agree with Kind that clarity, amount of detail, brightness, and color intensity taken individually don't cover all our intuitions concerning vividness. Moreover, the suggested accounts don't seem to be able to explain our emotional reactions to literary fiction. For instance, why would a blurry or fuzzy face evoke less emotions than a clear one? Or why would a color intense image evoke more emotions than a black and white one? There is no necessary connection between the suggested features of imaginings and our emotions, and it seems unlikely that there would be a psychological one. Yet intuitively, vividness should at least be part of an explanation of our emotional engagement with fiction.

In the next section, I will thus present an account of vividness that directly addresses the idea that vivid imaginings involve emotions. This account is concerned with imaginative experiences rather than with mental images. Philosophy has focussed on mental images, but vividness of mental images has little in common with vividness of imaginative experiences. If we distinguish between mental images and imaginative experiences, we can see that two different phenomena are responsible for the effect that has been called *vividness*. Our intuitions on the notion concern both phenomena, and they sometimes get mixed up. I will return to vividness of mental images in section 4.

3. Vivid imaginative experiences

An account which directly addresses the idea that vivid imaginings involve emotions has been given by an interdisciplinary group of researchers, Elspeth Jajdelska et al. (2011), who focus on the imagination of faces. The authors distinguish two different models of vivid face imagination in

[2]As, e.g., in Budd (1989) or Thomas (2009).

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response to literary fiction. The first model, the jigsaw model, has been applied as a tool for crime detection.[3] Eyewitnesses are asked to reconstruct the face of a suspect by choosing amongst a variety of pictures of different parts such as eyes, nose, mouth, etc. According to this model, the author of a literary text provides detailed and accurate information about the face they either see or imagine, on the basis of which the reader then reassembles the (imagined or existing) face in the imagination, similar to the pieces of a jigsaw puzzle, to recreate an accurate mental image of the face. Accuracy is defined as "the degree to which any mental image of a face created by reading the description might be thought to resemble the original in physical detail" (Jajdelska et al. 2011, 439).[4] Once the face is reassembled, the reader then reacts emotionally to their mental image, as they would react to a perceived face. This is what psychologist Paul Ekman has in mind when he writes the following:

> I imagine that written language is converted into sensations, pictures, sounds, smells, or even tastes, in our mind, and once this happens, these images are treated like any other event by the automatic-appraisal mechanisms to arouse emotions. If we could block the production of those images, I believe emotions would not be evoked through language alone. (2003, 35)

While the jigsaw model is the commonsensical model, Jajdelska et al. provide empirical evidence in support of their thesis that it is misguided: it seems that vivid imagination is not evoked by a correct description of a face. The model defended by the authors, the experiential model, claims that vivid imagining in response to a literary description of a face is a holistic experience, i.e., it is not something we assemble in separate parts following a description of these parts. Instead, it is itself emotional and embodied, where this means it arises from a bodily experience: our sensorimotor cortex becomes activated in a similar way to if we were experiencing in real life what we imagine.[5] For instance, vividly imagining a blushing face "would arise from an embodied understanding of what it is to blush" (Jajdelska et al. 2011, 439). The mental image of the imagined face, if the imagining includes such a mental image at all, does not necessarily resemble the face seen or imagined by the author of the literary text. Jajdelska et al. thus think that accuracy in the representation is not necessary for vividness of face imagination, but *intensity* is:

> We contrast our definition of vividness in response to descriptions of faces (emphasizing intensity of experience) with our definition of accuracy (emphasizing an accurate mental image of the face). (Jajdelska et al. 2011, 434)

The authors assume that intensity of the imagined experience of a face comes with similarity to the original experience:

> […] we limit *vividness* to the following sense: the degree to which the reader feels as though he or she is looking at the face itself in the relevant context. (Jajdelska et al. 2011, 439)

Vividness as intensity thus reflects the degree to which an imaginative experience is like the corresponding real-life experience. The more the imaginative experience is like the corresponding real-life experience, the more vivid it is (Jajdelska et al. 2011, 441).

Jajdelska et al. make predictions as to what are some features of a text that are likely to provoke a vivid imaginative experience of a face, i.e., an imaginative experience that makes us feel as if we are looking at a face. One feature is the description of moral or emotional qualities of a face, as in Henry James's *Portrait of a Lady*: "He had an ugly, sickly, witty, charming face, furnished but by no means

[3]The method, known as "Photofit" in the United Kingdom and as "Identikit" in the United States, was shown to be of little value by Davies and Ellis (1978) and Ellis, Davies, and Shepherd (1978); see also Jajdelska et al. (2011, 440–41).

[4]To be precise: the mental image of the face is thought to resemble the perceptual image of the face, not the actual face.

[5]The empirical evidence Jajdelska et al. quote includes findings on the so-called "verbal overshadowing effect," the similarity between imagining and remembering and perceiving, and the mirror neuron system and embodied responses (2011, 441–45).

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decorated with a straggling moustache and whisker." Another one is the description of changes and movements, as in Vladimir Nabokov's *Lolita*: "Her very wide-set sea-green eyes had a funny way of traveling all over you, carefully avoiding your own eyes. Her smile was but a quizzical jerk of one eyebrow." And another one is describing the face as a whole, rather than listing individual features, and describing facial boundaries (Jajdelska et al. 2011, 447).

Jajdelska et al.'s account is limited to face imagination. However, we might be able to apply the authors' predictions as to what makes our imagining in response to descriptions vivid to literary text more generally. Imagine walking through a winter landscape: there is fresh snow on the trees, on the hills and rocks around you, and, in the background, you see snow-covered mountains. It has stopped snowing and some blue sky and sunlight are getting through the clouds and reflecting off the snow. Now read this passage from Thomas Mann's *The Magic Mountain* and imagine:

> Yet there was a momentary hint of blue sky, and even this bit of light was enough to release a flash of diamonds across the wide landscape, so oddly disfigured by its snowy adventure. Usually the snow stopped at that hour of the day, as if for a quick survey of what had been achieved thus far; the rare days of sunshine seemed to serve much the same purpose—the flurries died down and the sun's direct glare attempted to melt the luscious, pure surface of drifted new snow. It was a fairy-tale world, child-like and funny. Boughs of trees adorned with thick pillows, so fluffy someone must have plumped them up; the ground a series of humps and mounds, beneath which slinking underbrush or outcrops of rock lay hidden; a landscape of crouching, cowering gnomes in droll disguises—it was comic to behold, straight out of a book of fairy tales. But if there was something roguish and fantastic about the immediate vicinity through which you laboriously made your way, the towering statues of snow-clad Alps, gazing down from the distance, awakened in you feelings of the sublime and holy.[6]

Which one of your imaginings was vivid or more vivid: the one evoked by the first description or the one evoked by Thomas Mann's description? Let us look at Jajdelska et al.'s predictions as to what leads to a vivid imaginative experience of a face and apply them to Mann's description of a winter landscape. In the following passage, the description of changes and movements and the use of evaluative and emotional language are emphasised:

> Yet there was a momentary hint of blue sky, and even this bit of light was enough to **release a flash of diamonds across the wide landscape**, so **oddly disfigured** by its snowy adventure. Usually the snow stopped at that hour of the day, as if for a quick survey of what had been achieved thus far; the rare days of sunshine seemed to serve much the same purpose—the flurries died down and the sun's direct glare attempted to melt the luscious, pure surface of drifted new snow. It was **a fairy-tale world**, child-like and **funny**. Boughs of trees adorned with thick pillows, so fluffy **someone must have plumped them up**; the ground a series of humps and mounds, beneath which slinking underbrush or outcrops of rock lay hidden; a landscape of **crouching, cowering** gnomes in droll disguises—it was **comic to behold**, straight out of a book of fairy tales. But if there was something roguish and fantastic about the immediate vicinity through which you laboriously made your way, **the towering statues of snow-clad Alps, gazing down from the distance**, awakened in you **feelings of the sublime and holy**.

Besides the description of changes and movements and the use of evaluative and emotional language, the text moreover offers something quite similar to a description of facial boundaries: a description of the visual boundaries of the landscape ("the towering statues of snow-clad Alps, gazing down from the distance"). It is plausible to assume that this description of a walk through a

[6]Thomas Mann, translated by John E. Woods: https://www.goodreads.com/author/quotes/19405.Thomas_Mann.

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winter landscape evokes an intense experience in the reader, or at least in some or most readers, which is arguably more vivid than what we imagine when given a more simple description of the target experience such as the one above, or a merely very detailed description of certain features of the landscape.

Recall that a "vivid" imaginative experience of a face is imitating a real-life experience of a face, according to Jajdelska et al. However, it is questionable whether the reader of Mann's description really feels as though they are walking through a winter landscape. It seems that what makes the imaginative experience intense at the same time makes it much different from a real-life experience. My thesis is that a vivid description—e.g., of a winter landscape—evokes an intense (holistic, embodied, emotional) imaginative experience of a winter landscape, but the experience does not, at least not necessarily, resemble the real-life experience of walking through a winter landscape.

In his paper "Imagination: A Lens, Not A Mirror," Nick Wiltsher (2019) has criticized the idea that imagination generally imitates real-life activities and experiences. Instead, he suggests we should think of imagination as applying a lens to real life. We should think of imaginative activities and experiences "as acts in which the contents and characters of other experiences are brought into focus, through attentive concentration, refinement, or distortion" (8). While I do not think it is correct that all imaginative phenomena don't aim to imitate real-life activities or experiences, I think it is correct for the case of imaginative experiences in our engagement with literary fiction. In the case of vivid imaginative experiences in our engagement with literary fiction, what makes our imagining vivid is very much the distortion brought about by the particular way in which the target (e.g., the experience of walking through a winter landscape) is presented. A distinction introduced by Luke Roelofs (Forthcoming) provides a helpful framework. According to Roelofs, an imaginative act has two aspects: what it targets and what it (re)creates. In the example above, what our imaginative act targets is the experience of walking through a winter landscape, and what it recreates in response to reading the paragraph includes, e.g., visual images of gnomes. My claim is that in the case of literary descriptions, the experience we are supposed to (re)create does not necessarily resemble the experience our imagination targets.

Let me explain this in more detail. First of all, there is obviously not one way to experience walking through a winter landscape. Usually, when walking through a winter landscape, I'm concerned with not getting hit by snow falling from the trees, not getting any snow into my boots—and, yes, I might also enjoy the reflecting light in the snow and the view of the Alps in the background, but I'm usually not seeing snow-covered rocks as gnomes in droll disguises, or snow on the trees as fluffy pillows, and I'm certainly never thinking about the sublime. It seems safe to say that the way in which our imagined experience of the winter landscape is made vivid distinguishes it from the way we usually experience a winter landscape.

Suppose, for the purpose of the argument, that Mann's description makes me feel as though I was walking through a winter landscape, where the target experience includes having all the thoughts expressed in the description. Having these thoughts and seeing things as described by Mann is part of the experience my imagining is aiming to imitate. But this clearly misses the point, since the purpose of the description of changes and movements and the use of evaluative and emotional language is to make my imagining of the target experience vivid. For instance, describing the snow-covered rocks as gnomes is making my imagining of seeing or somehow experiencing these rocks vivid, it is not making my imagining of seeing or somehow experiencing the rocks as gnomes vivid. The target experience includes an experience of rocks, not an experience of rocks-as-gnomes and correspondingly, I'm supposed to vividly imagine experiencing snow-covered rocks and not snow-covered rocks-as-gnomes. Hence, what makes the imagining vivid is the way in which a certain target experience is presented to me, i.e., it is the way in which I imagine the target experience.

We would otherwise have to say that we cannot vividly imagine walking through a winter landscape *simpliciter*, we can only vividly imagine walking through a winter landscape while experiencing rocks as gnomes, etc. This would mean that the "experiencing-as"-relation is part of the target experience, rather than a way in which we imagine that experience. It would also imply

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that what we can imagine vividly is a matter of content. However, it seems that we can imagine any experiential content vividly: walking through a winter landscape, seeing snow-covered rocks, etc. The idea is that metaphors or descriptions of "experiencing-as" evoke in us certain emotions, bodily reactions, memories etc. which make the imagining of the target experience vivid, but the "experiencing-as"-relation is not part of the target, because it is not (or not necessarily) part of the real-life experience.

Of course, imagining experiencing snow-covered rocks as gnomes adds something to the content of the imagined. It means to imagine experiencing the rocks in a certain way, potentially adding specific memories, associations, and emotions to it. But different literary descriptions might have a similar effect on the reader while using different means to evoke this effect, i.e., a vivid imaginative experience of snow-covered rocks. For instance, instead of inviting us to imagine experiencing snow-covered rocks as gnomes, a description might invite us to imagine experiencing snow-covered rocks as bent-over elderly people.

It seems thus that our vivid imaginative experience of a winter landscape in response to reading Mann's text is more intense than a nonvivid imaginative experience, but it is also much different from experiencing walking through a winter landscape in a real-life situation. Hence, we have to abandon the idea that an intense experience evoked by a literary description is necessarily an imitation of the real-life target experience.

Recall that, apart from the claim that intensity contributes to the imaginative experience of a face being like a real-life experience of a face, i.e., holistic, emotional, and embodied, Jajdelska et al. do not say much about what they take "intensity" to be. The assumption seems to be that real-life experiences of faces are generally more intense than imaginings of such experiences, and the better an imagining imitates a real-life experience of a face, the more intense it is. However, clearly not all real-life experiences are more intense than imagined experiences. So in order to apply the notion of vividness as intensity to imagined experiences more generally, we need to say more about the notion of intensity.

In psychology and neuroscience, intensity is usually the quantitative value of a sensation. This value can be tested through quantitative sensory testing (QST), for instance in order to determine pain thresholds (e.g., Rolke et al. 2006). But not only sensations can come with different quantitative values, emotions can too. Hence, intensity measures the quantitative value of an embodied and/or emotional imaginative experience. Recall that vivid imaginings of faces are holistic because face perception and face memory are holistic, i.e., parts of faces such as nose, mouth, and eyes are not processed and represented separately, but rather always within the context of the whole face (see, e.g., Tanaka and Farah, 1993). Accordingly, assembling a face from detailed descriptions of parts does not lead to an embodied and emotional imagining of a face. It is plausible to assume that we generally don't get an emotional and embodied imaginative experience if we just assemble a mental image by following detailed and accurate descriptions. Hence, vivid imagining in response to literary fiction generally is holistic in the sense that it doesn't get triggered in response to a detailed description of parts, but rather to a description that directly speaks to our emotions and embodied experiences. The higher the overall quantitative value of our emotions and embodied experiences is, the more vivid is our imagining in response to a literary text.

Let us think about our example again. When reading the passage by Mann, we have a complex imaginative experience. As part of it, we might, for instance, experience an embodied, motoric/kinesthetic image of walking through deep snow, a tactile image of a fluffy pillow, and an emotionally charged but blurry visual image of a gnome.[7] The motoric/kinesthetic image makes our imagining

[7]Philosophy often focusses on visual images and only sometimes acknowledges that there are mental images of other sensory modalities as well, i.e., auditory, olfactory, gustatory, and tactile images. Besides mental images from the external senses, there are also interoceptive (pain, hunger, etc.), proprioceptive (balance, limb, and organ position), and motoric/kinesthetic (effort, acceleration, etc.) images; see Kuzmicova (2014, 275–76).

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similar to the real-life target experience of walking through a winter landscape. Arguably, the more this imagining resembles a real-life experience of walking through snow, the higher is its quantitative value and the more intense it is. The more the tactile image of a fluffy pillow resembles an actual experience of feeling a fluffy pillow, the higher its quantitative value is and the more intense it is, but this likely adds something to the imagined experience which is not part of the target experience of walking through a winter landscape. Finally, the emotionally charged visual image of the gnome is not something we usually experience when walking through a winter landscape. Say this mental image comes with a kind of quirky amusement. Our amusement can then come with different quantitative values, and a higher value makes our imaginative experience more vivid. Hence, the more intense our embodied and emotional imagining is, the more vivid is our imaginative experience of walking through a winter landscape. As we can see, an imaginative experience in response to a literary text is complex, and many parts of it can contribute to its intensity.[8]

To sum up: Jajdelska et al. argue that accuracy of mental images is not what makes face imagination vivid. Instead, vivid face imagination imitates real-life experiences of faces. As imitations of experiences, vivid imaginings of faces are intense (holistic, emotional, embodied). I have argued that we can apply Jajdelska et al.'s account of vividness as intensity to experiences in our engagement with literary fiction more generally, but we have to abandon the idea that a vivid experience necessarily imitates the target experience. Instead, a vivid imaginative experience in our engagement with literary fiction simply has a high level of intensity as explained above.

4. Vivid mental images

While Jajdelska et al. wish to restrict vividness in face imagination to intensity of complex imaginative experiences, they acknowledge that we can also call mental images "vivid." The term "mental image" is here used in a narrow sense, in which it applies to images of the external senses only. According to Jajdelska et al., when we apply "vividness" to mental images thus defined, we mean "the degree to which mental images, however they arise, resemble objects in real life or objects whose perceptible features can be inferred from texts" (2011, 434).[9] In this section, I will elaborate on how we should apply the notion of vividness to *visual* mental images.

In a recent paper, Margherita Arcangeli (2019) distinguishes between two ways of understanding the use of the notion of mental imagery in the literature. The first way of understanding it is by taking it to be the same as perceptionlike or sensory imagination: the psychological attitude that recreates perception. We are then dealing with a perceptionlike attitude in the sense that phenomenal and functional attitudinal features of perception are imitated by sensory imagination, while still being phenomenologically distinguishable and functionally distinct (4–6).

The second way of understanding the notion of mental imagery which can be found in the literature is not exclusively linked to sensory imagination. According to this sense of mental imagery, we are not dealing with an attitude, but rather with a certain type of mental content:

> Here mental imagery is linked with what is represented, with a particular type of mental content, namely sensory content. (…) Having a mental image of a flower would be bringing to our mind a sensory (i.e., visual, olfactory) presentation of a flower without the stimulation of our vision or olfaction by an external flower. (Arcangeli 2019, 8–9)

Sensory content can be grasped through different attitudes, for instance belief, memory, desire, and imagination. Arcangeli argues that we should use "mental imagery" in this sense only, which

[8] I am aware that more needs to be said concerning the notion of intensity. One question is what a maximally intense experience would be like, and what hyperfantasia could teach us about intense imagining. For instance, it could be the case that, for some people, imagined experiences are generally more intense than real-life experiences.

[9] Again, instead of "objects in real life," it should be "perception of objects in real life" here, see also footnote 4.

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allows us to endorse what she calls an "attitudinal theory of imagination": the view that imagination is an attitude which can take different kinds of content. If we agree with Arcangeli that mental imagery is a type of content, i.e., sensory content, we can distinguish different ways in which this content is represented through various attitudes. As sensory content, mental images are an imitation of perceptual content and phenomenologically not exactly the same as the content given through sensory perception. According to Arcangeli, mental images are "less rich and less fine-grained than the sensory content we can grasp via perception" (2019, 9). Similarly, Alex Byrne thinks that the content of mental images is "degraded and transformed" in the imagination, compared to the content of perception (2011, 118).[10] Note that vividness only concerns *some* phenomenal differences among mental images and between mental images and perceptual content; it does not cover all differences. For instance, it does not cover the observation that only perceptual content comes with a "feeling of presence" (Nanay 2016, 128).

I take it that the level to which a mental image is phenomenally "rich" or "fine-grained" and not "degraded," thus phenomenally similar to perceptual content, is the level of accuracy in the imitation of perceptual content, and is what we refer to when we speak of "vividness" with respect to mental imagery. *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. The degree to which the visual mental image doesn't lack accuracy with respect to these features is the degree to which it is vivid. A vivid visual mental image is thus one that imitates a perceptual content accurately to a certain degree and with respect to at least one feature.

One objection against the notion of vividness as accuracy in the imitation is that we can have more or less vivid mental images of unicorns, gnomes, and all kinds of things we have never perceived. In what sense would my mental image of a unicorn be more or less accurate? The answer is that my mental image would more or less accurately imitate what I would be presented with if I was presented with a similar perceptual experience of a unicorn under ideal circumstances. For that matter, the phenomenology of my imagining imitates to a higher or lower degree the relevant phenomenal features of a hallucination of a unicorn, where a hallucination is a perceptual experience without actual perception of the world (Macpherson 2013, 7). The same objection also applies to intentionally or unintentionally imagining random objects without having a specific target in mind. In what sense can I imagine a random blue chair more or less accurately? Well, in the sense that I can imagine such a chair more or less clear, with more or less detail, and with greater or lesser degree of brightness and color intensity. The phenomenology of my imagining imitates to a higher or lower degree a hallucination of a chair under ideal circumstances.[11] What is more or less accurate is not how the mental content imitates a *particular* perceptual content, but rather how the mental content imitates certain phenomenal features of perceptual content *under ideal circumstances.*

One could also object that sometimes, sensory content presented in the imagination seems more vivid than a certain perceptual content. This may well be the case, since we are comparing mental content to perceptual content under ideal circumstances. However, an image could seem even more vivid in the imagination than the perceptual content under ideal circumstances, or even more vivid than possible in perception. For instance, the fur of a cat could be very color intense, almost glowing in my imagination. In this case, my mental image of the cat would simply be more color intense, but not more vivid. If we still have the intuition that the image is

[10] See also Byrne (2010, 9): "Visual perception, visual recollection and visualizing, we may provisionally conclude, all share the same distinctive kind of representational content. The content of recollection and visualizing is (as one might expect) a degraded and transformed version of visual content. (Just *how* it is degraded and transformed is a difficult and complex issue that is beyond the scope of this paper)."

[11] We could speak of a "mundane" hallucination in the case of a chair as opposed to hallucinations of things we cannot possibly perceive. See Macpherson (2013, 1).

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more vivid in such a case, we might be confusing vividness in the sense of accuracy with vividness in the sense of intensity: the image may have triggered an embodied, holistic, emotional reaction and thus provides a vivid experience.

Finally, one may want to object that what my suggestion amounts to is indeed a mere list of features, and that it is unclear which ones or how many are necessary for vividness and to what degree—something Kind thinks is not sufficient for an account of vividness. First of all, given the explanatory value of distinguishing two kinds of vividness (see next section), one might want to take a more optimistic stance concerning such a list.[12] However, the features do not constitute a random list; what unites them is that they are all different respects in which mental images can imitate phenomenal perceptual content, and they each can imitate this content more or less accurately.[13] Because mental images can be more or less accurate with respect to various different features, they can be vivid in various ways. As a consequence, our intuitions on vividness may concern either of these ways in which a mental image can imitate perceptual content. A vivid mental image of a clock, for instance, can be one that has a high level of clarity while also exposing little detail, little brightness, and little color intensity. Or it can be one with a high amount of detail and color intensity, but with low levels of clarity and brightness. Whether a mental image counts as accurate and, hence, vivid or not will very likely also depend on the purpose of our imaginative project. This explains why it is possible to come up with counterexamples to any of the features taken individually.

5. The explanatory power of two kinds of vividness

It seems that there are three widely accepted aspects of the notion of vividness. First, vivid imaginings somehow imitate our perceptions or experiences of the world. Second, vividness is a matter of the accuracy in the imitation. Third, vividness is a matter of the intensity of the imagining. The two notions of vividness presented above can help us explain and keep apart our intuitions concerning these three aspects. When applied to mental images, vividness is accuracy in the imitation of perceptual content. When applied to imaginative experiences, vividness is the intensity of the experiences, but the experiences do not necessarily imitate a real-life experience.

Kind presents us with several suggestions to analyse the notion of vividness and then either gives counterexamples or shows that they are otherwise problematic. Her first example concerns the notion of clarity as fuzziness (or blurriness, which she takes to be the same), and she claims that it is unclear how fuzziness applies to mental images because "my experience in imagining (a) face isn't fuzzy in the way my first-thing-in-the-morning perceptual experience of the clock is fuzzy" (2017, 4). Given how face memory and imagination seem to work, it is likely that, when imagining a person we know very well, we have a rather intense imaginative experience of their face, which probably includes a mental image that is somehow less clear than in typical perception. What is crucial is that the imaginative experience imitates the real-life experience we have when confronted with the person, and what we are likely experiencing is a holistic, emotional, and embodied imaginative representation of the person's face. When we wish to compare the clarity of perception and imagination, we should thus look at something that is represented in the form of an image rather than a more complex experience. And it is not unlikely that a mental image of, say, a clock, is clear or fuzzy very much like a perceptual image is.

[12] My main point against Kind's view is the idea that we have to distinguish two kinds of vividness in order to explain the two skeptical puzzles mentioned in the first section.

[13] Note that mental images can be more or less accurate with respect to other features as well. For instance, a mental image of a clock can be proportional or not, or can be more or less accurately representing the expected shape and relative size. My mental image of a bike with egg-shaped wheels is not accurate, and my image of a clock as small as a poppy seed isn't either. However, with respect to these features, we wouldn't say that the mental image is more or less "vivid."

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Similarly, when we vividly imagine animals such as panthers, tigers, or cats, our representation is likely a more complex imaginative experience and not just a visual image of the animal, and what makes our imagining vivid is its intensity and not a feature of the visual image our experience might or might not come with. This is why we can vividly imagine a cat hunting without visually imagining any detailed features of the cat, we can vividly imagine that cat hunting at dawn, and probably even in total darkness. Such imaginings can be vivid if they are intense imaginative experiences, even though they are not vivid in the sense of including an accurate mental image. The same applies to the scene in *Psycho*: even though we might imagine the scene in black and white, our experience can be vivid where "vivid" means "intense."

Let us now look at the two puzzles presented at the beginning of the paper. First, the puzzle our emotional engagement with imaginings poses. Kind mentions that "we get emotional about literature in a way we don't about thought experiments" (2017, 48). The notion of vividness has commonly been thought of as explaining this difference in our engagement with literary fiction and with thought experiments or other counterfactual reasoning projects. We have seen above that imagined experiences evoked by literary descriptions are themselves emotional, i.e., emotions are part of such an experience rather than a reaction to a mental image. These kinds of experiences do not necessarily imitate the target experience.

Thought experiments and other counterfactual reasoning projects are usually not presented in the form of literary text and do not aim at providing an intense imaginative experience.[14] Note that, moreover, philosophical thought experiments often don't even involve mental images, at least not in a way that would be crucial to their epistemic purpose, and hence not in a way that would be crucial to the kind of engagement with thought experiments we should aim for. An easy explanation as to why thought experiments usually don't evoke emotions in us might be that they don't involve imaginings that could possibly be vivid.

Take, for instance, Gettier's cases against the "justified true belief" theory of knowledge (1963). According to the scenario presented in one of the Gettier cases, Smith and Jones have applied for a certain job. Smith has strong evidence for the proposition that Jones will get the job and Jones has ten coins in his pocket. Smith also believes what is entailed by this proposition, namely, that the man who will get the job has ten coins in his pocket. However, unknown to Smith, he himself will get the job, and he himself has ten coins in his pocket. While it is true that the man who will get the job has ten coins in his pocket, the proposition he based his inference on is false. Smith has a belief that is justified and true, but, intuitively, he doesn't have knowledge.

When thinking about this case, I usually visualize two men waiting in the same room and a close-up of some coins in a pocket. I also usually imagine one of the men counting the coins in the other one's pocket in an effort to make plausible the assumption that Smith knows about the ten coins in Jones's pocket, which has a mildly entertaining aspect to it. However, visualizing two men and being mildly entertained by the description of the case is clearly not necessary for the epistemic purpose of the thought experiment. The crucial insight we can gain from it is that it is possible to have a justified belief which does not constitute knowledge. This insight concerns the relations between the concepts of belief, justification, truth, and knowledge.

One may want to object that while this particular thought experiment doesn't necessarily involve mental images, other thought experiments do. For instance, Frank Jackson's Mary case (1986) raises the question whether phenomenal knowledge (of what it is like to see a color) adds anything to propositional knowledge (of color vision). It is obvious that in order to understand what is at stake, one has to have had a corresponding, or at least sufficiently relevant, perceptual experience. But in order to get to the conclusion of the thought experiment (that knowing what it is like to see a color is much different from having propositional knowledge about color vision), it seems that I merely

[14]There are, however, thought experiments that explicitly involve emotions such as the "Giselda Case"; see, e.g., Gendler (2000).

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have to remember the corresponding, or at least a relevant, phenomenal experience, I don't have to engage in phenomenal imagining.[15]

There are, however, counterfactual imaginative projects which crucially involve mental images. These are the cases we are interested in with regard to the second puzzle, the puzzle concerning the role of vividness in our learning through imagination. Here is a case by Fabian Dorsch:

> We want to move house and rent a sufficiently large removal van. Thus, while we look inside one of the vans at the rental place, we want to find out how many of our book boxes (all of equal size) fit into a row at the back of the van. We recall the size and shape of the boxes and begin to visualise some of them inside the van, thereby mentally moving and rotating them, while trying to keep their sizes and shapes constant, to see how we can best use the space available to us. We end up with an episode of visualising representing four boxes fitting into a row at the back if arranged in a certain way (e.g., two normal, and two upright). (2007, 3)

Think moreover of the following case: I am at an auction, wondering whether the colors of the painting I consider buying match my curtains. I will call such projects "phenomenal counterfactual reasoning" projects to distinguish them from philosophical thought experiments, which are counterfactual reasoning projects simpliciter.

Accuracy in the imitation of perceptual content along at least one of the dimensions explains the epistemic success of a phenomenal counterfactual reasoning project. Let us look first at the case of imaginatively filling the moving van, in which we recall the size and shape of the boxes and visualize some of them in the van, "mentally moving and rotating them, while trying to keep their sizes and shapes constant" (Dorsch 2007, 3). Obviously our project is more likely to succeed if we imagine the boxes clearly and in adequate detail, but the color of the boxes is not crucial. We could, without jeopardizing our epistemic goal, imagine the scene in black and white. However, concerning the project of deciding whether the color of the painting I consider to buy matches my curtains, I clearly have to imagine the combination in bright, intense color, as ideally presented to me in perception, while the amount of detail doesn't matter at all. It is obvious that which feature or features of what makes a sensory content vivid matter depends on the goal of our phenomenal counterfactual reasoning project. The degree of clarity, amount of detail, brightness, and color intensity are all aspects which contribute to an accurate imagining in the sense of an accurate imitation of a perceptual image.

I have argued that sensory content, when presented in the imagination, is indeed a "pale reflection" of such content when presented in perception. It usually lacks accuracy in the imitation of perception with respect to clarity, amount of detail, brightness, or color intensity (there are other differences, which I have acknowledged but not discussed in this paper). The degree of clarity, amount of detail, brightness, or color intensity of the sensory content explain the epistemic success of a phenomenal counterfactual reasoning project, depending on the epistemic aim of the project. The lack of the relevant features, at least to a certain degree, however, can contribute to an explanation of the failure of such a project.[16] Hence, the following two claims are compatible: first, that mental images are generally a more or less "pale reflection" or imitation of perception, and second, that a high level of vividness can explain the epistemic success of imaginative projects involving mental images.

The explanatory value of the two notions is not limited to solving our two puzzles. I will briefly mention some further implications concerning both notions. First, literary text may, of course, also provide us with vivid imaginings, e.g., in the sense of detailed mental images. For instance, a detailed

[15]There is a debate on the question whether thought experiments in the sciences crucially involve mental images; see Meynell (2018), Salis and Frigg (2020), Murphy (2020). Thanks to an anonymous reviewer for making me aware of this literature.

[16]Note that the features mentioned here are all qualities of visual imagery, and some of them are features of exclusively visual imagery. There is, however, also auditory, olfactory, gustatory, or somatic imagery to which other features will apply.

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description of a particular city or landscape may invoke a vivid image of that city or landscape. While this does not explain our emotional engagement with fiction, it can contribute to an explanation of how we can learn certain facts about the world from fiction.

Second, we have said that imitation of the real-life target experience is not necessary for vivid imaginings evoked by literary fiction. But literary fiction may sometimes evoke vivid experiences that do imitate the real-life target experiences. For instance, a simple description of a familiar situation may evoke in us vivid imaginings built on our memories of such a situation. In some cases, this may contribute to the *aesthetic value* of a literary work.[17] Furthermore, some nonliterary reasoning projects may involve more complex experiences rather than just mental images, and imitation of the real-life target experience may be crucial for the *epistemic purpose* of such projects. In her paper "How Imagination Gives Rise to Knowledge," Kind (2018) mentions the example of Temple Grandin. Grandin became famous for her exceptional visualization skills which she applied to revolutionize the design of livestock-handling facilities. In particular, she designed a dip vat for cows, which is a poollike structure through which the cows have to pass while being fully immersed in water. Kind writes:

> Prior to Grandin's designs, cows would often panic both when approaching the dip vat and when exiting it. By taking a "cow's eye view" of the situation, Grandin diagnosed the problems with the existing structures and was able to create an alternative in which the cows would calmly enter and exit the equipment voluntarily, without any use of force. (2018, 234–35)

In order to understand what caused the cows to panic and what exactly would improve the structure such that the cows would enter and exit calmly, it seems that more than visualization was involved. Grandin seems to have been engaged in imagining the more complex experience a cow makes when passing through the structure. The more vividly we imagine such an experience, and the more the imagined experience imitates the real-life target experience, the better such a project serves its epistemic purpose. Hence, the imitation of a real-life experience can be epistemically relevant.

6. Conclusion

At the beginning of the paper, I mentioned two skeptical puzzles concerning the notion of vividness. The first one claims that vividness cannot explain why literary fiction usually evokes emotions while counterfactual thinking doesn't. We now understand how this worry might have emerged: philosophy has focussed on mental images. Vividness understood as the accuracy of mental images in the imitation of perceptual content does indeed not explain the link between vivid imaginings and emotions evoked by literary fiction. Rather, vividness in the case of literary fiction is the intensity of imaginative experiences, which themselves involve emotions. This intensity of imaginative experiences can be evoked by certain kinds of literary descriptions.

The second skeptical puzzle concerns the idea that imagination is often seen as "pale reflection" of perception, which seems to be in conflict with the epistemic power imagination is often assumed to have. However, if we think of mental images as a kind of sensory content which can be given to us in perception on the one hand and in the imagination (amongst other attitudes) on the other hand, we can see that sensory content in the imagination can more or less accurately imitate perceptual content phenomenally. We looked at two phenomenal counterfactual reasoning projects and saw that accuracy with regard to certain features of perception under ideal circumstances is crucial. A vivid mental image is not necessarily an accurate imitation of perceptual content with respect to *all*

[17] In this paper, my concern was not the question of what contributes to aesthetic value. Vivid engagement probably does, whether it involves imitation of the target experience or not.

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features. Which features are relevant with respect to a particular phenomenal counterfactual reasoning project depends on the epistemic aim we pursue.

Since accuracy and intensity concern different kinds of imaginative phenomena, and serve different purposes, we should give up on a unified notion of vividness and accept that there are two different kinds of vividness that sometimes get confused: vividness with respect to imaginative experiences is a relatively high degree of intensity of such experiences, and vividness with respect to mental images is a certain degree of accuracy with respect to the imitation of perceptual content. As long as we keep these two kinds of vividness apart, there is no need to retire our use of the term "vividness."

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