# Robustly embodied imagination and the limits of perspective-taking

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## Abstract

Experiential imagination consists in an imaginative projection that aims at simulating the experiences one would undergo in different circumstances. It has been traditionally thought to play a role in how we build our lives, engage with other agents, and appreciate art. Although some philosophers have recently expressed doubts over the capacity of experiential imagination to offer insight into the perspective of someone other than our present-selves, experiential imagination remains a much sought-after tool. This paper substantiates pessimism about the epistemological value of these uses of experiential imagination by developing an embodied approach. Our thesis is that experiential imagination is *robustly embodied* because the *sociohistorically situated* body makes an irreducible contribution to the imaginative project, and that, as such, it is constrained by who we are as *concrete* agents. We argue that experiential imagination is an embodied, virtual exploration of imagined scenarios that depends on our situated history of sensorimotor and affective interactions. We conclude that experiential imagination is much more limited than commonly acknowledged, as it can hardly be divorced from who we are and where we have been.

## 1 Introduction

We are often invited to pursue imaginative exercises aimed at recreating someone else's experience. Experiential imagination is invoked in, for example, understanding other minds and empathy, mental time travel and decision making, and our engagement with fiction. In these contexts, experiential imagination presumably

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gives access to different perspectives and provides understanding of *what it is like*. However, some have worried that imaginatively taking up someone's perspective is inadequate to fulfil its presumed aims, since it falls significantly short of recreating what it is like (e.g., Mackenzie & Scully, 2007; Paul, 2014, 2017)). In this paper, by developing an embodied approach, we aim to substantiate pessimism about the epistemological value of exercises of experiential imagination aimed at recreating the perspective of those who are differently situated.

Our theses are that: (1) experiential imagination is *robustly* embodied because the sociohistorically situated body makes an irreducible contribution to the imaginative project; and (2) experiential imagination is subject to constraints stemming from imaginers' robust embodiment which support pessimism about its epistemological value. We focus on three constitutive aspects of experiential imagination—its active, affective, and embodied character—to argue that it should be understood as an embodied, virtual exploration of imagined scenarios that depends on our situated history of sensorimotor and affective interactions. We argue that from this embodied approach it follows that experiential imagination is subject to architectural constraints stemming not simply from its cognitive structure but from imaginers' particular history of interactions. We conclude that the epistemological value of experiential imagination is limited in offering access to the perspective of others differently situated due to these constraints, and that this view supports concerns raised elsewhere in the literature (Clavel Vázquez & Clavel-Vázquez, 2018; Jones, 2004; Wiltsher, 2021).

We proceed as follows. Section two presents a characterization of experiential imagination and introduces pessimism about its epistemological value. Section three introduces the claim that experiential imagination is embodied and examines two articulations of this idea: (a) that imagination is embodied in that it is sociohistorically situated, as suggested by the critical phenomenological tradition; and (b) that it is embodied in that the body makes non-trivial contributions to this exercise, as suggested by embodied approaches to cognition. We argue that these two articulations are intertwined in what we call *robust embodiment*. Section four argues that experiential imagination is robustly embodied on the basis of three claims: (i) a claim about the active character of experiential imagination; (ii) a claim about the non-trivial contribution of the body to experiential imagination; and (iii) a claim about a commitment to explanatory externalism. Section five examines the constraints operating on experiential imagination that follow from robust embodiment and that support pessimism about its epistemological role.

## 2 Experiential imagination and pessimism

Experiential imagination consists in an imaginative projection that aims at recreating the experiences one would have in circumstances that differ from the here and now.[1] It is an instance of what Neil Van Leeuwen (2013) calls constructive imagination: a

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[1] We take experiential imagination to be a subclass of imaginings involving a sensory component. However, experiential imagination is sometimes used in opposition to propositional imaginings to denote imaginings with a sensory component or to characterize the difference between supposition and imagination. We don't address in this paper other forms of sensory imaginings that don't involve imagining from the inside (see footnote 2), nor propositional imaginings, such as counterfactual thinking.

multi-faceted and temporally extended imaginative process that takes as its sources a variety of states, such as perceptions, beliefs, desires, emotions, etc., and that produces states of different sorts, like propositional imaginings, sensory imaginings, desires, and emotions. Nevertheless, what sets apart experiential imagination from other instances of constructive imagination is that it involves imagining *from the inside:* i.e., imagining *being in a given mental state and in the course of an experience* as a result of perspective-shifting.[2] Experientially imagining playing with a dog in the park involves something beyond imagining *that* one plays with a dog in the park, or *visualizing* a dog in the park. It involves imaginatively projecting oneself to the park with the dog, to recreate what one would experience if one were there: seeing the dog running, hearing it bark, feeling the fresh breeze, feeling relaxed. Experiential imagination aims at recreating *what it is like.* Its goal is to recreate the phenomenal character of the experience one would undergo in different circumstances, with the corresponding mental states.

These imaginings are characteristically vivid because, in imagining undergoing an experience, the phenomenal aspect of the imaginative episode is at its centre.[3] Vividness is crucial for experiential imagination to fulfil its presumed aims. The salience of the phenomenal aspect of the imagined experiences is meant to (more easily) provide the imaginer with more information to derive further mental states that make up the relevant perspective. Say someone, John, is trying to understand why his friend Anna would rather spend the afternoon at the park with her dog than meet him at the pub. He imagines what it is like for Anna to walk her dog in the park: feeling the fresh breeze after a stuffy day at the office, seeing the dog playfully rub its back against the cool grass and hearing its happy pant after retrieving a ball, or feeling the dog's warm, soft fur as they cuddle. By experientially imagining, John might find it easier to recreate the peacefulness Anna experiences, and this, in turn, might help him understand her preferences.

It is this presumed capacity of experiential imagination to provide the imaginer with more information to derive relevant mental states that has granted it an epistemological role in a variety of philosophical contexts. Experiential imagination has been invoked in explaining mindreading (e.g., Goldman, 2006), decision making (e.g., Nanay, 2016), mental time travel (e.g., Debus, 2016), the ethical value of fiction (e.g., Nussbaum, 1998), and empathy and understanding others (e.g., Coplan, 2011). In the context of this last debate, experiential imagination is taken to result in a particular kind of epistemic gain, namely, an experiential understanding of others that is inaccessible from a third-person perspective. Amy Coplan (2011), for example, characterizes empathy as "other-oriented perspective-taking", and claims that it "may provide what no third-person understanding can: understanding of another

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[2] The characterization of imagining from the inside is used for imaginative exercises that involve a first-person perspective (see, e.g., (Peacocke, 1985, pp. 22–23; Walton, 1990, pp. 28–35)). In opposition, imagining *from the outside* involves objectual imaginings from a third person perspective (see, e.g. (Goldie, 2005, pp. 136–138; Gregory, 2016, pp. 102–103)).

[3] Kind (2017) argues that vividness is a problematic notion. In section four we explain the relation between vividness, detail, and phenomenal salience.

person from the 'inside'" (Coplan, 2011, p. 18).[4] Olivia Bailey (2020) argues that the imaginative recreation of the other's situation at the centre of experiential imagination can result in what she calls humane understanding: a first-person appreciation of the intelligibility of others' emotions. So while experiential imagination isn't touted as the only way to have access to other perspectives, it is taken to offer an epistemic gain that cannot be obtained through other means. Presumably, something similar could be said in the case of decision making, mental time travel, and the engagement with fiction.

Experiential imagination is subject to architectural constraints, i.e., constraints stemming from its cognitive structure that allow it to play this epistemological role by maintaining the imaginative project reality-oriented. It is constrained, firstly, by inference mechanisms and beliefs on the basis of which we derive further imaginings (e.g., Kind, 2018; Van Leeuwen, 2013); secondly, by constraints we find in cases of sensory imagination, which involve predictions about the likely sensorimotor effects of certain actions (e.g., Balcerak Jackson, 2018; Langland-Hassan, 2016; Van Leeuwen, 2011).

Nevertheless, some authors have expressed concern that experiential imagination won't *accurately* recreate the perspective of others who are differently situated, for example, ourselves after life-changing events or those inhabiting different social identities. L.A. Paul (2014) argues that experiential imagination is insufficient to offer insight into at least some situations we haven't experienced because only undergoing these experiences can reveal the perspective one is to mentally step onto to understand what it is like (see also (Paul, 2017)). Catriona Mackenzie and Jackie Leach Scully (2007), in turn, examine evidence of imprecise predictions about the quality of life of individuals living with disabilities made on the basis of able-bodied individuals' imaginative exercises. They propose that these imprecise predictions are caused by the dependence of experiential imagination upon embodiment.

According to pessimists, experiential imagination is limited by imaginers' actual experiences. This brings into question whether it is able to accurately bring about the relevant states and their phenomenal salience for experiential imagination to have epistemological value. Consider, for example, if John engages in an exercise of experiential imagination to understand why Anna would be afraid of walking home alone after a night at the pub. Experiential imagination requires him to recreate, from the inside, what he would experience in her circumstances. Pessimists worry, however, that John's experiences won't allow him to accurately recreate the relevant aspects of Anna's perspective, and that, therefore, experiential imagination is of little epistemological value. Moreover, the worry is exacerbated the more the social locations of imaginer and target-perspective differ.

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[4] Coplan distinguishes between self-oriented and other-oriented perspective-taking to mark out the difference between imagining *ourselves* in other circumstances (self-oriented) and imagining *being the other* in her circumstances (other-oriented). She argues that self-oriented perspective-taking only leads to a "pseudo empathy" in which we merely project our perspective onto others and mistakenly believe we have access to their point of view (Coplan, 2011, p. 12). Experiential understanding, in her view, can only result from other-oriented perspective-taking (Coplan, 2011, p. 17).

The limitations that worry pessimists aren't the architectural constraints that in other contexts bolster the epistemological value of imagination. Pessimists are worried about limitations imposed by our *specific embodiment* on our capacity to recreate other perspectives. That is, they are concerned about limitations stemming from who we are as concrete cognitive agents: agents with a particular history of experiences, who inhabit specific social categories, and who navigate specific social configurations. The worry is that the demands that stem from the features and aims of experiential imagination are such that an imaginative projection won't accurately bring about the relevant states and their phenomenal salience when recreating different perspectives. The presumed limitations arise when the subject imagines herself *being someone other*, either her future-self or a different agent, facing a different set of circumstances.

As shown in the rest of the paper, embodiment and architectural constraints don't come apart. In fact, it is because experiential imagination is robustly embodied that it is subject to architectural constraints stemming from imaginers' situated history of sensorimotor and affective interactions. As such, the very constraints that in other contexts bolster experiential imagination's epistemological value, substantiate pessimists' worries about imagining being differently situated.

Pessimism about the epistemological value of experiential imagination involves two claims: (a) the imaginability claim, i.e., a claim about how imaginers perform the relevant cognitive exercise; and (b) the knowability claim, i.e., a claim about the epistemic gains of the relevant cognitive exercise. Each of these claims can come in weak or strong versions. One might claim that imaginers are unable to perform the imaginative exercise, or that they might encounter such difficulties that they are unlikely to do so. Likewise, one might claim that imagination will never yield epistemic gains, or that, while it sometimes does, it is unlikely to do so in certain cases. Our argument lends support to a weak version of pessimism, according to which experiential imagination is unlikely to offer access to the perspective of those differently situated. And it does so on the basis of weak imaginability and knowability claims:

**Weak imaginability pessimism**: Due to the embodied constraints operating on experiential imagination, this imaginative project is unlikely to derive in the relevant states to recreate the perspective of someone differently situated.

**Weak knowability pessimism**: Due to the embodied constraints operating on experiential imagination, we have good reasons to think that the result of the imaginative project is untrustworthy because it's unlikely to be accurate.

Note, firstly, that we don't argue that it is impossible to imagine different perspectives, but that due to embodied constraints, it is unlikely that imaginers will successfully recreate them through experiential imagination. We acknowledge, nevertheless, that skilful imaginers might overcome limitations, to some degree, by deploying certain strategies, as we discuss in Sect. 5. Secondly, this version of pessimism about experiential imagination opens the possibility that imaginers gain access to different perspectives through other means. The pessimism we support, therefore, doesn't endorse what Amy Kind calls the Epistemic Inaccessibility claim, according

to which "[a]ny experiential perspective vastly different from the one a person occupies is epistemically inaccessible to that person" (2021, p. 239).

## 3 Embodiment: two ways

While we agree with Mackenzie & Scully that limitations on experiential imagination can be explained, at least in part, by its dependence upon embodiment, their claims originate in two different theoretical frameworks: phenomenology, when they claim that experience is constrained by cultural meanings, and embodied approaches to cognition, when they claim that cognition is structured primarily through bodily action patterns. To assess the precise limitations of experiential imagination, however, we need to analyse the different notions of embodiment at work in each of these frameworks and examine how they are intertwined.

Phenomenology and embodied approaches to cognition operate under different assumptions and with different aims. Phenomenological descriptions provide an examination of experience that starts off from first-person analyses to reveal its structural features. Embodied approaches to cognition involve theories and views within cognitive science that partly aim at showing that cognition depends non-trivially on the body and the environment. We can thus distinguish between:

(a) **Situated embodiment,** as present in phenomenology, which arises from considering that exercises of experiential imagination depend on agent's *situated character.*

(b) **Cognitive embodiment,** as present in embodied approaches to cognition, which arises when explaining imaginative exercises from an *embodied perspective* that takes the body to make non-trivial contributions to cognition.[5]

These two articulations of embodiment needn't be interrelated. One could provide an explanation for (a) the presumed situatedness of experiential imagination by simply alluding to how it interacts with other mental states, and without resorting to theses that pertain to (b) embodied approaches to cognition. Nevertheless, phenomenology and embodied approaches to cognition have engaged in fruitful collaboration (see, e.g., (Gallagher & Zahavi, 2008)). While phenomenology provides a rich description of experience, embodied approaches to cognition provide an explanatory framework.

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[5] It is worth noting some of the commitments of embodied cognitive science as a research programme (Kirchhoff, 2018). Embodied cognitive science holds that: (i) cognitive processes are realized by brain, body, and world; (ii) there isn't a clear-cut distinction between cognition, action, and perception (Hurley, 2001); and (iii) cognitive agents are continuously evolving as a result of their interactions with the environment. Kirchhoff also includes the commitment to non-representationalism, the thesis that representations aren't necessary for cognition. Although we don't discuss this explicitly, our view supposes no antirepresentational commitments. Maintaining a neutral position regarding representations becomes relevant when considering the contributions of predictive approaches to emotions. For the compatibility between embodied cognition and predictive approaches to cognition, see, e.g., (Clavel Vázquez, 2020).

Here, we argue for a *robust embodiment.* Our claim is that cognitive embodiment can in part explain situated embodiment. That the body makes non-trivial contributions to cognition, as indicated by (b), means that agents' personal histories of interactions—their situation—in a specific social context shape who they are as cognitive agents, as suggested by (a). Bringing these two approaches together—as foreseen by Mackenzie and Scully—helps explain that the constraints operating on experiential imagination depend on who we are as *concrete* agents. We propose that the constraints don't merely depend on our embodiment as human cognitive agents(Gallagher & Rucińska, 2021; Rucińska & Gallagher, 2021; van Dijk & Rietveld, 2020), but as cognitive agents with a particular history of experiences that results from inhabiting specific social identities that partly determine our interactions with specific social practices. While embodied approaches to cognition draw on phenomenology, the notion of robust embodiment builds on the critical phenomenological tradition that regards the relation between agent and sociohistorical context as a constitutive one, and that emphasizes how different social locations within a same context affect experience.[6] In this section, we develop the notion of situated embodiment in exercises of experiential imagination, before turning, in Sect. 4, to the contributions of embodied approaches to cognition.

### 3.1 Situated embodiment

The notion of *situated embodiment* emerges from the phenomenological tradition, which partly focuses on the transcendental conditions of possibility of experience and its constitutive features. Under the phenomenological framework, experience is characterised by its intentionality, i.e., by being structurally directed toward the world. The situatedness of our mental lives refers to the idea that this being directed toward the world characteristic of experience *isn't neutral*. Instead, it is: (i) shaped by our sociohistorical circumstances, (ii) affectively charged, and (iii) shaped by certain possibilities of engagement with our surroundings. Experience thus has the following features[7]:

(i) **Sociohistorical:** experience is shaped by our social, historical, political, and economic circumstances, including the social categories we inhabit, such as class, gender, and race.

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[6] For a detailed characterization of critical phenomenology, see (Guenther, 2020; Ngo, 2022) Representatives of critical phenomenological approaches include, for example, feminist phenomenologists, like Simone De Beauvoir and Iris Marion Young, and critical race theorists, like Franz Fanon and Linda Alcoff.

[7] Phenomenologists have emphasized the temporal nature of experience, more specifically, its anticipatory or future-oriented character (e.g., Husserl, 1991; Merleau-Ponty, 2002)), which gives our interactions an openness toward the world. More important for our purposes, this character has been linked to imagination as the mental process that "engenders" it (Casey, 1977; Gallagher & Rucińska, 2021). To make sense of the projective and affective features of experience, respectively, we draw on Heidegger's notions of attunement and understanding (Heidegger 1996, paras. 29, 31,34, 38).

(ii) **Affective:** experience is affectively charged. Affect isn't merely a reaction to current circumstances, but a way of being pre-disposed or, better said, pre-attuned to deal with them.

(iii) **Projective:** experience is shaped by the projects that become significant. Certain enterprises, aims, and possibilities of engagement with the world become available in virtue of our sociohistorical circumstances and how we affectively anticipate these.

While classical phenomenology acknowledges the sociohistorically situated character of experience, critical phenomenology pushes this idea further to argue that experience should be understood within specific social structures that *constitutively shape* agents in different ways depending on the location they occupy in a given context.[8] Social structures partly constitute cognitive agents in different ways even within a single sociohistorical context. Shared social practices designate specific social groups (e.g., men and women; white and Black) and dictate specific roles and norms based on which members can move within those practices. This is to say that, even within a shared sociohistorical context, not all agents are shaped equally, and thus not all agents experience equally. Iris Marion Young (1980) argues, for example, that our sociohistorical circumstances are marked in our comportment toward the world, gestures and mannerisms, and the interactions we take to be available, not absolutely, but specifically to us.

Situatedness isn't simply attributed to a disembodied mind. The body is the locus of our meaningful encounters with the world and with others, and it is the first determinant of these relations (e.g., De Beauvoir, 1997). Consider that our affective life is inexorably experienced in our body and that our body structures the possibilities of interaction we are offered. Critical phenomenologists build on Merleau-Ponty's notion of the body schema as a dynamic organizational matrix that functions as "a historical record of experience, context, emotion, taboos, and desires" (Guenther, 2020, p. 13). Franz Fanon, for example, interprets the body schema as a 'historico-racial' schema that is constituted by a "dialectic between the body and world", insofar as it is "a definitive structuring of the self and of the world" (2008, p. 83). The particular sociohistorical location of the agent constitutes the body, which, in turn, is the locus of experience and interactions with the world.

Experiential imagination is situated because its target—i.e., the experiences one would undergo in given circumstances—is situated. Given that experiential imagination aims at recreating what it is like being someone other, it involves not only knowing about someone's sociohistorical circumstances, but understanding what it is like to be situated in that way. The perspective shift involved in experiential imagination requires the imaginer to inhabit the relevant sociohistorical circumstances, affective pre-dispositions, and possibilities of engagement.

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[8] To highlight the contrast between classical and critical phenomenology, Guenther contrasts Husserl's unidirectional constitutive relation from consciousness to world, to Merleau-Ponty's bidirectional constitutive relation between consciousness and world (Guenther, 2020, pp. 12–13).

The phenomenological analysis allows for a better understanding of the demandingness of exercises of experiential imagination that aim at understanding what it is like to be someone differently situated. Experiential imagination requires us to step into their situation and take up, at least partly, their dispositions and projects as they are marked in their body and thus as they structure their experience of the world. If we go back to John attempting to understand what it is like for Anna to walk home alone at night, experiential imagination would be epistemologically valuable if he could recreate, from the inside, what she experiences in those circumstances. But the experience of those circumstances, according to the phenomenological analysis, depends on the three features aforementioned. John's imaginative exercise would, thus, require him to recreate Anna's relevant sociohistorical circumstances, affective dispositions, and possibilities of engagement.

However, it isn't simply that experiential imagination is characterised by situatedness because its target is situated. Experiential imagination is situated because *imaginers'* experience also has these features. When one experientially imagines, the exercise is performed from a specific situation, it is affectively charged, and it represents a different project to each imaginer, in which one tries to discover different courses of action. John experientially imagining walking home alone at night involves taking up Anna's perspective *from his* perspective, the perspective of someone who occupies a different social location and whose relations with others are shaped differently by social practices, someone who has likely never been stalked or harassed, or who has likely never feared for his safety when rejecting someone's sexual advances.[9]

Nonetheless, this is insufficient to argue that experiential imagination is embodied as such. The phenomenological analysis shows that the experiences of both imaginer and target perspective are sociohistorical, affective, and projective. This reveals the demands of experiential imagination when applied to perspectives different from imaginers' present-selves. But from claiming that *subjects* are characterised by situatedness nothing follows about specific features of their *cognitive processes.* The phenomenological description identifies features that are attributed to our mental lives as a whole. However, it remains unclear whether these properties can be attributed to a specific exercise of our cognitive capacities: it isn't yet explanatory. Without this, it remains unclear why an imaginative projection would be unable to recreate the perspective's sociohistorical, affective, and projective features. Thus, the phenomenological analysis is insufficient to substantiate the concerns raised against the epistemological value of experiential imagination.

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[9] From the phenomenological perspective, it isn't possible to simply abandon one's perspective to inhabit someone else's. Gallagher & Gallagher (2020) consider the possibility of 'double attunement' in acting, whereby an actor inhabits her perspective and that of her character. The actor is attuned to the motoric, perceptual, and affective processes involved in her portrayal, which opens up the perspective of the character. Note, however, that the actor's enactment of motoric, perceptual, and affective processes depends, in turn, on the actor's history of interactions. The way she enacts, for example, a character's grief, depends on the actor's own experiences of grief and loss. So even if in double attunement one might, in some sense, inhabit a different perspective, this is done from one's own perspective.

Cognitive embodiment, as it arises in embodied approaches to cognition, becomes relevant to move from imaginers' situatedness to the claim that exercises of experiential imagination themselves are embodied.

## 4 An embodied approach to imagination: from cognitive to robust embodiment

Drawing on embodied approaches to cognition allows us to show that the features attributed to experience in general can also be attributed to experiential imagination by showing that the body makes non-trivial contributions to the cognitive process. Our thesis is that experiential imagination is robustly embodied because it depends on our sensorimotor and affective history, and, as such, the concrete sociohistorically situated body makes an irreducible contribution to the imaginative exercise.

Zuzanna Rucińska and Shaun Gallagher draw on the distinction between weak and strong cognitive embodiment within embodied cognition. While weak cognitive embodiment recognizes that the body contributes to cognition, this contribution is identified with that of motor-related areas of the brain and is taken to be mediated by representations of the body (Rucińska & Gallagher, 2021, p. 2). In contrast, according to strong cognitive embodiment, the body plays an irreducible role in the shape of sensorimotor, autonomic and affective processes, embodied skills and habits, and body interactions, postures, and mannerisms (Rucińska & Gallagher, 2021, p. 10). In this way, the body itself (including some of its morphological aspects) and the history of interactions of an embodied agent play an important explanatory role (Rucińska & Gallagher, 2021, p. 10).

We wish to take strong embodiment further with the contribution of situated embodiment developed by critical phenomenology. In addition to the commitments of strong embodiment, we refer to *robust* embodiment to integrate the critical phenomenological analysis and emphasize the role of a body that is shaped by its location in specific sociohistorical circumstances. Robust embodiment, thus, aims at capturing the way in which situated and cognitive embodiment are interrelated: cognitive embodiment explains situated embodiment; but situated embodiment, in turn, provides a description of the kind of body that plays an explanatory role according to cognitive embodiment, i.e., a concrete sociohistorically situated one.

Experiential imagination should be understood as a virtual exploration, by which we imaginatively summon the relevant perceptual states, beliefs, desires, affective dispositions, and projects that make up the target's perspective of what it is like to be in those circumstances. We are committed to the following claims:

(i) **Interactivity:** experiential imagination involves a virtual interaction with imagined scenarios and is, thus, itself an interaction;
(ii) **Cognitive embodiment:** the body makes an irreducible contribution to this exercise and to our understanding of this exercise and its limits;

(iii)   **Explanatory externalism:** it is insufficient to look at the internal states of the imaginer to account for her performance in exercises of experiential imagination.

As we explain what each of these entails for experiential imagination, we show the relevance of the critical phenomenological analysis.

## 4.1 Interactivity

Experiential imagination consists in the enactment of experiences one would undergo in different circumstances insofar as it consists in the exploration of the possibilities of engagement that agents discover as they imagine interacting with given circumstances from the inside, that is, from a first-person perspective and in the course of an experience.

Marco Caracciolo has previously defended an enactive approach according to which imagination is defined as an "active exploration" of an imagined world (Caracciolo, 2013, p. 81).[10] Given the similarity between the mechanisms that underlie perception and those that underlie imagination, Caracciolo claims that, just as in perceptual experience, the phenomenal aspect of imagination is explained by the interactions between agent and environment. Experientially imagining feels the way it does because real interactions are being simulated. Moreover, according to Caracciolo, this is what allows the experience of the imagined world not to feel *gappy* regardless of there being, in at least some cases, little detail. Due to the quasi-experiential character of the virtual interactions, the amount of information (or lack thereof) doesn't correlate with the vividness of the experience.

Caracciolo, however, misses an important reason why *access* to detail is relevant for characterizing experiential imagination as vivid. This becomes clearer by unpacking the notion of virtuality at the centre of experiential imagination. Virtuality shouldn't be understood simply in terms of possible or previous interactions being recreated. Rather, experiential imagination consists in a virtual interaction because, in imagining from the inside, we discover further experiences and interactions that *present themselves as available* in the imaginative episode. As a temporally extended imaginative exercise, experiential imagination offers aspects of the scenario and possible interactions that weren't previously available. The epistemological value of experiential imagination partly stems from this feature: *as they imagine interacting* with given circumstances, agents discover more details to derive further mental states that make up the relevant perspective.

In the course of the interaction, some aspects of the imagined world go from being indetermined to being determined. Think back to John imagining himself walking alone late at night. While at first the presence of other people in the imagined scenario might have been left unspecified or indetermined, other people might be included as the exercise unfolds. Now John imagines walking alone late at night

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[10]  For similar projects, see (Gallagher, 2017; Hutto, 2015; Hutto & Myin, 2017; Rucińska & Gallagher, 2021; Thomas, 2014; van Dijk & Rietveld, 2020).

while hearing other passers-by around him. Something crucial about the virtual world becoming more determined is not only that more details are specified, but that different aspects of it become relevant for the imaginer. At first, what was relevant for John was that he was alone, but then what matters is that he is walking among strangers.

Following from its virtual character, experiential imagination is an interaction in its own right, as argued by José Medina (2013). It is something we do insofar as we discover possibilities of engagement with an imagined environment in a similar way as we discover novel possibilities in our actual interactions. This means that certain possibilities of engagement are discovered in the course of imaginatively interacting with given circumstances, in a similar way in which different aspects of the actual world become available in the course of our interactions. This means, too, that while some interactions are possible, they mightn't feature as available *to us*, the imaginers. At this point we can go back to situated embodiment and its contribution for understanding experiential imagination. According to the phenomenological analysis, experience is projective insofar as it is shaped by the possibilities of engagement that become available. In the same way, from its interactive character we can say that experiential imagination is projective insofar as it is shaped by the possibilities of engagement that become available as agents imagine interacting with the world and access further details.

Consider again the case of John and Anna. When John experientially imagines walking home late at night, the experiences and interactions available to him are likely to be different from Anna's. While virtually interacting with the scenario, John will discover experiences that present themselves as available, not absolutely, but *to him*: he imagines hearing footsteps approaching and turning around to ensure no one is following him. While he might imagine feeling startled or momentarily alert, he might also imagine feeling reassured at the sight of a policeman. Since he has likely never been stalked or harassed, the experience of being on a constant state of alert or vulnerability, or of being attacked by a policeman will likely *not* become available in his virtual interaction.

Although he draws on Alva Noë, Caracciolo misses something in explaining the characteristic vividness of experiential imagination. Noë argues that we feel that perceptual experience is detailed because we can *access* detail by interacting with the environment, and not because we have a highly detailed representation of the scene perceived (Noë, 2004, pp. 55–57). The amount of detail is relevant for experiential imagination. Not because it is highly detailed all at once, but because, as an ongoing interactive exercise that unravels, details *are there to be accessed* through our virtual interactions.[11]

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[11] While the discussion about detail could be cashed out in terms of content, this is not the central aspect of our account. Instead, the notion of detail should be understood in terms of how different interactions become available as the exercise unfolds and the constitutive role played by the situated body (see section iii). Nevertheless, given that we're not interested in defending a non-representationalist approach to imagination (see footnote 5), one might also think that the imaginative exercise acquires more content or content of different kinds (e.g. action-oriented content) as it unfolds.

Access to detail through virtual interactions contributes to the phenomenal salience of the experiences at the centre of the imaginative project, which in turn contributes to the epistemological value of experiential imagination. John's imagining is vivid because, as he imagines walking alone, he imagines hearing footsteps approaching, turning around to see a policeman and feeling reassured. When trying to understand Anna, John will likely attend to the phenomenal salience of being startled by the sound of footsteps and feeling reassured after encountering a policeman. But these aren't the details available to Anna as she interacts with those circumstances. When deciding whether to walk or take a taxi home, Anna imagines being in a state of constant alert and vulnerability; she imagines feeling her tense muscles and accelerating heartrate when encountering a "harmless" policeman alone at night.

The details that are accessed during the imagined interaction depend on imaginers' previous experiences. The fact that, in the virtual exploration involved in experiential imagination we access details available not absolutely but to us, reveals that experiential imagination is constrained by imaginers' previous interactions with the world. The interactive aspect of experiential imagination is intertwined with its embodied aspect. Anna's imagined interactions are shaped after the sensorimotor and affective routines of interaction with the actual world: by her skills, her habits, and her affective dispositions. In Sect. 2, we said that it is widely acknowledged that experiential imagination is constrained by predictions about likely sensorimotor effects. Experiential imagination is robustly embodied because the possibilities of engagement that present themselves as available in this imagined interaction do so on the basis of predictions that depend on previous situated experiences and involve explicit embodied processes. We turn to this embodied aspect next.

## 4.2 Cognitive embodiment

As an interactive exercise, experiential imagination is robustly embodied because the body of the situated agent makes a special and irreducible contribution. First, episodes of experiential imagination might incorporate not only virtual elements, but actual elements, such as current interactions and the corresponding interoceptive and proprioceptive input. Second, the possible interactions that present themselves as available in imagination do so based on the history of interactions of a situated imaginer.

Van Leeuwen (2011) points to the way virtual and actual interactions can be intertwined in an episode of experiential imagination. He argues that both sensory imagery and motor imagery can be integrated in episodes of perceptual experience. In the same way, *current* sensory stimuli, and interoceptive and proprioceptive inputs can be integrated *into an imaginative episode*. For example, there is evidence that experiencing hunger affects the kind of snacks one imaginatively chooses (Read & Van Leeuwen, 1998), and that experiencing thirst affects how much one values drinking in an imagined scenario (Van Boven & Loewenstein, 2003). Similarly, Rucińska and Gallagher (2021) note the involvement of explicit motor processes in imagination.

Episodes of experiential imagination are, therefore, not completely detached from imaginers' current interactions, which are often incorporated, with the corresponding proprioceptive and interoceptive input, into virtual interactions. If Anna asked John to imagine what it is like for her to walk home alone at night while they are at a pub enjoying a beer, the interoceptive input that follows from being at ease with his surroundings might contribute to John's imaginative exercise. John's current relaxed state mightn't allow him to summon the interoceptive states that typically accompany being alert, which will affect how he engages with the virtual scenario and the details that become available to him.[12]

We could generalise this last point with the help of the phenomenological analysis: it is likely that John's actual interoceptive input in his comportment toward the world *as a white, middle-class man*, his general feeling safe in his everyday interactions with others, make it unlikely that he will imaginatively summon the relevant states to recreate Anna's concern for her physical integrity as she walks alone at night. If, as noted by Young (1980), our sociohistorical circumstances are marked in our comportment toward the world, gestures and mannerisms, these sociohistorical circumstances are manifested in the proprioceptive and interoceptive input available to be integrated into imaginative episodes.

In addition to the relevance of the coupling of the imaginer to her current environment, experiential imagination piggybacks on an agent's *situated history* of sensorimotor and affective interactions. Consider the close connection between the mechanisms that support perceptual experience and those that support imagination. Perceptual experience consists in a deployment of bodily skills marked by different aspects of the body and shaped by a rich history of complex interactions with an environment. Given the connection in mechanisms between perception and imagination, it is likely that experiential imagination relies, too, on this deployment of bodily skills that is shaped by the history of interactions of an embodied imaginer (see, e.g., Goldman, 2006; Slotnick et al., 2005; Spivey et al., 2000; Voyer & Jansen, 2017)).

The connection between perceptual mechanisms and those that support sensory imaginative episodes has been emphasized in recent enactive approaches to imagination. Caracciolo claims that engaging with fiction requires running embodied simulations, which are "hardwired" in the agent's body (2013, p. 96). Daniel Hutto points to evidence that suggests that perceiving and imagining rely on substantially overlapping neural pathways and that imagining exploits some features of biological systems that aid in the viability of the organism (2015, p. 76). Rucińska and Gallagher (2021) highlight that experiential exercises of imagination rely on implicit body-schematic and sensorimotor processes, i.e., preconscious, subpersonal,

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[12] Even when imaginers' current interactions influence the imaginative exercise, these don't take precedence over sociohistorical circumstances. Following from experience's situated character, current interactions *aren't neutral*: they are marked by sociohistorical circumstances. For this reason, the influence they can exert on the imaginative exercise depend on these, too. If Anna is discussing walking home alone with John and Jane while having a night out, their interoceptive input will contribute differently to experiential imagination. While John feels relaxed while drinking a beer at a noisy pub, Jane is alert at the sound of drunken men around her.

sensorimotor processes that play a dynamic role in governing and regulating bodily posture and movement.

Additionally, actual affective dispositions play a similar role in imaginative exercises as they do in perceptual episodes. Van Leeuwen (2016) argues that there is a parallel between the neural pathway from perception to emotional engagement and that from imagination to emotional engagement, so that visualizing an object enjoys a similar emotional response than perceiving that same object. This is also supported by predictive views of perception according to which visual processing partly relies on interoceptive and affective information for the identification of objects (Barrett & Bar, 2009). If sensory imagination relies on similar processing, similar affective expectations might be at play, too.

Organism-environment relations are also embedded in affective states, not only in that they register these relations, but in that affective states shape predictions advanced to cope with the environment in future interactions (Barrett, 2017; Miller & Clark, 2018). The relation between organism and environment is thus registered as affective expectations that contribute to the processing involved in decision-making and action-planning mechanisms. In our case, the organism in question is a situated individual, inhabiting specific social categories, and its environment depends on complex sociohistorical circumstances. Our sociohistorical circumstances are embedded in affective states which prepare us to further interact with the environment.

Experiential imagination is robustly embodied because, for starters, our sociohistorical circumstances as marked in current sensorimotor, proprioceptive, and interoceptive input are often incorporated into the imaginative exercise. Moreover, because imagining and perceiving share many of the same neural pathways, the interactions with an imagined environment depend on the same repertoire of expectations that shape actual interactions. This dependence of experiential imagination on the history of interactions further highlights the contributions of situated embodiment. As a virtual interaction, experiential imagination depends on our situated sensorimotor and affective history. The possible virtual interactions that manifest as available in the imaginative project depend on expectations that are shaped by our relation to our sociohistorical environment embedded in affective dispositions. Similarly, actual input that might be incorporated into the exercise is shaped by our situated history of interactions.

The fact that experiential imagination depends on our history of sensorimotor and affective interactions doesn't mean that we aren't able to engage in novel interactions in imagination. It does mean, however, that we are disposed to face novel interactions in imagination from our sociohistorical circumstances and based on previous experiences. When experientially imagining a scenario we haven't encountered before, it is likely that a combination of previous experiences can prepare us for the virtual interaction. In some cases, this might be enough: perhaps John's experience of being mugged puts him in a better position to imagine being Anna walking home. There are cases, nevertheless, in which the scenario requires such a departure from our sensorimotor and affective history that we lack relevantly similar experiences that could dispose us in the right way for a simulation to bring about what it is like. In some cases, we lack even similar experiences because, as shown by

the phenomenological analysis, the experiences *themselves* depend on our situated character. If John has never been harassed, when he experientially imagines walking home alone at night as a woman, he will likely fail to anticipate that ensuring no one is following him is insufficient to feel safe, or that encountering a policeman isn't reassuring. His previous interactions with strangers are embedded in specific affective states: while a sudden noise or a suspicious stranger might scare him, he won't feel constantly vulnerable or wary of the police. These affective states, in turn, prepare him for future interactions. The presence of a policeman has never indicated that he is vulnerable. John's experientially imagining depends on expectations that, in turn, depend on his relation to his concrete sociohistorical environment embedded in his affective dispositions.

The two features discussed so far—being interactive and embodied—indicate what would be required for a satisfactory explanation of experiential imagination: to fully understand what is at play, we need to consider the whole agent involved in the exercise in her sociohistorical relations.

## 4.3 Explanatory externalism

So far, we have argued that exercises of experiential imagination are robustly embodied because, as interactive exercises, they depend on imaginers' situated sensorimotor and affective history, as well as on their current interactions. The dependence of experiential imagination on imaginers' relation to their concrete sociohistorical environment points to its explanatory relevance. Our embodied approach is committed to the claim that, in order to account for experiential imagination, it is necessary to consider the interactions of the whole situated agent with her environment. More specifically, explaining which experiences someone will imagine undergoing, and, thus, explaining how she will perform perspective-taking imaginative exercises, requires us to attend to the history of sensorimotor and affective interactions of a situated imaginer. This view provides a better account of imaginers' performance in exercises of experiential imagination and, therefore, of their epistemological value.

Why would John's experiential imagining of walking alone at night be different to Anna's? At first sight it looks like the differences could be explained by, e.g., John not representing the situation as particularly risky, unlike Anna. But this needs further explanation. In John's imaginative episode, the possibility of simply looking back to check no one suspicious is following him is available based on his previous experiences. On the contrary, based on previous experiences, this interaction would be insufficient for Anna to stop feeling vulnerable. The way John interacts with the imagined scenario is very different to Anna's interaction. As a result, the mental states that John will derive from the imaginative episode won't be enough to understand what it is like for Anna. Understanding which virtual interactions feature in a given imaginative episode becomes central and requires understanding the whole agent and her environment. The explanatory relevance of imaginers' relation to their environment leads us to characterizing experiential imagination as partly constituted by the situated body of the concrete imaginer.

One might worry, however, that there are at least some cases in which an imaginer pursues an episode of experiential imagination 'decoupled' from her experiences and her current environment and that, in these cases, the situated body doesn't seem to play a constitutive role. For example, while sitting on his desk writing a novel, John might imagine being a Central American migrant travelling to the US-Mexico border. This exercise falls far away from John's own experiences and his current environment. One might insist that John isn't *unable* to imagining being a distressed refugee. Surely, he can engage with this novel scenario by drawing on his experiences feeling vulnerable or at risk. Nonetheless, note that even in these cases that give the appearance of being 'decoupled' imaginative exercises, John needs to draw on his own experiences.[13] Furthermore, this brings forward the limitations that John will face when engaging in this perspective-taking exercise. As we said in the previous subsection, the interactions available to John depend on expectations that are shaped by the specific way his relation to his sociohistorical environment is embedded in his affective states, e.g., his experiences of vulnerability as a white middle-class man.

The interactions of the situated imaginer are constitutive of the imaginative exercise insofar as her history of interactions continues to be relevant to understand the precise way in which the imaginative exercise unfolds.[14] The constitutive role of the situated body doesn't result simply from, e.g., the close connection between sensorimotor processing and processing involved in experiential imagination. Instead, it is insofar as it is essential to our understanding of the way exercises of experiential imagination unfold that the situated body and its contributions to the imaginative exercise are deemed constitutive and irreducible.

The three claims for which we have argued allow us to integrate cognitive and situated embodiment into robust embodiment to make sense of the features of experiential imagination. As noted by the phenomenological analysis, the possibilities of engagement the imaginer will discover in her virtual interaction depend on her sociohistorical location, her affective dispositions, and the projects that appear available. We can understand these in terms of the history of interactions of an agent situated in certain sociohistorical circumstances. Experiential imagination is sociohistorical: the interactions available in experiential imagination piggyback on imaginers' history of interactions in a sociohistorical location. Experiential imagination is affective: the relations between a situated agent and her sociohistorical circumstances are embedded in affective states that prepare her to interact in imagination in specific ways. Finally, experiential imagination is projective: specific possibilities of engagement present themselves as available during our virtual interaction, and they do so on the basis of our affective dispositions and previous experiences as situated agents. Experiential imagination is thus robustly embodied because the sociohistorically situated body makes an irreducible contribution to the imaginative project.

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[13]  In Sect. 5, we address cases of non-reality congruent imaginings. Notice that our claim isn't that these scenarios are unimaginable, but only that it is questionable how much they are of epistemological value in virtue of the embodied character of experiential imagination.

[14]  This is a version of what has been called explanatory externalism see, e.g., (Noë, 2007).

In the next section, we argue that from robust embodiment it follows that experiential imagination is subject to architectural constraints stemming from imaginers' situated history of interactions. Moreover, we argue that these constraints hinder its epistemological value when aimed at recreating the perspectives of those differently situated.

## 5 Imagining under constraints

In Sect. 2, we noted that the epistemological value of experiential imagination depends on architectural constraints that maintain the imaginative project reality-oriented (e.g., inference mechanisms, other beliefs, and sensorimotor regularities). But given that experiential imagination is robustly embodied, we can also identify constraints following from imaginers' *concrete* history of sensorimotor and affective interactions. Experiential imagination isn't simply constrained by imaginers' beliefs and expectations based on learned perceptual regularities. It is constrained by how imaginers expect to interact with the imagined scenario on the basis of their previous interactions with the world. This includes perceptual regularities, and, crucially, proprioceptive and interoceptive input, and specific affective dispositions as well. The access to detail and phenomenal salience depends on how imaginers are disposed to interact with the imagined environment, which depends on a particular history of sensorimotor and affective interactions. And this particular history of interactions involves the interactions of a situated subject with specific sociohistorical circumstances.

Note that these are still constraints that follow from the cognitive structure of an interactive imaginative exercise that depends on predictions based on learned regularities. But since these predictions involve not only sensorimotor effects, but affective dispositions and interactions with an environment in a broader sense, the cognitive structure constraining experiential imagination is one enriched by the particular interactions of concrete imaginers. Robustly embodied constraints, therefore, aren't simply general constraints, but concrete constraints that follow from a particular history of interactions of an imaginer with specific sociohistorical circumstances.

The constraints that follow from robust embodiment can bolster the epistemological value of certain uses of experiential imagination, namely, those that involve simulating interactions from imaginers' own perspective. Rucińska and Gallagher are right to note that an embodied account of experiential imagination can enrich existing accounts of the justificatory role of imagination by showing that, because they are rooted in perceptual and motor systems, imaginings are maintained reality-oriented, and are thus reliable and accurate (Rucińska & Gallagher, 2021). What we want to highlight is that the constraints that fulfil this role are precisely those that follow not simply from the fact that perception and imagination share mechanisms, but from the fact that these mechanisms are enriched from imaginers' concrete histories of interactions.

Rucińska and Gallagher illustrate the epistemological value of embodied constraints with the case of rock climbers and the role imagination can play in their training. Consider the case of Alex Honnold, the first person to climb El Capitan,

in Yosemite Valley, without a rope. In addition to making sure he could perform the necessary movements with no error margin, Honnold's success depended on being able to control his fear and remaining calm. Because he couldn't train on the wall every day, Honnold would practice by experientially imagining:

> I worked to cultivate that mind-set through visualization, which basically just means imagining the entire experience of soloing the wall. Partially, that was to help me remember all the holds, but mostly, visualization was about feeling the texture of each hold in my hand and imagining the sensation of my leg reaching out and placing my foot just so. I'd imagine it all like a choreographed dance thousands of feet up. (…) As I practised the moves, my visualization turned to the emotional component of a potential solo. Basically, what if I got up there and it was too scary? What if I was too tired? What if I couldn't quite make the kick? (Honnold, 2018).

Experiential imagination is able to fulfil this role for Honnold because it involves the enaction of his previous experiences on the wall, which depends on previous sensory, proprioceptive, and interoceptive inputs guiding the imagined interaction. Moreover, this imagined interaction can function as training because it is an interaction in its own right.

However, note that it is *Honnold's* history of sensorimotor and affective interactions that keeps his imagined interaction reality-oriented and grants it epistemological value. Because these constraints follow from who Honnold is as a concrete agent, embodied constraints bolster the epistemological value of experiential imagination as long as the simulation doesn't represent a significant departure from imaginers' own sensorimotor and affective history. John, an occasional gym-climber who has never practised route climbing outdoors, wouldn't be able to train by experientially imagining because he lacks the relevant sensorimotor and affective history to imaginatively interact with the scenario in the relevant way. Even if John's experiential imaginative exercise shares with Honnold's its cognitive structure, in lacking the relevant history of interactions, John lacks the relevant constraints to keep his imaginative project reality-oriented, and thus epistemologically valuable.

This means that, unfortunately, the robustly embodied constraints hinder the epistemological value of experiential imaginative projects that involve a significant departure from one's history of sensorimotor and affective interactions, as is the case for those differently situated. As we have argued in the previous two sections, the notion of robust embodiment aims at emphasizing the ways in which even a shared sociohistorical context shapes agents' orientation toward the world and experience differently depending on the social position they occupy. This orientation toward the world isn't simply a set of mental states that can be imaginatively adopted, but is embedded in bodily states and dispositions. Moreover, this orientation toward the world determines how agents imagine interacting. The very constraints that maintain experiential imagination reality-oriented limit its capacity to offer insight into what it is like for others who are differently situated. In these cases, imaginers lack the relevant history of sensorimotor and affective interactions that would allow them to interact with the imagined scenarios in the relevant ways as to accurately summon the relevant aspects of the perspective.

Note, however, that this isn't about *not being able* to experientially imagine certain things. As we said in Sect. 2, the embodied approach supports a weak version of pessimism according to which experiential imagination is unlikely to offer access to other perspectives because it is unlikely to accurately summon the relevant aspects of the perspective. The embodied account is consistent with thinking that imaginers are able to engage in non-reality congruent experiential imaginative exercises. The problem brought forward by embodied constraints concerns the epistemological value of experiential imaginative exercises that significantly depart from who we are and where we have been. Put differently, the problem is about accuracy conditions: about how accurately imaginers perform certain imaginative exercises, and about whether these are epistemologically valuable when operating under such constraints. While more work is needed in establishing accuracy conditions for perspective-taking exercises, embodied constraints support pessimism. The value of experiential imagination is more limited than acknowledged in the cases where it is invoked as being needed the most: understanding others. Moreover, the more radical the departure from imaginers' situation, the more limited the epistemological value of experiential imagination will be.

There might be strategies to partly overcome limitations, but how successful these are needs to be examined in future work. The imaginative exercise might involve what Kind calls scaffolding, i.e., the combination of different experiences to arrive at a simulation. Moreover, the embodied approach opens the door to the idea that experiential imagination is a skill and, in consequence, that our imaginative capacities can be improved (Kind, 2020a, 2020b). The caveat is, of course, that performance cannot be improved through imagined interactions alone. A skilful imaginer would need to expand her repertoire of actual interactions to broaden the scope of possible engagements that will present themselves as available in imagination. Nevertheless, this again brings forward the need to discuss accuracy conditions for this type of imaginative project. Scaffolding leaves open the possibility that experiential imagination might be a useful tool with the relevant training. But optimists would need to determine what would count as a successful experiential imaginative exercise.

One might also think that guided experiential imaginative projects could help in overcoming limitations. The engagement with narrative artworks has often been touted as having cognitive value in just this way. While one's experiential imagination alone mightn't be enough to accurately arrive at the relevant perspective to understand what it is like for someone differently situated, perhaps the imaginative engagement with art can offer the relevant insight. This strategy, however, isn't without problems. If the engagement with narrative artworks itself depends on experiential imagination, the embodied constraints will presumably also shape how one engages with them. For example, one of us has argued in previous work (Clavel-Vázquez, 2018) that the imaginative engagement with characters in fiction is partly determined by appreciators' situation. While the engagement with art could be an open avenue for optimism, further work would need to examine whether it could offer the relevant insight if it depends on robustly embodied experiential imagination.

Experiential imaginative projects could also be guided by beliefs imaginers share on account of inhabiting the same sociohistorical context. From these shared beliefs, perhaps imaginers can stipulate certain elements that, while unavailable in their imagined interactions, are crucial for recreating the relevant perspective. For example, John might be aware of the unsafe conditions women face. When imagining what it is like for Anna, he can stipulate *that* he feels vulnerable and in a constant state of alert. Additionally, the imaginative project could be guided by someone else's testimony of what it is like for them. Imaginers could stipulate elements of the perspective that are available through testimony. Perhaps John didn't have the relevant beliefs just from sharing a sociohistorical context, but through conversations with Anna he comes to know about the conditions women face in their everyday lives.

The possibility of supplementing experiential imagination with stipulation, however, brings forward the need to clarify the specific aims of perspective-taking in the first place. What do we hope to gain from experiential imagination in these contexts? Perhaps we engage our experiential imagination when we aim to derive mental states that make-up the relevant perspective and that aren't accessible. Say John knows, and he knows that Anna knows, that the chances of a woman being attacked by a stranger in the U.K. are low. John might engage his experiential imagination because he is trying to understand why Anna doesn't behave in accordance with her belief. By experientially imagining being Anna walking home alone, he hopes to arrive at the fear and feeling of vulnerability Anna experiences despite knowing she is likely to be okay. However, in the previous sections we have precisely argued that due to robustly embodied constraints, John's imagined interactions are unlikely to match Anna's perspective. Stipulation might help to guide the imaginative project. Perhaps through conversations with Anna, John learns about her fear and feeling of vulnerability so that he doesn't need to arrive at them by himself in imagination. But if these stipulations are what completed John's picture of Anna's perspective, we might question why he needed experiential imagination in the first place. All he needed was Anna's testimony. Moreover, why think that experiential imagination, rather than the conversations with Anna, was epistemologically valuable?

However, this might be a mischaracterization of the aims of perspective-taking. Perhaps what we expect experiential imagination to do is allow us to grasp what it is like to inhabit that perspective. This isn't, nevertheless, without problems. First, we have been arguing that due to robustly embodied constraints, it is unlikely that experiential imagination will succeed in recreating what it is like to be someone differently situated. Second, stipulations won't help in achieving this aim. It is unclear how John imagining *that* he feels fearful and vulnerable can help him imagine *feeling fearful and vulnerable*, which is the whole point of an imaginative episode aimed at understanding what it is like.

There is another way in which stipulations from testimony or shared beliefs could be of help. Perhaps they could guide the imaginative project in combining experiences we have had to arrive at least to an approximation of what it is like to be differently situated. Nevertheless, as we said before, to determine whether this scaffolding yields an accurate recreation of different perspectives that might be of

epistemological value, we would need to discuss what would count as such. If optimists want to argue that the approximation yielded under the constraints we have developed in this paper is enough to do the work, they need to clarify what the precise aims of perspective-taking imaginative projects and their success conditions are.

Determining what counts as good enough perspective-taking is a task for those who think it can be epistemologically valuable because the accuracy conditions will depend on the particular context and aims for which experiential imagination is invoked. If, for example, the aim of experiential imagination in the context of the ethical value of fiction is to exercise our capacity to slip into different points of view and to educate our emotions (e.g., Nussbaum, 1998), perhaps how closely the imaginative exercise matches the perspective of another is less important. Accuracy conditions in this case might be more lenient. But if, on the other hand, the aim of invoking experiential imagination in the context of understanding others is to make life-altering decisions, as in the cases that interest Paul, or to make quality of life assessments of differently-bodied individuals, as in the cases that interest Mackenzie and Scully, how closely experiential imagination matches the relevant perspective is of crucial relevance. Accuracy conditions in these cases will be more stringent.

Optimists seem to accept that while a full identification with others' perspective isn't necessary, accuracy conditions for achieving the particular epistemic gain of experiential understanding are quite demanding. For example, Bailey claims that the empathy on which humane understanding depends will be "more complete, all other things being equal, the more fine-grained, expansive and accurate the recreation of the other person's situation is" (Bailey, 2022, p. 53–54). Kind, on her part, claims that an experiential understanding of others' perspective demands "a deep and significant understanding of it, even if that understanding is not complete" (Kind, 2021, p. 249). What counts as deep and significant, how fine-grained and expansive the imaginative project needs to be in light of its aims, and whether that can achieved by the strategies surveyed above is up for optimists to explore in future work.

Note, nevertheless, that, in light of these strategies, a crucial insight of the robustly embodied approach is that understanding others demands that we go beyond our own imagination. We need to either inform ourselves of the conditions under which others differently situated interact with a sociohistorical context we share, i.e., become informed of the different norms and expectations social practices impose upon others inhabiting different locations. Or we need to engage with others to attend to their testimony of what it is like and take it at face value. Due to the constraints that follow from robust embodiment, it is unlikely that, by itself, this exercise will result in an accurate recreation of the perspective of others differently situated.

## 6 Concluding remarks

We have argued that experiential imagination is robustly embodied and that, as such, it is constrained by imaginers' situated history of sensorimotor and affective interactions. Experiential imagination should be understood as a virtual interaction, so

that the simulation of the relevant experiences results from possibilities of engagement that we discover as we interact with imagined circumstances. It is embodied because the virtual interaction depends on our situated history of interactions. For these reasons, accounting for experiential imagination requires us to consider not only imaginers' internal states, but situated agents and their interactions with socio-historical circumstances. We have argued that from this it follows that experiential imagination is subject to constraints that stem not simply from its cognitive structure, but from who we are as concrete situated agents. And we have argued that these constraints substantiate pessimism about the epistemological value of experiential imaginative projects aimed at recreating the perspective of others differently situated.

The limitations that follow from the embodied approach mean that we should be cautious about the presumed epistemological role we assign to experiential imagination, for example, in the context of empathy and the ethical value of literature. This needn't mean that we do without experiential imagination altogether. But it does mean that it becomes important to examine the consequences of embodied constraints for the accuracy of experiential imagination and its purported benefits. It could be that even with its limitations, experiential imagination remains the best available strategy to do the work we need. Or it could be that, because we routinely overestimate its insights, experiential imagination makes us overconfident and complacent in our presumed understanding of others. Further work is necessary to address these matters.

**Data availability** No data and additional material are associated with this work.

**Code availability** No custom code was used for this work.

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