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► **To cite this version:**

Pablo Fernandez Velasco, Roberto Casati. The many faces of disorientation: a response to Daniel R. Montello. *Spatial Cognition and Computation*, 2020, 20 (4), pp.314-327. 10.1080/13875868.2020.1772267 . ijn\_03059161

**HAL Id: ijn\_03059161**

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Submitted on 22 Nov 2022

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# The many faces of disorientation: a response to Daniel R. Montello

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## ABSTRACT

Daniel Montello's commentary on our article "Subjective Disorientation as a Metacognitive Feeling" raises many interesting points. In this response, we hope to show that what might at first seem like strong disagreements are for the most part minor issues and that the disagreements that remain are of the fruitful kind that encourage further discussion and research.

KEYWORDS Disorientation; phenomenology; metacognition

Daniel Montello's commentary on our article "Subjective Disorientation as a Metacognitive Feeling" raises many interesting points (Fernández Velasco & Casati, 2020; Montello, 2020). First, Montello addresses our distinction between being lost and feeling disoriented and contrasts it with his own characterization of disorientation. Then, he tackles our characterization of disorientation as a metacognitive feeling. Finally, he discusses some aspects of our introduction. Here, we will respond to these issues according to their order of appearance in our original article. In section one, we will address the issues related to our overview of disorientation-related research. In section two, we will revisit the distinction between being lost and feeling disoriented. In section three, we will defend our claim that disorientation is a metacognitive feeling. In section four, we will compare in depth our characterization of disorientation with Montello's. In this response, we hope to show that what might at first seem like strong disagreements are for the most part minor issues and that the disagreements that remain are of the fruitful kind that encourage further discussion and research.

## 1. Introducing disorientation

Discussing our introduction to the empirical findings related to disorientation, Montello observes that the idea of a mentally represented environment has been around since Trowbridge (1913) and that there is no clear need for neuroscience or rodent studies to establish that humans mentally represent

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environments. We agree that in a relatively uncontroversial sense, we only need to introspect to find mental representations of our environment. In a less trivial sense, a lot can be learned about mental representations of our environments without the help of neuroscience, as plenty of work in psychology shows (some of Montello's own work being a telling example). However, what Trowbridge was referring to as "imaginary maps" might be slightly different from Tolman's cognitive maps. Trowbridge seems to construe them in picture-like terms and is quite clear to point out that only humans can have such "imaginary maps" and that other creatures "know only the region which they have traversed" (p. 889, Trowbridge, 1913). Of course, Tolman is going in quite a different direction, and he actually takes rats being able to infer information about regions which they have not traversed as support for the idea of the cognitive map. Mental maps are theoretical constructs, the result of an inference to the best explanation of the ability to figure out shortcuts and detours. At the end, it is Tolman's line of research that has influenced much of the work in neuroscience, which is not to say that neuroscientists do not recognize Trowbridge's work – the seminal work "the Hippocampus as a Cognitive Map" references Trowbridge's 1913 article as early evidence for mental mapping, together with Gulliver's (1908) and De Hutorowicz and Adler (1911) work, but the book is nevertheless dedicated to "E. C. Tolman, who first dreamed of cognitive maps in rats and men" (p. v, O'Keefe & Nadel, 1978).

Historical ramifications in the study of spatial cognition aside, what made us focus on this line of research was a matter of scope. We never intended to provide an in-depth overview of spatial cognition research, and we had to be selective. An important reason for discussing neuroscientific research is that one of the major and most comprehensive recent works in disorientation is Paul Dudchenko's *Why People Get Lost*, and much of that book pivots around the neuroscience of spatial cognition (Dudchenko, 2010). Likewise, it was outside of the scope of our paper to provide an exhaustive account of the rich variety of multidisciplinary research that deals with spatial disorientation. Instead, we directed the reader to Schmidt Di Friedberg (2017), who does a thorough job at precisely that. Needless to say, we totally agree with Montello's claim that geography, cartography, geographic information science, anthropology, planning, and architecture have a lot to contribute to our understanding of disorientation. The works he mentions are particularly relevant and deserve to be brought into focus.

## 2. Being lost versus being disoriented

Contrasting our distinction between being disoriented and being lost, Montello traces a distinction between being geographically disoriented and being misoriented. This is a distinction that he first introduced in a recent

article (Montello, 2017), although it builds on his previous characterization of geographic disorientation (Montello, 2009). As we acknowledge in footnote 1, our respective distinctions are fairly similar. The difference may appear to be only terminological, but it also reflects each author's particular characterization of disorientation. This becomes a bit harder to see in Montello's commentary, because he uses "being disoriented" and "lost" interchangeably. The reason for this is that he construes "being lost" to be a colloquial expression and "disorientation" to be a technical term. Indeed, "being lost" is often used colloquially and "disorientation" is often used technically. Nevertheless, "being lost" is also used in a technical way, as in "lost person behavior", or in some wayfinding (Carlson, Hölscher, Shipley & Dalton, 2010) and neurology studies (Lemoncello, Sohlberg & Fickas, 2010). And "feeling disoriented" is by no means only a technical term the way that "topographical disorientation" is. People talk about feeling disoriented in colloquial ways. At the end, this is largely a matter of clarifying how we use our terms.<sup>1</sup> If what we refer to as "disoriented" is synonymous to what Montello refers to as "geographically disoriented" and what we refer to as "lost" is synonymous to what Montello refers to as "misoriented", then the disagreement is a superficial one. What is important is whether the underlying concepts be aligned, and that we can locate and discuss our theoretical differences regarding those concepts that do not appear to be aligned.

Terminologically, there are two reasons for using the disorientation/lost rather than the disorientation/misorientation distinction. The first one is that (as Montello points out) "objective disorientation" is an oxymoronic term. Being "objectively lost", however, is not. The second one is that "misorientation" has existent technical uses that do not correspond to Montello's use of the terms. The term is mostly used in crystallography, in a way that is unrelated to issues of spatial cognition (e.g. Kocks, Tomé & Wenk, 1998). Most importantly, in spatial cognition research, Dudchenko (2010) already made a distinction between disorientation and misorientation, and it does not correspond to Montello's later distinction. For Dudchenko, during misorientation the subject may represent the spatial relations between out-of-view landmarks, but their heading relative to those landmarks is misaligned, while during disorientation, the spatial representation itself becomes unstable (Dudchenko, 2010). Given that "misorientation" has established uses both within and outside the study of spatial cognition, it is perhaps advisable to steer clear of the term. Hence, rather than adding new terms to the mix, we think that it suffices to clarify our usage of the terms "disoriented" and "lost".

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<sup>1</sup>A potential misunderstanding that we need to clarify is that we do not think that the distinction between being lost and being disoriented is a matter of severity, but a matter of objectivity (third person reports) and subjectivity (first person reports). If people do indeed tend to reserve the term lost for severe episodes of disorientation, that would be an interesting empirical finding about the colloquial use of the terms, but not one that relates to our distinction.

To get a sense of the similarities and differences between Montello's understanding of disorientation and ours, the following paragraph from his commentary is most illustrative:

That an awareness of spatial uncertainty is a critical component of being geographically disoriented is certainly true. So much so that the authors' skeptical claim that "there is no unified account of the phenomenon" does not strike me as accurate. In fact, this description of feeling unsure provides just such a clear, unified account of being disoriented (lost), and a definition based on this account is widely consistent with the explicit or implicit conceptualizations of disorientation held by various academic research communities, professional search and rescue, art and literary traditions, lay usage, etc. -p. 1, Montello (2020)

There is thus an agreement between Montello and us that an awareness of spatial uncertainty is a critical component of being disoriented. Moreover, he claims that this description of feeling unsure provides a unified account of the phenomenon that is consistent with other implicit and explicit characterizations. This is precisely the central point of our paper. Our aim is not to defenestrate other characterizations of disorientation, but to provide conceptual tools and phenomenological insights that serve to unify different understandings of the phenomenon under one characterization. That we broadly agree on the matter is clear when Montello states that "disorientation is about your phenomenology of uncertainty; misorientation [our being lost] is about the objective correspondence between your spatial belief and your actual location or route" (p. 5, Montello, 2020). As for our actual disagreement with Montello, it seems to come down to the way we each understand the type of awareness that is characteristic of disorientation, an issue that we will focus on in the final section of this response.

Regarding objectively being lost (Montello's "misorientation"), there are some misunderstandings and some substantive issues. Misunderstandings first: when we say that disorientation and being lost are generally concomitant, we do not mean that they are not potentially distinct and separate. They are, and they just tend to converge. And when we mean that they come apart only in borderline cases, we do not mean to say that they are uncommon. In fact, we provide several accounts of both illusions of orientation and of disorientation when we introduce both concepts. We simply mean that these are non-paradigmatic cases. People tend to feel disoriented when they are lost, and they tend to be lost when they feel disoriented. It is not only a matter of prevalence; it is simply that subjects will tend to realize whether or not they are lost. As a result, the paradigmatic cases of disorientation happen when the subject in question is both disoriented and lost. The double dissociation of people being disoriented/lost actually has equivalences with other metacognitive feelings: it is a general phenomenon of which disorientation is a specific case. People can feel confident about the result of a simple multiplication but be actually wrong. Conversely, people can feel unsure

about the result, which they nevertheless got right. Just as with disorientation, the subjective feelings of rightness and wrongness do not always coincide with objective rightness and wrongness, but they will tend to coincide, because the feelings are designed to be tracking rightness and wrongness.

As for the substantive issues, it all seems to come down to the fact that characterizing being lost objectively is not an easy task, no matter what term you use to refer to it. We characterize being objectively lost as the subject's inability to find her way. We also provide Golledge's and Rieser's characterizations as an alternative: a failure of the way-finding process, and not knowing the directions and distances to get to a given point, respectively (Golledge, 1999; Rieser, 1999). Montello's characterization (of misorientation) relates to the objective correspondence between your spatial belief and your actual location or route, which seems close to Rieser's. The important thing is that none of these characterizations are cast in first-person terms and none of them have subjective experience as their primary target explanandum. We mentioned an epistemological issue regarding the characterization of being objectively lost (that we might need first-person data to determine if a subject is lost) and we showed some ways in which objective characterizations of being lost have led to objective measures in the literature.

In his commentary, Montello highlights a different challenge for objective characterizations of being misoriented (i.e., objectively lost), which is that subjects will never know their *exact* location (e.g. their exact GPS coordinate), and we therefore require a metric (established subjectively) to define how far the subject's believed and real locations need to be for us to consider the subject to be misoriented. The problem here comes from the possible uses of the word "objective". In a strong sense, "objective" can be understood as something like "not influenced by subjectivity". This is the sense in which Montello seems to be using it. With this strong understanding of objectivity, Montello's challenge raises a spatial issue and a broader ontological issue. The spatial issue is that, following Montello's characterization, a subject is lost if and only if they *believe* to be in a different place than they actually are, and to make sense of that definition we need to establish, to the right degree of metric specification, what a place is, and what it means for a subject to be in that place. A city is probably too wide of a place, a point expressed in latitude and longitude coordinates probably too narrow. The problem is that somewhere down the line, we will need to make an arbitrary subjective decision, either drawing on a case by case scenario or tracing the line for a stable criterion (e.g. a 10 m radius from estimated location).

Note that our characterization of being lost is cast in terms of ability and is therefore not actually affected by the spatial issue. However, it is probably affected by the ontological issue arising from Montello's challenge, which is that the right metric to judge whether or not someone is lost (misoriented) depends on the task at hand, and this lands us right back outside of

objectivity (in the strong sense). In a similar way, the possibility of ascertaining whether or not the subject is able to find their way depends on the task at hand. However, we never intended to use “objectivity” in such a strong sense. We simply meant to characterize being objectively lost in a way that did not necessarily pertain to the subjective experience of disorientation, i.e. that did not require subjective awareness of the phenomenon. Illusions of orientation (during which the subject is lost objectively but does not feel disoriented) show that such a characterization is both possible and useful. If it were not possible, we would be unable to differentiate illusions of orientation from paradigmatic cases of orientation (in which the subject is neither disoriented nor lost). That said, the issues with an objective characterization of being lost that Montello raises are not negligible. On the contrary, they are extremely interesting and should be explored more in depth. Unfortunately, this is certainly outside of the scope of both our paper and the present response. At the end, our main focus is subjective disorientation, not objectively being lost, and we stay neutral for now regarding the precise way in which the latter should be characterized.

### 3. Disorientation and emotion

We have indicated that we offer an *affective* account of disorientation while Montello offers a *doxastic* account of disorientation (i.e. an account cast in terms of belief). In the beginning of the third section of his commentary, Montello offers us two horns of the following dilemma regarding our claim that disorientation is primarily an affective state: If our claim is that disorientation is a metacognitive feeling, then our account is not any more affective than his account is; and if our claim is based on the emotional states that accompany disorientation, then we are mixing the cognitive, behavioral and affective aspects of the phenomenon. As is probably clear from the title of our paper, we choose the first horn of the dilemma. In what follows, we will first show why our claim that disorientation is a metacognitive feeling results in the claim that disorientation is an affective state. Then, we will discuss some of the issues Montello raised in discussing the second horn of the dilemma (i.e. the emotions associated with disorientation). Finally, we will contrast our characterization with Montello's.

Montello is quite succinct when it comes to discussing the first horn of the dilemma. He claims that if our account is that disorientation is a metacognitive feeling, then it is not a particularly affective account. To support his claim, he simply says that a psychologist might refer to a metacognitive feeling not as an affective state but as a cognitive state of awareness, which does not always require the subject being aware of a referent or antecedent for the state. When we dig into it, this horn of the dilemma is not as sharp as it might have first seemed. We agree that metacognitive feelings do not always require the subject

being aware of a referent or antecedent for the state, although this awareness is most commonly the case. And, of course, we claim that disorientation is a cognitive state of awareness, although it all depends on how one thinks of the terms. It is a state of awareness (i.e. a phenomenal state with a particular phenomenology) that reflects on a cognitive process (in this case, the online system of spatial representation). And yet, all of this is perfectly compatible with metacognitive feelings being affective states.

That metacognitive feelings are affective states is widely acknowledged not only in philosophy (Dokic 2012; Proust, 2014), but also in psychology (for a review, see Schwarz and Clore, 2007). Montello goes on to explain his position that metacognitive feelings are not affective by saying that they are something like an intuition, as in a “gut feeling”. We imagine that Montello points to intuitions because they seem to be states of awareness that are paradigmatically cognitive. However, there is no *prima facie* reason to believe that this implies that they are not affective (unless one has extreme cognitivist leanings – for an early rebuttal of such positions, see Zajonc, 1980). In fact, feelings of error, confidence, etc. are all affective states related to cognitive processes. They are phenomenal experiences, they have valence, and they guide behavior (including mental behavior), just like other feelings. They also appraise a particular object (the cognitive process in question) in a feeling characteristic way (e.g. as defective in the case of the feeling of error), which corresponds to their formal object. Asher Koriat, one of the leading researchers in metacognition, is quite explicit in saying that not only are metacognitive feelings affective states, but also that they have underlying mechanisms in common with other types of affective states: “The studies that have attempted to elucidate the *bases of the* metacognitive feelings underlying JOLs, FOK judgments [Judgments of Learning and Feelings of Knowing], and subjective confidence seem to suggest that such feelings are based on the feed-back from behavior, as William James suggested for emotional feelings” (p. 88, Koriat, 2006). Only this year, an empirical study of what might be considered the paragon of intellectual activity, the feeling of insight, made headways in uncovering the said dynamic mechanisms, of which positive affect is a crucial component (Skaar & Reber, 2020); a result that is in line with previous theoretical (Topolinski & Reber, 2010a) and empirical (Shen, Yuan, Liu & Luo, 2016) work in psychology.

Discussing the second horn of the dilemma – i.e. conflating disorientation with strong emotions related to the phenomenon –, Montello argues that we have to keep these separate to understand how the emotions arise in response to the subject’s belief that they are lost. We agree that we should not conflate these aspects. In particular, we should not confuse the feeling of disorientation with other associated feelings such as frustration, confusion or vulnerability (all of which have been reported in our corpus). However, we should not prioritize cold cognition (e.g. the belief that one is lost) over affect (e.g. the feeling of being



disoriented). Metacognition is a dynamic and richly affective process. In most cases, affective states will be the primary form of subjective awareness of metacognitive processes monitoring orientation. When a subject is disoriented, the affective awareness of disorientation will emerge much faster than the corresponding cold cognition belief. Moreover, it is the affective aspects of disorientation which will shape subjective experience (Fernández Velasco and Casati, forthcoming). Disorientation is primarily affective, not a belief resulting in affect. And it is *qua* affective state that disorientation goes on to elicit a cascade of related emotions. Affective states do not just arise in response to a belief, as Montello defends. Affective states are the underlayer from which a belief emerges. Cognition and affect operate at different timescales and interact in dynamic ways that an overly rigid emotion-cognition divide risks failing to recognize.

Montello makes two extremely interesting points. The first one is that, as he nicely puts it, getting lost has long been recognized as a universal well-spring of strong emotions (he illustrates this by pointing to a rich source of references). The second one is that we need to differentiate among moments in the time course of disorientation episodes. Regarding the first point, the strongly emotional instances of disorientation are particularly useful when it comes to phenomenological analysis, because they bring to the fore some of the essential aspects of the experience (Fernández Velasco, 2020). Moreover, that disorientation should tend to result in strong emotions is very much what one would expect based on our characterization, because metacognitive feelings (e.g. the feeling of uncertainty) have been shown to modulate and in particular intensify other affective reactions (Bar-Anan, Wilson and Gilbert 2009). However, we do not take this to mean that disorientation is always a strongly emotional state. There will be some low-stakes situations in which the affective aspects of the experience will be relatively subdued. This is again consistent with other metacognitive feelings, which often reside in the fringe of consciousness (James, 1890; Mangan, 1993, 2000; Norman, Price & Duff, 2010; Reber, Fazendeiro & Winkielman, 2002).

Montello's second point – that we need to differentiate among moments in the time course of disorientation episodes – provides us with a novel research direction. It would be interesting to explore how disorientation emerges and changes in levels of valence and arousal, how it elicits other affective states, how it guides behavior, and how it subsides once the subject finds their way (probably giving rise to a different affective state). The upshot of characterizing disorientation as a metacognitive feeling is that affective forms of metacognition evaluate and regulate navigation in a dynamic way. This is in line with the dynamic nature of metacognitive feelings, which work in such a way that “monitoring drives control, and feedback from control operations then produces monitoring output, which in turn drives control, and so on” (p. 98, Koriat, 2006; for empirical evidence see Koriat & Levy-Sadot, 2001).

#### 4. Affective and doxastic characterizations of disorientation

We hope that in discussing the two horns of Montello's dilemma, we have further clarified our characterization of disorientation. To conclude, let us now contrast it with Montello's characterization:

Geographic disorientation (being lost) occurs when people are aware they are not certain about where they are and/or where they need to go to get to their destination.

-p.5, Montello (2020)

There is a potential ambiguity in Montello's definition concerning the use of awareness, because the characterization does not specify the way in which subjects are aware of uncertainty: they could believe that something is uncertain, or they could be undergoing a feeling of uncertainty. Later, Montello makes an explicit commitment to a doxastic characterization: "you cannot be disoriented or lost unless you *believe* you're not sure of your location or your way" (p. 5, Montello, 2020). There is a worrying lack of parsimony in the resulting adjusted characterization: "Geographic disorientation occurs when people are aware that they believe that they are not certain about where they are and/or where they need to go to get to their destination." Contrast it with an affective rendition of the same characterization<sup>2</sup> "disorientation occurs when people feel uncertain about where they are and/or where they need to go to get to their destination". Moreover, our actual definition does not involve an inclusive disjunction.

This lack of parsimony is not just an esthetic worry. It reflects a lack of simplicity and frugality in the required forms of metacognition to bring the state about. Koriat and Levy-Sadot (1999) make a useful distinction between metacognitive *feelings* and metacognitive *judgments* (theory-based judgments based on a deliberate and explicit inferential process). We claim that disorientation is at heart a metacognitive feeling. It seems that Montello claims disorientation is a metacognitive judgment. The literature on metacognitive feelings provides us with plenty of examples of reliable affective mechanisms that monitor cognition and control behavior (for a review see Koriat, 2006). *Ceteris paribus*, one expects cognition to favor fast and frugal cognitive processes (Gigerenzer & Todd, 1999). In other words, to favor metacognitive feelings over metacognitive judgments.

We do not claim that deliberate and explicit inferential process cannot result in subjects believing that they are lost. We simply claim that these cases are the minority, and that in the majority of cases, the *feeling* of disorientation will emerge from fast and frugal, affective process of metacognition monitoring and controlling navigation. Of course, metacognitive feelings give rise to beliefs, and if a subject feels disoriented they will tend to think

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<sup>2</sup>Note however that in our paper we characterize disorientation in terms of confidence, not uncertainty.

that they are lost. Moreover, if a subject feels disoriented, this is likely to prompt a deliberate process of inference (as was often reported in our corpus). Take the Feeling of Rightness (FOR) as a case in point. A series of experiments by Thompson and colleagues showed that when subjects had to solve problems, not only did their FOR underlay whether or not the subjects judged their initial response to be right, it also influenced for how long the subjects engaged in further, explicit deliberation about the problem (Thompson et al., 2011).

A last way in which a doxastic characterization falls short is with regards to phenomenology. To push this point, let us look at footnote one, where Montello remarks that people get disoriented in ways that are not literally spatial but metaphorical. It is true that people often talk of being temporally disoriented, politically disoriented, etc. Elsewhere Montello says that people are often said to get lost in databases and other information systems, but that this disorientation is only metaphorical (Montello, 2009). He then goes on to discuss the differences between navigating physical and web space (e.g. web space does not exhibit distance decay). What the metaphors of disorientation actually exemplify is that the similarity between spatial and metaphorical forms of disorientation is first and foremost a phenomenological similarity. Feeling spatially disoriented is (at some level) phenomenologically similar to feeling temporally disoriented (e.g. when you wake up and don't know what time it is). Metaphors of disorientation is another interesting topic for future work. What matters for the present discussion is that there is something it is like to be disoriented. However, different beliefs are hardly characterized from their phenomenology the way that different affective states are. As a result, an affective characterizing of phenomenology is more consistent with disorientation having a particular phenomenology.

To summarize, the affective characterization of disorientation is preferable to the doxastic characterization because:

- It is more parsimonious.
- Metacognitive feelings are faster and more frugal than metacognitive judgments.
- It builds on previous research on metacognitive feelings (e.g. how they arise and how they guide behavior).
- It captures the phenomenology of disorientation.

The affective-doxastic difference results in a minor disagreement regarding Montello's claim that a subject must have a destination to be disoriented. We agree with Montello (and with Tolkien) that not all those who wander are lost. However, the lesson we take from that verse is not that it is impossible to feel disoriented if one is wandering, just that it is possible to wander without feeling

disoriented. The requirement to have a destination to be lost arises from the way in which Montello has structured his characterization of disorientation. If a person is wandering in a what is assumed to be a familiar environment and suddenly encounters an unexpected place, that person will most likely feel disoriented. Reversals of orientation illusions are a good example of this principle (Binet, 1885, 1894):

Instead of taking the right to return to the Place de la Republique, I took the left toward the Hotel de Ville ... While on my way I felt sure of meeting the Place de la Republique. Thus my confusion was extreme on coming to the Hôtel de Ville ... I was some moments in recognizing it.

-report in p. 341, Binet (1894).

These are fairly common occurrences. It is not hard to imagine that one is wandering (e.g. in the third "arrondissement" of Paris), goes into a shop, comes out and takes a right instead of a left so that, after a while, instead of seeing the place one expected (e.g. Place de la Republique) sees a place at the other end of the street (e.g. Hôtel de Ville), and that as a result one feels disoriented. This poses a problem not only for Montello's assertion about wandering, but also for his requirement that one needs to be uncertain about one's place and/or destination to be disoriented. One might know where one is (e.g. in front of Hôtel de Ville) and the route from there to one's destination (e.g. if one were trying to go to Place de la Republique it would suffice to turn around) and still feel disoriented. This is something that is better accommodated by our characterization: if there is a rapid disintegration in the subject's online system of spatial representation (e.g. a 180° degree switch with respect to a global environment), we can expect the subject to feel disoriented.

Still, it seems harder to become disoriented when wandering. This is part of the larger topic of context, which we already acknowledged when we said that the evaluation process that gives rise to disorientation is context-sensitive.<sup>3</sup> Context-sensitivity, of course, is a well-known attribute of affective states (Davidson et al., 2000) and is particularly important for negative affective states (Coifman and Bonanno, 2010). As we indicate in our paper, whatever spatial representation is being monitored will be an action-oriented representation of a meaningful space. If the subject is wandering, there will be very few things of relevance that could prompt the feeling of disorientation. Generally speaking, if the task does not require a subject to be oriented, then that subject might undergo what we would dub 'disorientation

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<sup>3</sup>Even if the case of wandering does not impel us to change our characterization, the strong degree of context-sensitivity exhibited by disorientation might mean that our characterization needs to widen. We find more than enough ground to assert that disorientation is a metacognitive feeling. What precise process disorientation is evaluating and regulating, and the specific mechanisms involved is rather a question to be settled empirically. In the standard case, we believe the evaluated process to be the online system of spatial representation. However, it might be better to talk of disorientation evaluating and regulating active navigational processes broadly understood, because this wider understanding encompasses cases like following a GPS, a guide, being on a plane, etc.

indifference', which extends beyond the case of wandering. 'Disorientation indifference' is likely to occur if we are following a guide or if we are a passenger in a cab. Again, 'disorientation indifference' is context-sensitive because disorientation is context-sensitive; it does not imply that nothing can make a wanderer feel disoriented. If we are wandering and we find ourselves in an extremely unexpected place, or if we find ourselves unable to find our way back, we will in all likelihood feel disoriented. When we are wandering, we don't much care where to go, but that indifference has limits.

"Would you tell me, please, which way I ought to go from here?"

"That depends a good deal on where you want to get to," said the Cat.

"I don't much care where –" said Alice.

"Then it doesn't matter which way you go," said the Cat.

"– so long as I get *somewhere*," Alice added as an explanation.


- *Adventures in Wonderland*, Lewis Carrol (2011: 1865)

## Funding

This work was supported by the Agence Nationale de la Recherche [ANR-10-IDEX-0001-02 PSL,ANR-17-EURE-0017 FrontCog].

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