Are Cartesian Sensations Representational?

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Are Cartesian sensations representational? To contemporary philosophers of mind, this question might seem more than a little strange. Sensations, the thought goes, are non-representational by definition; they comprise whatever is left over after sense perceptual experience has been exhausted of its representational content. Sensations characterize what it is like to be a human perceiver or how things appear to human perceivers, without so much as purporting to present anything actually existing in extramental reality. What is debated today is whether any such perceptual leftovers exist.¹ This whole discussion is typically taken to be the legacy of Descartes, who is supposed to have introduced sensations to us in the first place. Having excised colors, sounds, flavors, odors and tactile qualities from the corporeal world, the story goes, he relocated them in the mind in the form of sensations that do little more than give an ornamental (and epistemically misleading) flair to our sense perceptual experience. So how does the question even arise?

The question arises not because Descartes is especially unclear about what sensations are, but because he is unclear about what exactly sensory representation might be. Sensations include all those obscure and confused modes of mind that arise from the union and intermingling of mind and body: conscious experiences of pain, tickling, hunger, thirst, light, colors, sounds, flavors, heat, etc.² There is little doubt that Cartesian sensations constitute the qualitative character, or what-it-is-like-ness, of human
experience. But it is an open question in the context of Descartes’ work whether that is all they do. It remains a question whether they also represent the corporeal world in some way, and, if so, how.

Descartes is pulled in at least three different directions on this matter. After briefly considering these three lines of thought, I turn my attention to the third, according to which sensations do indeed represent the corporeal world in some way. The question to be asked is, how? What account of mental representation could possibly underwrite Descartes’ temptation to say that sensations of color and pain represent something in the corporeal world? My aim is to bring to light some of Descartes’ most creative and promising philosophical work on sensations, work that has unfortunately been overshadowed by his more influential skeptical attack on the senses. Attention to this work reveals a Descartes concerned not simply to dismiss sensations as mental ornaments and impediments to knowledge, but, more positively, to rethink their proper role in the cognitive economy of the human mind. In Descartes’ modified conception of the role of sensations we find the unlikely beginnings of what we might today call a bio-functional account of sensory representation.

1. Cartesian Sensations: Three Strands of Thought

Before answering the question whether Cartesian sensations represent, something needs to be said about what representation is. Unfortunately, the notion of representation, and especially mental representation, is a philosophically slippery one, meaning different things to different philosophers. For the moment, let’s stipulate that a mental state is representational if it acquaints the mind with something existing in extramental reality.
My sensory perception of the shape of my desk is representational in that it acquaints me with a real property of my desk; my intellectual perception of God (on Descartes’ view) is representational in that it acquaints me with a really existing substance. This stipulation is vague, leaving unspecified the conditions of success for acquaintance: Does the mental representation have to present the thing to the mind just exactly as it is in extramental reality? Does the thing have to be part of the causal chain that produces the representation? Can there be mental representations of potentially but not actually existing things? The vagueness is intentional, for one of the aims of the present inquiry is to figure out what conditions Descartes places on mental representation, and in particular on sensory representation. These conditions change along with Descartes’ oscillating views about whether sensations are representational. At the very least, however, a mental representation is a relation between mind and world that brings the former into cognitive contact with the latter.

Some of Descartes’ texts support the standard interpretation that sensations are non-representational; they do not acquaint the mind with anything in extramental reality at all. Sensations are mere sensations with no cognitive or semantic or informational content. In more contemporary language, they are qualia or phenomenal qualities. Thus at Principles I.71, Descartes says flatly that sensations of tastes, smells, sounds, heat, cold, light, colors and the like “do not represent anything located outside our thought” (AT VIII-A 35). This bald statement is reinforced by others in which Descartes says that sensible qualities like color and pain are “clearly and distinctly perceived when they are regarded merely as sensations or thoughts” (AT VIII-A 33; see also AT VII 440 & AT V 291). If sensible qualities are themselves nothing but sensations, then there is nothing in
extramental corporeal reality for sensations to be representationally related to: a sensation of blue cannot represent some extramental blue, for there is no such thing. Descartes’ strongest non-representationalist line of thought suggests further that sensations do not even purport to represent anything extramental to us: if we could isolate a color sensation in our perceptual experience, it would not seem to us as if the extramental world were being presented to us as being some way (e.g., blue over there); it would only seem to us as if our mind were being affected in some qualitatively distinctive way. Of course, we are not in the habit of isolating our sensations; instead, we habitually treat (or mistreat) our sensations as though they were representational perceptions of the corporeal world by judging that there is something out there both causing and resembling our sensations. It is just this habit, the story goes, that Descartes is at pains to break. He wants us to see sensations for what they really are: delightful but cognitively vacuous decorations of the mind.

Other texts suggest the marginally more robust view that sensations at least appear or purport to represent things in extramental corporeal reality; that is, in having a sensation it seems to me that the corporeal world is presented as being some way (e.g., as being colored or smelly over there). This view is suggested by passages in which Descartes claims that all ideas are “as it were images of things” (tanquam rerum imaginis) (AT VII 37) or “as if of things” (tanquam rerum) (AT VII 44). The suggestion here is that ideas always seem to represent something, even if they really do not, and even if I cannot tell from the inside (due to their obscurity and confusion) whether they really do (see AT VII 43-4 & 234). Since sensations are ideas, they too must at least seem to represent something. Indeed they do seem to: sensations do not
seem to present us with the contents of our own minds (as the non-representationalist line suggests), but with things in the world. When we have pain sensations, the experience seems to acquaint us with something going on in our bodies; as Descartes notes, we feel pain as if it were in the foot, not as if it were in the mind (see AT VII 76 & 88; AT VIII-A 32-3). And when we have color sensations, the experience seems to represent the surfaces of bodies to us as being colored. Whether sensations succeed in representing features of extramental reality is another matter. On the present line of thought, there is nothing in extramental reality that corresponds to a sensation as res repraesentata to res repraesentans, and so sensations do not succeed in representing. Sensations thus seem to direct the mind to features of extramental reality but they really do not.

Both lines considered so far maintain that sensations fail to represent on the ground that there is nothing in the Cartesian corporeal world that corresponds exactly to (or resembles) what is phenomenally presented to the mind in sensory experience. This resemblance condition on representationality is challenged by the third line of thought.

Some of Descartes’ texts suggest that sensations not only seem to represent features of extramental reality, but really do. The catch is that what sensations succeed in representing may not be exactly as they sensorily appear. Sensations do not fail to represent features of the corporeal world, but they represent them as other than they really corporeally are, i.e., they represent them as something other than proper modes of res extensa. Resemblance is not a condition on representationality. This idea arguably underwrites Descartes’ claim that sensations are obscure and confused perceptions or confused modes of thinking (AT VII 80, 81 & 83; AT III 424). The thought here is that my sensory experience represents the corporeal world to me, but I may not be able to tell,
on the basis of that experience, its true nature. That’s why we call the experience ‘obscure and confused.’ Consider an analogy: earplugs may distort my auditory perception of your words; nevertheless, your words are exactly what I am (imperfectly) hearing. In an analogous way, all sound sensations (however free of external distortion) may be distorted perceptions of, say, the commotion of air particles. They may not allow for an adequate apprehension of the commotion any more than my earplug-filled ears allow for an adequate hearing of your words, but this need not prevent them from counting as representational perceptions of the commotion.⁶

The representationalist line of thought is also suggested by passages in which Descartes says that sensations “do not always exhibit to us external bodies as they are in themselves but only insofar as they are related to us and can benefit or harm us” (AT V 271; AT VIII-A 41; AT VII 83 & 89). These passages suggest that we get a biased view of bodies through our sensations (a view tainted by our own concern for survival); it is, however, a view of bodies nonetheless. These passages are consistent with the earlier ones: it is because they are biased perceptions that sensations are only obscure and confused perceptions of bodies as they are in themselves. On this line of thought, I make a systematic mistake in judging on the basis of my sensations that bodies in extramental reality are just as they appear to be, but I do not make a systematic mistake in judging on the basis of my sensations that bodies are being represented to me (see AT VII 81). Sensations establish at least some sort of cognitive contact between mind and world. Insofar as they do that, they are representational.⁷

Although the representationalist strand of Descartes’ thought about sensation has received some attention in recent secondary literature, the literature is largely dedicated
to arguing simply that Cartesian sensations are (or are not) in fact representational, without exploring in any detail the nature of this alleged representationality. In what follows I begin to fill in this gap. It is not my intention to argue that Descartes’ official line on sensation is fully representationalist. I am not convinced that Descartes had a decided view on the matter. My immediate interpretive aim is to answer two questions. First, what philosophical pressures might have lead Descartes to treat sensations as representations of the corporeal world at all (rather than as mere decorations of the mind)? Second, what notion of representation could possibly underwrite such a treatment; that is, in virtue of what can sensations be said genuinely to have extramental corporeal objects and what fixes their objects? My wider aim in exploring these neglected parts of Descartes’ corpus is, as suggested above, to reveal a Descartes who had a positive (and fruitful) philosophical interest in the senses.

2. A Sensational Problem

It is common knowledge that Descartes repeatedly denies that sensations resemble anything actually existing in corporeal reality; that is, they do not represent anything corporeal in a way that would enable us to know what it is really like qua mode of res extensa. By itself this claim is not a denial that sensations represent anything in corporeal reality, but only a denial that sensory representation takes the form of resemblance or similitude between res repraesentans and res repraesentata. It is, more particularly, a rejection of the scholastic Aristotelian account of sensory representation and its associated doctrine of intentional species:
One must take care not to assume, as our Philosophers commonly do, that in order to sense the soul needs to contemplate certain images sent from objects to the brain; or, at least, one must conceive the nature of these images quite differently from the way they do. For since the Philosophers confine these images to the requirement that they bear some resemblance to the objects that they represent, it is impossible for them to show how they could be formed by the objects, be received by the sense organs and be transmitted by the nerves to the brain (AT VI 112).

For all his vehement rejection of the resemblance model of representation, however, Descartes does not obviously offer up a replacement. He is far more interested in getting down to the properly scientific (or natural philosophical) business of discovering the micro-mechanisms that underlie the process of sensory transmission than he is in offering a new philosophical theory of sensory representation. He occasionally compares sensations to words and signs that represent without resembling their res repraesentatae, but he says nothing in turn about what makes words and signs count as representations. And he says precious little about whether there are any important disanalogies between sensory representations and words or signs. Failing such elaboration, the analogy is not all that informative. This fact has led some interpreters to conclude either that Descartes did not have a theory of sensory representation or that he intended that sensations are not representations and so did not need a special theory of sensory representation. ⁸ In Meditation VI, however, we catch a rare glimpse of Descartes struggling to pull together just such an account.
The immediate philosophical pressure for producing an account of sensory representation in Meditation VI is the need to acquit God of the charge of deception, a charge that looms large in the face of Descartes’ conclusion that the bulk of our sensations fail to resemble anything in corporeal reality (AT VII 80-2). The unfortunate implication of this conclusion is that God has given us a set of ideas that systematically misrepresent the corporeal world. This looks like a deceptive thing to do. Descartes could acquit God of the charge of deception by arguing that sensations are not, after all, representational (and therefore not systematic misrepresentations). As we’ve seen, Descartes sometimes takes this line. This is not a feasible strategy in the context of Meditation VI, however, for this Meditation suggests again and again that sensations are representational in some sense. Sensations, after all, provide the basis for a number of true judgments about the corporeal world: that I have a body (AT VII 80); that various other bodies exist in the vicinity of my body (AT VII 81); that my body can be affected by these other bodies (AT VII 81); that these bodies have differences corresponding to the qualitative differences in my sensations (AT VII 81); and that some of these other bodies are to be sought out and others avoided (AT VII 81). It is not at all clear that sensations could serve as the basis for these true judgments about corporeal reality if they did not represent it in some way, but were merely decorations of our own minds.

Of course, we are also naturally inclined to judge on the basis of our sensations that external bodies have colors, odors, sounds, flavors and degrees of warmth (and that our own bodies have pains and tickles) of just the sort we sensorily experience, judgments that are false according to Descartes (AT VII 38 & 75). Here is where the trouble sets in. If sensations are in fact representations of corporeal reality, and they
naturally lead us to make these false judgments about corporeal reality, then why isn’t God a deceiver? God is partly released from the charge by the fact that we can check these latter natural judgments if we pause to compare our sensory experience of bodies with our purely intellectual perception of their nature as all and only extended: colors and the like, as sensorily experienced, are not proper modifications of extension and so cannot exist, as such, in corporeal reality. God has thus given us a faculty for determining that these judgments are in fact false, however tempting they are.

There nonetheless remains something suspect about a non-deceiving God giving us this batch of sensations and judgmental inclinations in the first place, only to have to give us another faculty to check the mistakes that arise from them. A more effective acquittal would show that there is something right or true about our natural sensory judgments in the first place. Descartes himself does not seem to think that it is enough merely to be able to check the false beliefs that result from our sensory judgments. Precisely because we are naturally inclined to make them, and because God is responsible for our nature, Descartes maintains that even these natural sensory judgments must contain some truth:

...there is no doubt but that all the things I am taught by nature have some truth. For by nature regarded generally I understand nothing other than either God himself, or the system of created thing instituted by God. By my nature in particular I understand nothing other than the complex of things that have been given to me by God (AT VII 80).

But what is the truth of our sensory judgments? It is in the face of this question that Descartes begins to rethink the cognitive nature of the senses in general, and the nature of
sensory representation in particular. If Descartes can provide a new account of the nature of sensory representation, one according to which sensations represent the corporeal world not by resemblance but nonetheless exactly as they ought to, and if he can thereby uncover some sense in which sensations are nondeceptive and materially true, i.e., give rise to true judgments, then his God may be more satisfactorily acquitted of the charge of deception.

3. A Causal Account of Sensory Representation?

Margaret Wilson has tentatively suggested that Descartes was trying to articulate a causal theory of sensory representation to replace the old resemblance theory. According to the causal theory, in its simplest version, a sensation represents something in extramental reality in virtue of its being caused (in the right way) by it. While it is certainly true that Descartes articulates a detailed causal story about the production of sensations, one that explicitly shuns resemblance, there is little evidence that he ever meant this to provide an account of the representationality of sensations. What is more, a simply causal account of representationality would pose more philosophical problems for Descartes than it would solve. While some of the problems are familiar, they are worth rehearsing, if only to show the comparative strength of the account I will claim Descartes actually began to sketch.

First, the simple causal theory fails to isolate in a principled way the distal cause as the proper res repraesentata of a sensation: many things cause the sensation, including a variety of things intervening between the distal cause and the sensation (motions in the medium, changes in sensory physiology, a pattern traced on the retina or pineal gland).
Why shouldn't these intervening causes have as much right as the distal cause to be the sensation’s res repraesentata? Indeed if causation is the critical factor in determining a sensation's extramental res repraesentata, then the more likely candidate for Descartes ought to be the pineal state that serves as its proximate, and sufficient, corporeal cause.

Second, it is not at all clear why a causal link between distal cause and sensation gives us reason to call the sensation a representation of the cause, as opposed simply to a natural and regular effect of its action. After all, the distal body effects a whole variety of things that we would not regard as representations of it. In addition to producing a sensation of heat in me, the commotion of microscopic particles in a fire may cause a nearby piece of wax to melt and the water level of a nearby thermoscope to rise. But the melting wax is not likely to be considered a representation of the commotion. The water level of the thermoscope might be considered a representation of the (amount of) commotion, but it is perhaps better thought of as a reliable sign or indicator of it; at the very least, the water height's representationality would seem to be derived or inherited from the intentions of the thermoscope’s designer or from those who used thermoscopes to determine the temperature of the fire. What’s different about the sensation of heat? Why should it count as a representation when these other causal effects do not? The question does not seem to be answered by a simple causal account.

Third, and most importantly from Descartes' point of view, the causal account does not solve the problem about God's having given us deceptive or false ideas—misrepresentations. A sensation of heat still presents its distal cause as other than it really corporeally is. And if that sensation is supposed to be a representation of the distal cause, then it seems to be materially false, or to provide the subject matter for false judgments.
about its distal cause. This is exactly what threatens God's non-deceiving nature. Nothing in the causal account shows us a way to the representational truth of our sensations.

4. Rethinking the Function of the Senses

In Meditation VI, Descartes reflects explicitly on the role that sensations play in the cognitive economy of the human mind. It is in this discussion that he lays the ground for a new account of sensory representation, one that does not rely on resemblance, but that goes well beyond a simple causal theory and even provides an answer to the charge that God is a deceiver. We come to understand sensory representation by first getting clearer on the proper function of the senses, which I examine in this section. I will turn to its implications for an account of sensory representation in Section 5.

Throughout his corpus, Descartes makes it quite clear what he thinks the senses cannot do for the human being: they cannot discover metaphysical truths and they cannot discover the first principles of natural philosophy (see IV, AT VI 37; AT VII 83; AT IX-B 321). Hence his famous advice that we withdraw from the senses for the purpose of doing theoretical philosophy (see AT III 267; AT III 691-5; AT VII 12, 52-3 & 171-2). Descartes repeats this message often because he is fighting a philosophical tradition which, in his view, attempts to employ the senses for cognitive tasks they are not able to perform, such as helping to make known to us the essence(s) of corporeal things. On Descartes' view, only the pure intellect operating alone, through its native clear and distinct ideas, can make known to us such metaphysical things as the essence of bodies. Thus in Meditation VI he writes:
In these and other matters I have become accustomed to pervert the order of nature. For I use sensory perceptions as sure guides for immediately discerning the essence of bodies located outside of us. These sensory perceptions signify nothing concerning this essence except very obscurely and confusedly (AT VII 83).

Using the senses to discern the essence of bodies is like using the ears to taste chocolate or the eyes to smell lemons: they simply aren’t up to the task. But they aren’t supposed to be. Far from serving as under-laborers to the intellect, the senses have their own job to do in the cognitive life of the human mind.

The human mind, that is a finite and embodied mind, is the only kind of mind in which sensations are found in Descartes' universe. Sensations arise, he tells us, from the union and intermingling of mind with body (see AT III 424 & 479; AT VI 59; AT VII 81 & 437; AT VIII-A 23, 315-16 & 320-1). But this is no accident: sensations arise not only from but also for the mind-body union. The human being, Descartes maintains, has an interest in its continued survival as a mind-body union. In order for the union to survive, however, the body must be kept intact: only a body with a certain arrangement of parts, Descartes submits, serves as a suitable home for the mind. If the arrangement is disrupted, the body is rendered defective, the mind departs from it and the human being thereby dies (AT XI 144, 330-31 & 351). Since the body is constantly impacted for better or worse by other bodies in its environment, the human mind must dedicate most of its cognitive labor to protecting and nurturing its body. Here is where sensations come in: they are, he says, “conducive to the preservation of the healthy man” (AT VII 87). Far from being useless and unfortunate artifacts of the mind-body union (or, worse, a
positive nuisance to the intellect), sensations have a job to do in the life of the human
being:

...without a doubt sensory perceptions are given to me by Nature in order
to signify [significare] to the mind what things would be beneficial or
harmful to the composite of which it is a part (AT VII 83).

Sensations, then, have a biological or perhaps ecological function: to guide our
successful, i.e., self-preserving, interaction with bodies in local environment.

That Descartes ascribes a biological or ecological function to the senses has not
gone entirely unnoticed by Descartes’ contemporary commentators. It is standardly
suggested, however, that in these passages Descartes is doing little more than softening
the blow of his earlier attack on the senses by awarding them a sort of consolation prize:
the senses are not good enough to do any real epistemic work, but they can at least help
us get around and survive in the world. This is to underestimate the significance of the
senses’ biological role. My suggestion is that if we take these passages more
seriously, as containing Descartes’ attempt to construct a positive new conception of the
senses, we find in them rich materials for a new account of the nature of sensory
representation.

5. A Bio-functional Account of Sensory Representation

How does Descartes’ discussion of the function of the senses translate into a proposal
concerning the nature of sensory representation? I have so far described the function of
the senses as biological or ecological: they enable the mind-body union to survive in its
physical environment. It is also, however, a cognitive or representational function.
Sensations conduce to self-preservation by showing the mind what bodies (its own
included) are like, not in themselves as conceived by the Cartesian physicist, but relative to its own body’s well-being. In other words, they represent to the mind ecologically salient properties of (or perhaps facts about) the corporeal world: Where are external bodies relative to where my body is right now? Will they pose a threat to my body? Will they promote its health and fitness? Is my body damaged? Is it healthy? As Descartes repeatedly puts it, sensations “show us external bodies [not] exactly as they are, but only insofar as they are related to us and can benefit or harm us” (AT V 271; AT VII 83; AT VIII-A 410-1; AT XI 372). Sensations need not acquaint us with the world in all its corporeal detail as proper modes of res extensa because that is not necessary for survival; indeed, it may even be a hindrance to survival. Instead they need to acquaint us with the corporeal world in such a way that we can make appropriate (and often quick) judgments on their basis about how to act; this means representing it perspectivally (so that I can tell how the world is laid out from here) and in a motivationally effective way (so that I can tell what I should do). Sensation is a mode of representation appropriate to a mind trying to navigate a particular body around the world.

This reading runs counter even to most representationalist readings of Cartesian sensations. Typically, representationalist readings focus on Descartes’ claim that sensations are obscure and confused perceptions, as I suggested above. It is natural (and probably correct) to think that he means that sensations are obscure and confused perceptions of res extensa. Most commentators go on to conclude from this that sensations and intellections represent the same thing, but that sensations do so badly (and hence ‘obscurely and confusedly’) while intellections do so well (and hence ‘clearly and distinctly’). Sensations, the thought goes, are like unfocussed intellections; if only we
could bring them into focus or clear them up we would see the world as it really is. This seems to me the wrong strategy, both philosophically and interpretively. Philosophically, it makes sensations redundant (since they re-represent what intellections already represent) and intrinsically flawed (since intellections represent it better). This only exacerbates the charge that God is a deceiver. It is better to say that sensations first and foremost represent ecological properties of the corporeal world: pains represent bodily damage, tickles represent bodily health, foul taste sensations represent the undigestibility of bodies, color sensations represent surface differences, and so on. So understood, sensations represent their objects quite well. Indeed, Descartes says that insofar as they inform the mind about benefits and harms, sensations “are sufficiently clear and distinct” (AT VII 83). Now since these ecological properties must be instantiated in the corporeal world as modes of res extensa, we might say that sensations also represent modes of res extensa, but we should understand that they represent these things only indirectly, by way of representing the ecological properties they instantiate. What is important here is that the level at which sensations get their representational hook on the world is the level of ecology not physics.\(^\text{19}\) This explains why they represent modes of res extensa only obscurely and confusedly.

The Cartesian distinction between intellect and senses, on this reading, is not a distinction between a faculty that represents and one that does not, or even a distinction between a faculty that represents well and one that represents poorly, but a distinction between faculties that represent different things, or perhaps different aspects of the same thing (the corporeal world) to different ends. Intellections represent the world as it is in itself, independent of human agents, by revealing to us the intelligible essences or natures
of things. Sensations represent the world in a way that facilitates action by revealing to us how things stand relative to us and to our continued well-being.

My suggestion, then, is that Cartesian sensations represent things in the corporeal world not in virtue of resembling those things as they are in themselves, and not simply in virtue of being caused in the right way by those things, but in virtue of the role that they play in enabling us to interact with the world in a self-preserving way. The pressing question now is whether there is any evidence to suggest that Descartes himself begins to develop in any detail this account of sensory representation. The answer, I think, is yes, and the evidence is found partly in Meditation VI and partly in his more properly natural philosophical work on sensory perception in the Treatise on Man, the Principles IV and the Passions of the Soul. It is therefore to these texts that I turn.

5.1. Meditation VI: A Philosophical Account is sketched

The relevant part of Meditation VI is Descartes’ discussion of the institution of nature established by God for the union of mind and body. Having rejected the pre-meditative belief that bodies actually resemble the sensations they produce in us (AT VII 81-3), Descartes introduces the function of the senses: sensations are “given to me by Nature in order to signify to the mind what things would be beneficial or harmful to the composite of which it is a part” (AT VII 83). God, he further explains, has instituted a one-to-one correspondence between types of pineal gland motions in the human brain and types of sensations in the human mind (AT VII 87-8). With respect to the pineal gland's motion, the choice of sensation to which it gives rise looks arbitrary, and this is precisely how it is typically interpreted. Descartes suggests, however, that the correspondence between
pineal-motion-type and sensation-type is not arbitrary. It is made with regard to the ability of sensation-types to alert the mind to aspects of the corporeal world that are relevant to the continued survival of its body (and so of its union with the body). Nature (God) has paired each type of pineal motion with that type of sensation which "of all possible sensations, is most especially and most frequently conducive to the preservation of the healthy person" (AT VII 87). The sensation that most especially and most frequently leads to self-preservation, Descartes explains, is one that (a) phenomenally presents to the perceiver (what is typically) the original distal cause of the pineal motion and (b) phenomenally presents that cause in a way that permits the perceiver to engage in appropriate interactions with it. God could have set things up so that our pineal motions always gave rise to perceptions that present the pineal motions themselves (instead of the distal cause); and he could have set things up so that they would always give rise to clear and distinct intellectual perceptions that phenomenally present the distal cause exactly as it corporeally is (instead of sensations). But this would not have been maximally conducive to self-preservation. In other words, on Descartes’ view there is a reason for the links between pineal motion types and sensation types: the chosen sensation types do the best job of informing us about the behaviorally salient aspects the corporeal world in a motivationally salient way, given their causal context.21

This treatment of the institution of nature would make little sense if sensation-types were intrinsically vacuous: if sensations, in and of themselves, suggested nothing worldly to the mind--if they were merely decorative modes of res cogitans--then there would be no reason to choose one sensation-type over another when establishing these psycho-physiological regularities. Descartes’ claim that some sensations-types are more
suitable than others suggests a commitment to the view that they come with at least some world-directed content phenomenally built in; in other words, sensations must already seem to represent a behaviorally salient world. Seeming to represent the world, however, is not enough. Sensations actually represent the world in virtue of the fact that, on top of seeming to represent it, they are locked into a causal and ecological system in which they help the mind-body union to interact appropriately with the world.\textsuperscript{22}

Descartes illustrates this institution of nature most explicitly with pain and thirst sensations. One sort of pineal motion, he explains, is causally connected to a sensation of pain-in-the-foot because (a)

- it happens much more frequently that the motion in the brain has its origin in something harming the foot, rather than in something existing elsewhere. So it must be granted that it is reasonable [\textit{rationi consentaneum est} that this motion should always present [\textit{exhibere} to the mind a pain in the foot rather than in some other part (AT VII 88-9; italics mine).

A sensation of pain-in-the-pineal-gland would not motivate the subject to protect her foot, where the damage is most likely occurring. Furthermore, (b), it is reasonable that the sensation phenomenally exhibit something harming the foot as pain since by this sensation the mind is stimulated to remove, as much as it is able, the cause of the pain as harmful to the foot....nothing else would have been as conducive to the conservation of the body (AT VII 88).
The implication here is that there is something about a pain sensation that induces protective behavior in a way that no other sensation (say, a green-in-the-foot sensation) or even clear and distinct perception (of, say, the violent commotion in the foot’s particles) would do. There must, it seems, be something intrinsic to the sensation of pain, on Descartes’ view, that elicits a response in the subject that will be protective given the causal circumstances in which it occurs.23

Pain is an internal sensation, or what we now call a bodily sensation. A related story can be told, however, for secondary quality sensations. Consider color sensations. The pineal motions that result from the different rotational effects of bodily surface textures on light have been naturally instituted to produce sensations of differently colored surfaces. They are so instituted, we may surmise, because (a) they are typically distally caused by different external surfaces and (b) by presenting different surfaces as differently colored they permit us readily to distinguish the surfaces of the middle-sized bodies that we need to circumnavigate and manipulate every day, and to re-identify bodies by their persisting colors. Color sensations are not motivationally loaded in quite the way that pain and thirst sensations are, but then the different surfaces of external objects, while important to know about, do not typically demand the immediate action that a mutilated foot or dehydrated throat do for the creature to survive. Descartes does not himself tell this story for color sensations in Meditation VI, but there is no reason to think that he would think them different from internal sensations on this front, for they are both sensations and it is for sensations that the institution of nature story is developed. What is more, some of his followers develop precisely this line of thought about secondary quality sensations.24
Here in Meditation VI, then, Descartes begins to articulate a relationship between sensations and bodies (our own or external ones in the environment) that is cognitively meaningful, but that does not rely on resemblance between the phenomenal character of the sensation and the corporeal nature of the bodies being presented, and is not reducible to the causal relation between them. Descartes is beginning to articulate what we might call a bio-functional account of sensory representation: sensations represent bodies in virtue of the role that they play in enabling us to interact with the world in a self-preserving way.

5.2. Natural Philosophical Works

Descartes’ biological treatment of the senses is not unique to Meditation VI, but also underlies much of Descartes’ natural philosophical work on human psychophysiology in the Treatise on Man, Principles IV, and Passions of the Soul. These texts might seem unlikely places to find evidence that sensations are representational at all, much less representational in the bio-functional way I am suggesting. These texts, after all, offer no sweeping reflection on what Nature (God) was up to in linking pineal motions to sensations. They are works in natural philosophy, not speculative metaphysics or epistemology. Accordingly, they are dedicated simply to investigating the causal paths that run mechanically from distal cause to sense organ to pineal gland to sensation. Sensation, one would think, is just the last link in the causal chain. The causal story that Descartes actually articulates in these texts, however, is rather more complicated than that.
Consider the following treatment of the sensations of pain and tickling in the
Treatise on Man:

...if the filaments that compose the marrow of these nerves [viz. nerves terminating in the brain] are pulled with force enough to be broken and thus are separated from the part to which they were joined, so that the structure of the whole machine is somehow less intact, the movement they then cause in the brain will cause the soul (to which it is essential that its place of residence be preserved) to experience a feeling of pain. And if they are pulled by a force almost as great as the preceding without, however, being broken or separated from the parts to which they are attached, they will cause a movement in the brain which, testifying to the good constitution of the other parts, will cause the soul to feel a certain corporeal sensuous pleasure referred to as tickling, which as you see, being very close to pain in its cause, is quite the opposite in effect (AT XI 143-4; see also AT XI 399-400 and AT VIII-A 318).

Several things in this passage suggest that pain and tickling sensations are more than simply the vacuous phenomenal effects on the mind of different micro-mechanical events in the body. First, Descartes says flat out that these sensations testify to (rendre témoignage de) certain distal conditions of the body. Even more telling, perhaps, is the reasoning Descartes employs in making his hypotheses about the distal micro-mechanical causes of these sensations. Notice that when he identifies severed nerve filaments and jostled-but-not-severed nerve filaments as the regular distal causes of pain and tickling sensations, Descartes explicitly identifies them as damaged and healthy states of the
body. Damage and health, however, are not among the geometric or mechanical properties recognized by Cartesian physics. They are biological properties of the body that make sense only relative to the interests of the embodied mind that wants to preserve its corporeal home. Descartes is using the manifest representational content of pain and tickling sensations as an inferential stepping-stone to pin down their properly physical (micro-mechanistic) causes: pain and tickling sensations in the mind tell us about bodily damage and health, and severed nerve filaments (or jostled-but-not-severed nerve filaments) is Descartes’ guess as to what micro-mechanical property might count as damage (or health) to the organized portion of res extensa that serves as the mind’s bodily home. Physically, the hypothesized causes of pain and tickling are not all that different—they differ only in the amount of distance between the parts of the nerves. Their impacts on the body’s functional integrity, however, are opposite, and that is what their contrary sensational effects are telling us about (AT VIII-A 318; AT XI 144).25

Much the same can be said of Descartes’ treatment of the production of secondary quality sensations. The most explicit example occurs in his discussion of taste in the Treatise on Man:

But what must be chiefly noted here is that the particles of food that, while still in the mouth, can enter the pores of the tongue and elicit the sense of taste are the same ones that, once in the stomach, can pass into the blood and proceed thence to join and unite with all the parts of the body. And indeed only those that moderately tickle the tongue, thereby causing the soul to sense an agreeable taste, will be entirely suitable to the end [of incorporation into the body]. For just as particles that are too active or too
inactive can cause too sharp or too bland a taste, so are they too penetrating or too soft to enter into the composition of the blood and serve for the maintenance of the members (AT XI 147).

As before, Descartes’ hypotheses about the underlying mechanisms of gustatory physiology are guided by a conception of these sensations as tracking biologically salient features of the world around it: pleasant tastes sensations arise from bodies that are readily digestible and therefore good to eat; bad taste sensations arise from things that are more difficult to digest and therefore not so good to eat. What is more, the changes we experience in the way things taste as we become sated or hungry or ill reflect the changing conditions and nutritional needs of the body on Descartes’ account: “to the degree that the stomach’s temperament changes, the strength of taste changes also; so that a food that usually seems agreeable in taste to the soul may at special times seem bland--or bitter” (AT XI 148). These sensations are quite clearly reflecting the body’s needs and the potential for external bodies to meet or frustrate those needs. Knowing that the digestibility or indigestibility of foods must be realized in bodies as micro-mechanistic modes of res extensa, and knowing that what is digestible can be incorporated into our own body, Descartes supposes that good taste sensations are produced by foods whose particles are shaped in such a way that they “moderately tickle the tongue” while unpleasant taste sensations are produced by indigestible foods whose particles are either too active (so too penetrating) or too inactive (so too soft) to be incorporated into the blood and body. The hypotheses themselves may be fantastical. What is important for present purposes, however, is that they reveal Descartes’ assumption that sensations
represent biological or ecological properties of bodies, thereby making it possible for the mind-body union to survive in its local environment.

6. Explanatory Advantage

There are clear philosophical and interpretive advantages to reading Descartes’ account of the representationality of sensations along these lines. First, makes available answers to the philosophical questions that remain unsatisfactorily answered by the simple causal account discussed above. Second, and more important from an interpretive point of view, it explains how Descartes proposes to acquit God from the charge of deception in giving us sensations that naturally mislead us about the nature of corporeal reality.

First, the bio-functional analysis of the senses gives Descartes a principled reason to isolate the (usual) distal cause of a sensation as its res repraesentata rather than any more proximate cause: as he says, what we most need to know about to survive is the (usual) distal cause. We thus have reason to affirm what phenomenologically seems to be the case, e.g., that color sensations represent to us the surfaces of distal bodies. We need not be deterred in our assignment of res repraesentata by the fact that color sensations do not present the surfaces of bodies in all their microscopic detail as modes of res extensa, that is, by resembling them: they enable us to discriminate and re-identify those surfaces in a way that conduces to self-preservation by simply presenting them as qualitatively different from each another. 

Second, this account enables Descartes to single out sensations as genuine representations of things in corporeal reality, rather than as merely the causal effects of them. They count as representations because, on this view, they tell us about the world
and enable us to make true judgments about how to interact with it. One may still worry that all the account shows is that sensations can serve as signs of things in corporeal reality, and not that they are genuine representations of them. After all, Descartes himself invokes the sign analogy when discussing sensations. This objection, however, betrays a misunderstanding of the use to which Descartes puts the sign analogy. He introduces the analogy not in order to show that sensations fail to represent things in the world, but in order to liberate the notion of representation from the notion of similarity or resemblance to which he thinks it had been yoked by his predecessors. Descartes is engaged in a wholesale reconstruction of the notion of representation: sensations can be genuinely representational, just as signs can be, despite the fact that nothing in the causal processes giving rise to them involves the production of resemblances.

On the other hand, none of this need imply that sensations represent their original distal causes in exactly the same way that conventional signs like words and musical notation represent their objects. The comparison with signs simply makes conceptual room for the claim that some representational relation might obtain between sensations and their objects. Descartes himself alludes to an important disanalogy between the two in Le Monde:

You well know that words having no resemblance at all to the things that they signify nonetheless make us think of these things. Now if words, which signify nothing except by human convention, suffice to make us think of things to which they have no resemblance, then why could nature not also have established some sign that would make us have the sensation of light, even if the sign had nothing in itself resembling this sensation? Is
it not thus that Nature has established laughter and tears, to make us read
joy and sadness on the faces of men? (AT XI 4, italics mine).

Descartes distinguishes two kinds of sign here, both of which represent without
resembling their res repraesentatae: conventional signs and natural signs. Words signify
by human convention, i.e., by our linguistic and interpretative practices. They represent
what they do because we treat them a certain way. By contrast, laughter and tears (and,
Descartes suggests, sensory signs) do their signifying naturally. The links between
laughter and joy, tears and sadness, sensations and their causes, are established by nature;
their interpretation is not up to us. All signs, then, represent without resembling their res
repraesentatae; natural signs, unlike words and musical notation, manage to do this
without the intervention of human conventions or intentions.²⁸

The final advantage of this interpretation is that it explains Descartes’ response to
the charge that God is a deceiver better than other interpretations. The charge, recall, is
that God is a deceiver since he has given us a sensory faculty that naturally gives rise to
false judgments about the corporeal world. Descartes’ response is not simply to say that
we can avoid the error by withholding these false sensory judgements, as most
interpretations stress. His response is much stronger: the senses, he claims, “report the
truth more often than falsehood” (AT VII 89; italics mine).²⁹ The senses cannot report
the truth without representing something. But they do not report the truth about the
nature or essence of the corporeal world. Once we get clear on the representational
context of the senses, viz., the ecology of mind-body unions trying to survive in a world
of other bodies, the truth of the senses stands out. The senses, Descartes is arguing,
report the truth insofar they represent to the mind the corporeal world’s potential impact
on the survival of its own body. This is precisely what he says: "Concerning those things regarding the well-being of the body, I know that all my senses report the truth much more frequently than falsehood" (AT VII 89). To put the point in more precise Cartesian terms, we should say that sensations are, with respect to bodily survival, materially true; that is, they provide the representational materials for making true judgments about how the world is relative to our survival as mind-body unions and about how we ought to act in it. The internal senses represent to the mind the weaknesses and strengths of its own body and thereby enable the mind to make true judgments about the maintenance of its body. The five external senses represent to the mind ecologically salient properties of other bodies and thereby enable it to re-identify, manipulate, discriminate and navigate around them. The senses, then, are ultimately shown to be, as Descartes insists they must be, materially true and “perfect in their kind” (AT VII 55).

None of this is to deny that Cartesian sensations are also in an important sense materially false (and obscure and confused), for they also give rise to false judgments about the nature or essence of the corporeal world. But this happens when we misuse our senses by "treating them as sure guides for immediately discerning the essence of bodies located outside of us" (AT VII 83). They are not, after all, representations of the essence of bodies. What is more, we have a faculty for correcting these false judgments: the pure intellect reveals the essence of the corporeal world to be res extensa, and by comparing our sensory experience with our intellectual understanding of it, we can learn to curb or adjust those false judgments, at least reflectively. In the end, then, there is something true (and even clear and distinct) in our sensations, and what is false is correctable. God is thus by and large freed of the charge of being a deceiver. And so Descartes can

- 29 -
boldly assert: “there is absolutely nothing to be found in sensations that does not bear witness to the power and goodness of God” (AT VII 87).31

As I said at the opening, Descartes is pulled in several directions on the question whether sensations are representational. I have argued that a bio-functional interpretation of Descartes’ representationalist leanings both explains the texts better and resolves Descartes’ philosophical/theological problem about sensations better than other interpretations. More than that, however, this reading challenges the received view of Descartes as a physicist who, finding no use for sensations in his geometrical renovation of the corporeal world, reduces them to epistemically useless chips and whittlings in the junkyard of the mind. In the passages explored above, we find that when Descartes turns his attention to examining the nature of the human mind, he initiates a wholesale restructuring of its cognitive economy, sensations included. Although they are epistemically misleading for the physicist, sensations are essentially cognitive means of survival for embodied creatures who need to navigate their way around their environment and maintain their bodily well-being. In his reconceptualization of sensations, Descartes takes important, if under-appreciated, steps toward an account of sensory representation that places biological function, rather than resemblance, at its center.

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NOTES
Sensations, in this sense, also go by the names ‘qualia’ and ‘phenomenal qualities.’ For an illustration of the contemporary debate see Block (1996), Harman (1990), Lycan (1996), and, a centerpiece for this discussion, Peacocke (1983), ch. 1.

For the purposes of this paper, I restrict my discussion to so-called secondary quality sensations (e.g., color and odor sensations) and so-called bodily sensations (e.g., tickles and pains). It is a matter of dispute whether there are, according to Descartes, primary quality sensations (e.g., sensations of shape and size). One’s answer to this question depends largely on one’s understanding of the representational status of the other sensations. If one thinks that sensations are, for Descartes, merely mental ornaments that represent nothing in extramental reality, then one is going to be inclined to deny that there are primary quality sensations, since our sensory experiences of primary qualities are representative of extramental reality. If, on the other hand, one thinks that sensations are in some sense representational states of mind, then one might be inclined to claim that primary quality sensations have a place in the Cartesian mind.

Different versions of this interpretation have been advanced by MacKenzie (1990) and Nelson (1996). This is not a new reading of Descartes. It is suggested already in Nicolas Malebranche’s Search After Truth (see S, Bk. I, esp. chs. 1 & 10).

Margaret Wilson (1990) calls attention to this line of thought in what she describes as a Cartesian idea’s ‘presentational representationality.’

The French translation of the original Latin is clearer yet: “les idées etant comme des images, il n’y en peut avoir acune qui ne nous semble representer quelque chose” (AT IX 34-5).
For recent defenses of this interpretation, see Alanen (1994), Bolton (1986), Schmaltz (1992), and Wilson (1990). This is not a new interpretation either. It is suggested already in Antoine Arnauld’s *Des vrais et des fausses idées* (1683), ch. 16.

The question arises whether, on this view, sensations should be said not to *represent* corporeal reality, but naturally and systematically to *misrepresent* it. The answer to this question depends, again, on what one takes representation to amount to. If representation requires resemblance, then the conclusion that sensations systematically misrepresent is inevitable. Paul Hoffman (1996) has recently defended the view that Cartesian sensations systematically misrepresent corporeal reality. I will suggest a different answer to this question below.

See, for example, Arbini (1983).

This is roughly how commentators committed to the non-representationalist reading of Descartes acquit God of the charge of deception. The idea is that our false beliefs about the world are due not to the sensations that God has given us, but to the false judgments about the world that we freely make on their basis, judgments that effectively treat sensations as though they were transparent windows on the world. The source of error is displaced from God (who gave us our sensations) to us (for our mishandling of them). See, for example, Nelson (1996).

A similar question arises from Descartes’ remark in Meditation IV that “it does not seem possible that [God] should have placed in me a faculty that is not perfect in its kind, or which lacks some perfection which it ought to have” (AT VII 55). What is
perfection of the senses, if they regularly, indeed naturally, give rise to false judgments that only long hard meditation can counteract?

11 Although Anglo-American commentators have paid little attention to Descartes’ claim that there is some truth in sensations, focussing instead on his claim that sensations are materially false, some French commentators have explored the topic. Martial Gueroult (1985), for example, notes that God’s veracity puts pressure on Descartes to find some sort of truth in sensations, a “new truth proper to the senses” as he puts it (see vol. II, pp. 76-7, 99).

12 Wilson (1990), p. 11. Calvin Normore (1986) has also suggested that Descartes subscribed to a causal theory of reference that accounts for ideas (all ideas) being about things. He claims, however, that Descartes also subscribed to a resemblance theory of meaning that accounts for the fact that ideas give us first-person accessible information about those things. His interpretation thus involves a mixture of causation and resemblance.

13 While Descartes and his Aristotelian opponents agree that it is only the intellect that ultimately apprehends the essence(s) of corporeal things, the Aristotelians maintained that the human intellect operates in conjunction with the senses and imagination (phantasia): we apprehend essences by way of the intellect's abstracting intelligible forms from sense-based phantasms. See, for example, Thomas Aquinas, ST, Ia.84, a.7 and Ia.85, a.1. Among the scholastic Aristotelians whom Descartes might have read at La Flèche, see Rubius (1613), Bk. II, ch. v-vi, q. 3; Coimbra College (1598), Bk. II, ch. v, q.2; and Toletus (1574), Bk. III, ch. v, q. 13.
Disembodied minds and angels (pure intellects), Descartes suggests, do not have sensations. If an angel were to take up residence in a human body, it would not have a sensation of pain when its associated foot stepped on a tack or a sensation of color when its associated eye were affected by spinning light particles. It would instead have an intellectual perception of the excited motions of the microscopic parts of the foot and motions of spinning light particles reflecting off the surface of some body (see AT III 493; AT V 402; AT VI 59; AT VII 81).

This feature of Descartes’ account of sensation is picked up and developed by a number of his followers. Malebranche, for example, writes: “[The soul] must have sensations of heat, cold, color, light, sounds, odors, tastes, and several other modifications in order to remain joined to its body. All its sensations direct the soul to the preservation of its machine. They agitate the soul and frighten it as soon as the least spring is unwound or broken, and as a result the soul must be subject to the body as long as the body is subject to corruption” (S, p. 200). See also de Cordemoy (1968), Discourse VI.

It must be acknowledged that it is surprising, if not suspicious, to find biological notions like functions, health, harm and self-preservation in the work of someone so notoriously opposed to teleology as Descartes. Some commentators claim that Descartes’ introduction of teleological notions in Meditation VI is just downright inconsistent (see, for instance, Garber (1992), p. 338, n. 14). My own view is that Descartes’ proscription against teleology has a specific target that does not include the sorts of biological notions that he helps himself to here and on other occasions in his natural philosophical career.
Whether his biological conception of the human being amounts to a violation of his proscription against teleology is an important and difficult question that cannot be sufficiently addressed here.

MacKenzie (1990), for example, writes: “The epistemological bottom line, for Descartes, is that sensations are inherently non-veridical and can play no role in the mind’s search after truth. Instead, the role Descartes assigns (in the Sixth Meditation) to sensations…is merely to help embodied minds get around, on a day to day basis” (p. 125). While some French commentators, such as Gueroult and Rodis-Lewis, have taken quite seriously the biological role that the senses play in the life of the mind-body union (see Gueroult (1985), chs. 15-18 and Rodis-Lewis (1990), chs. 1-2), they have not explored the implications of this role for the nature of sensory representation.

The passions have the related job of disposing the soul to respond to beneficial and harmful things in an appropriate way: “the function of all the passions consists in their disposing the soul to want the things that nature deems to be useful to e us and to persist in this volition” (AT XI 372). The senses and passions thus work together to preserve the body. The details of their partnership are unclear. One unresolved question is how much and what kind of information is carried phenomenally in the sensations themselves. At least two options are open: (a) the sensations phenomenologically present their objects as beneficial/harmful so that the benefit/harm can, as it were, be read directly off them or (b) the sensations might phenomenologically present their objects in a less evaluative, simply descriptive, way and then give rise, naturally and automatically (according to the institution of nature), to a pursuit or avoidance response, or to passions which incline us
to take the appropriate course of action. Evidence for (a) is provided by Meditation VI and Passions II.94: “a problem now comes to mind regarding those very things which are exhibited to me by nature as thing I ought to pursue or avoid” (AT VII 83; italics added) and "This sensation [pain], ordained by nature to indicate to the souId the bodily damage...and the body's feeble inability to withstand it, represents both as evils which are always unpleasant to the soul" (AT XI 400; italics added). Evidence for (b) is provided by a passage from Meditation VI: "My nature teaches me to avoid those things that induce a sensation of pain and to pursue those things that induce a sensation of pleasure, and so on" (AT VII 82; emphasis added). Inasmuch as Descartes wants to build an associationistic psychology in which sensations can, with training, be paired with different passionate reactions, it seems that (b) would be the better route to go. In the end, I do not think Descartes decided on one or the other view; indeed there might be a mixed bag of the two varying from sensation type to sensation type, with bodily sensations that are of immediate importance to us presenting their objects in a more normatively loaded way than secondary quality sensations.

19 The idea that sensory perception is tuned to ecologically salient properties of the world, rather than physical properties of the world, has been developed in this century by James Gibson (1968), chs. 1-2 and (1979), esp. chs. 1-6. Although I think that Descartes and Gibson share a general conception of the role that the senses play in the cognitive life of human beings and of the sort of information the senses carry, I do not want to suggest that their respective accounts of the mechanics of sensory perception or even of the epistemology of sensory knowledge are in any way similar. Gibson, in fact, commits
himself to the contemporary distinction discussed above between an information-carrying component of sensory perception (which philosophers call a ‘representational’ component but Gibson calls a ‘perceptual’ component) and a merely sensational component of sensory perception (see Gibson (1968), pp. 47-51).


21 We might pause here to ask why intellectual perceptions wouldn’t do just as good a job as sensations at facilitating self-preservation. Why, for instance, wouldn’t a clear and distinct perception of the increased motion and separation among the particles of the foot be just as conducive to self-preservation as the sensation of pain? And why wouldn’t a clear and distinct perception of the microscopic surface textures of objects be just as conducive to our getting around in the world as color sensations? Descartes doesn’t say. In the Meditations he seems to take it on faith that since we in fact have sensations rather than clear and distinct perceptions, and since God is no deceiver, it must be the case that sensations are in fact more conducive to this end. Some of Descartes’ followers, however, do take on the task of articulating an answer. Malebranche, for example, suggests that if the mind were to have intellectual perceptions of particles of matter in motion rather sensations, “it would not be thereby enlightened in order to judge whether the things surrounding us were capable of destroying or maintaining the body’s equilibrium”; by having sensations, “it feels affected by impressions that differ essentially and that, showing the qualities of objects in relation to the body, make it immediately and acutely aware of whether these objects are capable of doing it harm” (S, p. 51). He offers a threefold explanation for this. First, sensations make the differences
among corporeal things stand out to the mind: it is easier to distinguish damage and health of the foot when they are represented sensorily through pain and tickles (as qualitatively different in kind) than when they are represented through intellectual perceptions of particles differing only in speed or distance (as different only in degree).

Second, because they make it easier to discriminate bodies, sensations increase the speed with which one is able to react appropriately to them: by simply feeling pain when the bath-water gets too hot, I can react immediately. If I were to perceive only that the particles at the surface of my body were moving more rapidly than before, I would hardly be inspired to act unless I proceeded to make the calculations necessary to determine just how much motion my body could sustain while remaining functionally intact. Even then, and this is Malebranche’s third point, it is not clear that I would be motivated to act by such a clear and distinct perception. Malebranche colorfully writes: “…if the soul perceived only what takes place in the hand when it is being burned, if it saw in it only the movement and rupture of fibers, it would hardly take any notice; it might even derive from it some whimsical satisfaction, like those simpletons who amuse themselves by breaking everything in furious orgies of destruction” (S, p. 51). The idea here is that there is something about the way sensations represent their objects that affords them a motivational salience that clear and distinct intellectual perceptions just do not have. For another Cartesian development of this theme, see de Cordemoy (1968), Discourse VI, pp. 152-89.

If an angel were miraculously given pain sensations, by contrast, those sensations might seem to the angel to represent something harmful going on in a foot, but since
those sensations are not part of a casual system that begins with bodily damage and ends with body-preserving action, they cannot be said to be genuine representations of anything bodily at all.

23 Descartes suggests a similar treatment of the sensation of thirst. Dryness in the throat causes pineal motions that in turn give rise to the sensation of thirst “because nothing in this whole affair is more useful to know than that we need drink in order to remain healthy” (AT VII 88). Unpacking this claim a bit, the pineal motions in question are instituted by nature to produce the sensation of thirst-in-the-throat because (a) it’s what’s going on in the throat, the typical distal cause, that we need to know about (not anything further up the causal pathway) and (b) by presenting what’s going on in the throat as thirst (rather than simply as motions of the throat nerves or as purple) we are prompted to seek drink (rather than sit back and observe the motions in a mood of theoretical curiosity). Here again, the institution of nature takes advantage of the phenomenal character of thirst sensations by pairing them with our pineal states in such a way that they will reliably facilitate our appropriate interaction with bodies, given the causal system in which they participate.

24 Malebranche, for example, writes that we see snow as white “in connection with the preservation of the body” and, explaining this point, writes that “non-affective sensations of colors must be sensed in objects in order to distinguish them from each other” (S, p.55; see also DM, First Dialogue, art. 10, pp. 684-5). See also de Cordemoy (1968), Discourse VI.
Malebranche will later be even more explicit about this point than Descartes:

“[A]lthough all these changes in our fibers really consist only in motion, which generally varies only in degree, the soul of necessity regards them as essential changes. For though they vary in themselves very little, changes in motion must always be taken as essential changes in relation to the preservation of the body…[T]he disturbance of the fibres accompanying the tickling sensation is evidence to the soul of the well-being of its body, that it has sufficient strength to resist the object’s impression, and that it need not fear being hurt by it. But the motion accompanying pain, being rather more violent, can rupture the body’s fibers, and the soul must be warned of this by some unpleasant sensation so that it may guard against it” (S, p. 51).

Although sensations represent their distal causes to us as other than they corporeally are, they are not for that reason misrepresentations of those causes, as is commonly suggested (see Hoffman (1996)). The suggestion that they misrepresent relies on the twin assumptions that representation requires resemblance and that what sensations first and foremost represent are modes of res extensa. But sensory representation does not require resemblance, nor do sensations first and foremost represent modes of res extensa. On my interpretation, sensations have the representational function of acquainting the perceiver with features of the world in a way that facilitates self-preservation. Misrepresentation occurs when the senses malfunction, that is, when they fail to conduce to self-preservation. Sensory misrepresentation is therefore a much more limited phenomenon on my interpretation. Compare a sensation of a ripe banana as yellow with a sensation of an unripe banana as yellow (say the latter is
experienced by someone with jaundice). Both of these sensations represent banana
surfaces as other than they corporeally are, but only the sensation of the ripe banana as
yellow conduces to self-preservation. The sensation of the unripe banana as yellow fails
to represent the surface of the banana in a way that conduces to self-preservation: since it
perceptually classifies the unripe banana with the ripe ones, it conduces to indiscriminate
banana eating, and so to self-destruction (or at least a stomach-ache). Something here has
gone wrong. Or consider the dropsy patient who has a sensation of thirst when her body
is already sufficiently hydrated: the sensation of thirst prompts the subject to drink water,
which, under the present circumstances, is harmful to her. There is, Descartes claims,
something genuinely wrong here: “with respect to the composite, or to the mind united
with such a body, it is...a true error of nature that it be thirsty at a time when drink is
harmful to it” (AT VII 85; emphasis added; see also AT VII 88-9). I am interpreting this
“true error of nature” as a genuine case of misrepresentation. By contrast, when a
sensation of thirst is produced in response to a genuinely dehydrated body, the sensation
involves no error; it is not a natural misrepresentation despite the fact that it present the
dehydrated bodily state as thirsty rather than as a proper mode of res extesna.

27 Actually, Descartes does not often compare sensations themselves with signs; he
more often compares the local motions in the sensory pathways that give rise to
sensations with signs. See The World I (AT XI 3-6); Dioptrics IV (AT VI 112-14);
Principles IV.197 (AT VIII-A 321-22). For present purposes, however, the distinction is
not significant.
Here it is worth recalling that Descartes includes local motions in the sensory pathways among natural signs (as in the passage just quoted). These local motions could not possibly represent derivatively, by our treating them as representations: we do not treat them as anything at all, for we are not even aware of them. Insofar as the sign analogy extends to both local motions and sensations, then, it can not be taken to suggest that the representationality of these things is derived from human convention or intention.

Gueroult has also stressed that Cartesian sensations contain some truth in them (see (1985), p. 82). Gueroult does not, however, address the implications of this sensational truth for a Cartesian account of sensory representation. What is more, he argues that what belongs to sensation is a “new kind of truth that, in itself, has no relation with the truth of geometry and physics, nor with the truth of pure understanding” (p. 99). It seems to me that it is not the nature of truth that changes in the domain of the senses, but simply its object: the senses tell us truly not about the corporeal world as it is in itself, but about the corporeal world as it is related to and can benefit or harm the mind-body union.

"By and large" because there is still some residual falsity in our sensations that is not discharged even by considering their cognitive function in the life of the embodied mind (see above, n. 26).

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