Pain and Bodily Care: Whose Body Matters?
Frederique de Vignemont

To cite this version:

HAL Id: ijn_03034584
https://hal.science/ijn_03034584
Submitted on 16 Nov 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
Pain and bodily care: Whose body matters?

Frédérique de Vignemont

Abstract:

At first sight, pain seems intimately related to bodily care. Intuitively, one might say that one wants to avoid pain because one cares about one’s body. Individuals who do not experience pain as unpleasant and to be avoided, like patients with pain asymbolia, seem not to care about their body. This view has been recently defended by Bain (2014) and Klein (forthcoming). In their view, one needs to care about one’s body for pain to have motivational force. But does one need to care about one’s body qua one’s own? Or does one merely need to care about the body that happens to be one’s own? In this paper, I will consider various interpretations of the notion of bodily care in light of a series of pathological cases in which patients report pain in a body part that they do not experience as of their own. These cases are problematic if one adopts a first-personal interpretation of bodily care, according to which pain requires one to care about what is represented as one’s own body. The objection can run as follows. If the patients experience the body part as alien, then they should not care about it. Therefore, they should be similar to patients with pain asymbolia. But they are not. Hence, bodily care is not necessary to pain. To resist this conclusion, one can try to revise the interpretation of the notion of bodily care and offer alternative interpretations that are not first-personal. However, I will show that those alternatives also fail to account for these borderline cases of pain.

Key words: pain, care, bodily ownership, motivational role, alien hand
Pain is unpleasant. It is something that one avoids as much as possible. Pain thus triggers a range of actions (withdrawing one’s hand from the burning pot and afterwards inhibiting movements of the injured hand to let it heal, for instance). The question then is how to account for the motivational role of pain. This debate has been especially vivid in the discussion of the puzzling disorder of pain asymbolia (for a detailed discussion, see Grahek, 2001). Patients with pain asymbolia are in pain insofar as they are able to judge the location and the intensity of painful stimuli. Yet, they do not feel the pain as being unpleasant, nor do they try to avoid it. They do not feel disturbed by their experience: “I feel it indeed; it hurts a bit but doesn’t bother me” (Potzl and Stengel, 1937, p. 180). They do not even realize when something is threatening them. And when they are injured, they show none of the standard reactions like screaming or withdrawing their hand. Recently, both Bain (2014) and Klein (forthcoming) have argued that what is missing in pain asymbolia is the ability to care about one’s body. For instance, according to David Bain, if the patient does not care about her body, then pain no longer represents the injury as bad. It then loses its motivational force.

Because its unpleasantness—its hedomotive component—consists in a layer of evaluative content by dint of which it represents states of damage as bad; and a pain will represent damaged states as bad only to a subject who cares about her own body. (Bain, 2014)

Likewise, Colin Klein argues that bodily care is a necessary condition for pain to play its motivational role and in its absence, one displays the same type of behaviour as patients with pain asymbolia.

Pains motivate because we care about our bodies. Were we to stop caring, something that’s nearly impossible, for good biological reasons, then pains wouldn’t matter. (Klein, forthcoming)

There are actually differences between the two theories. In particular, bodily care is only an
enabling condition for the motivational role of pain for Klein, whereas it is a constitutive condition of pain for Bain.\textsuperscript{1} But for now, it suffices to say that they both defend the view that bodily care is necessary for pain to have a motivational force.

One may then wonder about the type of attitude bodily care consists in but I will not pursue this line here. Rather, I will focus on the target of the care attitude, namely, the body. Or should one say one’s own body? At first sight, the relationship between bodily care and pain can make sense only if one cares about one’s body, and not about another individual’s body or the human body in general. If so, there seems to be a further term in the equation, namely, bodily ownership. But does one care about one’s body \textit{qua} one’s own? Or does one merely care about the body that happens to be one’s own? In this paper, I will consider various interpretations of the notion of bodily care in light of a series of pathological cases in which patients report feeling pain in a body part that they do not experience as of their own. These cases are problematic if one adopts a first-personal interpretation of bodily care, according to which pain requires one to care about what is represented as one’s own body. The objection can run as follows. If the patients experience the body part as alien, then they should not care about it. Therefore, they should be similar to patients with pain asymbolia. But they are not. Hence, bodily care is not necessary to pain. To resist this conclusion, one can try to revise the interpretation of the notion of bodily care and offer alternative interpretations that are not first-personal. However, I will show that those alternatives also fail to account for these borderline cases of pain.

\textsuperscript{1} Those differences are well illustrated by their respective analysis of pain asymbolia. According to Klein, patients with pain asymbolia have normal pain experiences and they do not protect their body because they do not care about it. According to Bain, they have abnormal pain experiences because they do not care about their body, and thus do not protect it. I will describe later differences between Bain’s and Klein’s theories in more details.
1. Pain in ‘alien’ hand

What is the target of the notion of care that is taken as essential to pain? Bain (2014, my underline) says for instance, “a pain will represent damaged states as bad only to a subject who cares about her own body”. Likewise, Klein (forthcoming, my underline) claims, “the relevant background conditions for pain to motivate is the capacity to care about the fate of your body”. One way to reconstruct the care theory of pain then is in terms of what I call the first-person view. One cares about the body that one represents as of one’s own. In other words, the notion of bodily care has a first-person component. The first-person view is in line with Klein’s comparison between pain asymbolia and the psychiatric disorder of depersonalisation. Patients with depersonalisation have bodily sensations, but they experience abnormal bodily properties (for instance, the size of their body parts feels distorted) and they feel detached from their body. In particular, they react to pain as if they were not concerned. Sierra (2009), one of the main experts in the domain, actually notes that patients with depersonalisation are comparable to patients with pain asymbolia (a patient with depersonalisation reports: “it is as if I don't care, as if it was somebody else's pain” in Sierra, 2009, p. 49). Interestingly, those patients also report a sense of disownership of their own body (“I can sit looking at my foot or my hand and not feel like they are mine” in Sierra, 2009, p. 27). By failing to recognize their body as their own, they fail to recognize whose body they must care about. As Klein notes, the patient is like the man to whom a policeman shouts, “Stop or I will shoot!”, without recognizing that the command is addressed to him. In a nutshell, according to Klein, pain asymbolia results from care-lack, which itself results from a kind of depersonalisation, which includes a sense of disownership. Consequently, if pain requires bodily care and bodily care requires a sense of bodily ownership, then it follows from the rule of transitivity that pain requires the sense of bodily ownership. We can then make the

---

2 This first-person component needs not be conceptual. See Bermudez (1998) for example.
following prediction on the basis of the first-personal view. If the body part that is hurt feels alien, one should not be able to feel pain, or at least, one should experience pain asymbolia. However, this prediction is not confirmed by the following borderline cases.

Most philosophers have their pet borderline case of pain and it is quite often pain asymbolia (Grahek, 2001; Dennett, 1978; Aydede, 2006). But there are other borderline cases of pain that may be as puzzling. Interestingly, these cases seem to challenge the care theory of pain. I will start with two of them: somatoparaphrenia and chronic regional pain syndrome. In both cases, patients seem to experience ‘normal’ pain, no matter what that is, and react normally to their painful experience, but they have a sense of *dis-ownership* of the body part that is in pain. Those disorders can be conceived as mirror images of pain asymbolia. They consist in disownership with normal pain (or normal pain behaviour), whereas pain asymbolia consists in abnormal pain (or abnormal pain behaviour) with bodily ownership.

1.1 Disownership without pain asymbolia

E: Close your eyes and tell me what you feel when I’m touching your hand. P: That’s not my hand!! (…) It’s not mine (…) Someone left it there. I don’t know who he was (…) I don’t know who attached it to my body. E: Isn’t it a little bit weird to have a foreign hand with you? P: No! My hand is not like this!

E: If this hand is not yours can I take it away with me? P: Of course! If you want it, I will give it to you as my gift, since I have no need for it. E: Do you want to move this hand away? Wouldn’t you be sad without it? P: Yes, if it was mine, but it’s not. (Invernizzi et al., 2012, p. 148)

3 Another main example is masochism (Pitcher, 1970; Klein, 2014).
Patients with somatoparaphrenia deny ownership of their limb following a lesion of the right parietal lobe. It is often associated with motor and somatosensory deficits, spatial neglect, anosognosia and Anarchic hand. However, it cannot be reduced to any of these disorders (Vallar and Ronchi, 2009). In particular, somatoparaphrenic patients do not systematically feel their ‘alien’ hand numb.

For example, Moro and coll. (2004) describe the case of two patients with somatoparaphrenia, who were able to report with perfect accuracy when they were touched on their ‘alien’ hand, if their ‘alien’ hand was on their right hemispace. Yet, they maintained that the hand on which they felt touch were not their own, but someone else’s. Hence, patients with somatoparaphrenia can report feeling sensations in the hand that they disowned. More importantly, they can report painful sensations. For example, it has been reported that a patient cried out of pain when the examiner pinched his ‘alien’ hand (Melzack, 1990). Another patient asked his doctor:

Patient: I still have the acute pain where the prosthesis is. Examiner: Which prosthesis? P: Don’t you see? This thing here (indicating his left arm). The doctors have attached this tool to my body in order to help me to move. But it’s completely useless and very painful (...) Once home could I ask my wife, from time to time, to remove this left arm and put it in the cupboard for a few hours in order to have some relief from pain? (Maravita, 2008, p. 102).

The somatoparaphrenic patients’ pain behaviour thus appears as normal. If their ‘alien’ hand is hurt, they wince and spontaneously verbally complain, and more generally show aversive reaction to the pain felt in the ‘alien’ hand. They display no sign generally associated to pain asymbolia.
1.2 Pain that induces disownership

Another interesting, and possibly even more puzzling, case is complex regional pain syndrome (CRPS). CRPS is a chronic pain condition, which often happens after an injury like a broken arm, and which causes intense burning pain, associated with a decreased ability to move the affected body part with swelling and stiffness in affected joints. It has been described as a kind of motor neglect because patients need to focus specifically on the limb in order to move it and experience a sense of disconnection from the affected limb: ‘It was just like this foreign body you were carrying around with you cause it didn’t feel like it was part of you’ (Lewis et al., 2007, p. 114). In one study on 114 patients, more than half of them reported finding their hand ‘foreign’ or ‘strange’ (Förderreuther et al., 2004). The average pain at rest was rated higher in patients with this feeling. Consistent with those reports, it was found that the affected hand was cooler than the healthy one, which was taken as evidence of disownership (Moseley et al., 2012).

Unlike somatoparaphrenia in which pain is most of the time anecdotal, pain is the primary clinical sign of CRPS. Another interesting feature of CRPS is that it shows that pain is not only compatible with disownership, but can actually cause it. In that respect, CRPS may be more challenging for the care theory of pain than somatoparaphrenia. However, it is not clear in what manner pain induces disownership in CRPS. More particularly, should the explanation run at the subpersonal level? For instance, it has been suggested that the body schema grounds the sense of ownership and we know that pain disrupts the body schema (Schwoebel et al., 2001; 2002). Or should it run at the personal level? For instance, the limb is so painful that the patient no longer wants it to be part of her own body. In that latter case, one may object that the denial of ownership is only superficial. It reveals wishful thinking rather than a real sense of disownership. Because of this uncertainty, I will mainly focus on somatoparaphrenia, which suffices for our purpose. It does indeed invalidate the prediction
made by the first-person view. One can feel pain in a body part that is not represented as of one’s own. The sense of bodily disownership does not necessarily result in pain asymbolia. Does that show that one does not need to care about one’s body for pain to normally play its motivational role?

2. Explaining away the first-person

According to the first-person view, the target of the attitude of bodily care is the body that is represented as of one’s own. Consequently, one should feel the unpleasantness of pain only in a body part that is represented as part of one’s own body. Hence, if the body part that is hurt feels alien, one should not be able to feel pain, or at least, the pain experience should be similar to pain asymbolia. But as we have just seen, there is evidence that one can experience ‘normal’ pain as of being located in a body part that feels alien. The evidence reviewed so far invites us either to reject the care theory of pain, or more modestly, to revise the notion of bodily care. I shall now adopt this latter strategy and assess to what extent one can save the care theory of pain. In particular, I will consider two ways to explain away the first-person in the notion of bodily care. The most radical strategy consists in denying self-specificity to bodily care. As I will argue, there is no strong support for this strategy. A second strategy consists in acknowledging the self-specificity of bodily care while denying that it is a de se attitude. This is possibly more promising, although it is not clear whether it can fully account for the evidence.

2.1 Vicarious pain

It has been recently shown that part of the same brain areas is activated when one feels pain and when one observes another person suffering. One may then argue that this cortical
overlap puts in question the asymmetry between self and others in relation to pain (Gallese, 2001). More specifically, when one empathizes with another person’s pain, one experiences a vicarious version of an unpleasant general feeling of the type “It hurts”. One may then conclude that the unpleasantness of pain is shared between self and others. Whether I am the person who is in pain or you are, it feels unpleasant. Does it follow that bodily care is shared between self and others? In other words, does one care about one’s body only (i.e. self-specificity) or does one care about the body, no matter whose body?

According to Bain (2014), what makes pain unpleasant, what he calls the hedomotive component of pain, consists in bodily care. Since this component can be activated when one observes other people being in pain, one may conclude that one cares not only about one’s body, but also about other people’s bodies. If so, the notion of bodily care that is constitutive of pain is not first-personal. Its target is neutral relative to whose body it is. It leaves the body unattributed and represents indifferently one’s body and other people’s bodies. It can be either an impersonal attitude of the type <care, body part> or a personal attitude with the owner x left unspecified of the type <care, x, body part>. In Jeannerod and Pacherie (2004)’s terms, it is naked. I will call this interpretation the naked view of bodily care.

The naked view goes in line with the general intuition that one cares about other things than one’s own body. How else could one account for altruistic behaviours? Let me just mention one study made by the social psychologist Batson (1991). Participants were told that they would watch on a screen a student receiving ten electric shocks. After two shocks, the

---

4 Most brain imaging studies report a selective activation of the affective component of pain only, with no associated activation of the primary somatosensory cortex when participants observe cues indicating that another individual is receiving a painful stimulus, (e.g., Singer et al., 2004).

5 Jeannerod and Pacherie (2004) use the notion of naked content for intentions. They ground their argument on the discovery that part of the same brain areas is activated when one performs an action and when one observes another individual performing the same action.
student showed distress and the experimenter told her that she could stop if the participant accepted to substitute for her. The experimenter then came to the room in which the participant was watching the screen and asked her if she agrees to take the student’s place. There were several conditions, which do not matter for us here. What is important is that some participants accepted. Does that show that one can care about other bodies, possibly even more than about one’s body?

The question is thus whether pain requires a notion of bodily care that is self-specific. Findings about shared cortical systems in neuroscience and altruism in social psychology may shed some doubts. If so, what makes an experience unpleasant is that one cares about the body, no matter whose body it is. This revised interpretation of the care theory of pain would then easily account for pain in ‘alien’ hand since it would no longer matter whose hand is in pain. One might even compare what patients experience when they feel pain in their ‘alien’ hand to a kind of vicarious pain. However, I will now argue that the evidence does not support the naked view.

Acting for others does not show that one cares about one’s body in the same way as one cares about other bodies. There are actually many differences between vicarious pain and pain. It is not the whole painful experience that is shared between self and others. No theory of empathy assumes that one suffers exactly in the same way when one is injured and when one observes another individual being injured. Nor does one react in the same way when one’s body is threatened and when another body is threatened. The motivational force is not the same. Nor is the subsequent behaviour. It is true it is possible to override the urge of self-protection in various situations. It can be for selfish reasons like the pleasure one gets if one puts one’s body in danger in extreme sports. It can also be for altruistic reasons like the desire to save the nation in war. But those behaviours do not show that one cares about other bodies in the same way as one cares about one’s body. They merely show that one does not always
act on the basis of one’s bodily care. The asymmetry between self and others has not been erased, maybe only reduced.

The notion of bodily care would actually fail to fulfil its function if it were not self-specific. The care theory of pain appeals to bodily care in order to account for the motivational role of pain. If we follow Bain’s view, one performs a range of movements in order to reduce or stop the painful sensation because one represents the injury as bad. And one represents the injury as bad because of bodily care. Without bodily care, pain loses its motivational force. One becomes detached from what is happening to one’s own body, so to speak. What is interesting here is that the movements that pain motivates are movements that are appropriate for one’s own body only. Roughly speaking, when I am burning my hand on the stove, I do not remove my friend’s hand. I remove my own hand. But how could care motivate self-oriented movements, which are appropriate for one’s own body only, if it were not self-specific? In other words, if one cares indifferently about one’s body and about other bodies, then it seems that the notion of care would have difficulties in explaining why pain behaviour is self-oriented. It would be too neutral to motivate the specific type of movements one makes. This does not show that bodily care is self-referential, but it shows that it is self-specific.

2.2 That body

To recap, the notion of bodily care must be self-specific if it is to motivate self-oriented pain behaviour. But it cannot be self-referential if one wants to account for pain in ‘alien’ hand. Is the care theory of pain in a dead end? Not necessarily. There may be alternative rephrasing of the care condition, which keeps its motivational force without assuming a first-person component. In this view, one cares about that body, which refers to the body from which one receives nociceptive information (or to the body that is represented in the sensory-
discriminative component of pain). Consequently, the care attitude is not a de se attitude. It is a demonstrative attitude that points to the body that is damaged. It can be understood only in a specific context, the context given by the nociceptive system of the subject who is entertaining the attitude. In my case, bodily care refers to the body from which I receive nociceptive information, that is, my body. In your case, bodily care refers to the body from which you receive nociceptive information, that is, your body. I will call this view the demonstrative view of bodily care.

One of the assets of the demonstrative view is that it preserves the self-specificity of bodily care. More precisely, the self-specificity of bodily care is inherited from the self-specificity of the nociceptive system. Along the other ways of gaining information about one’s body like proprioception, nociception gives a privileged access to one’s own body only, and to no other bodies. Because of this privileged relation, the judgment “my hand is in pain” is not grounded in the judgment “this hand is in pain” and in the identification “this hand is mine”. Nociception thus guarantees what is known as immunity to error through misidentification (Evans, 1982). The immunity to error is only de facto, true in our actual world in ordinary circumstances. One can indeed conceive a case of cross-wiring such that A is connected through A’s nociceptive system both to A’s body and to B’s body. Then A can feel B’s hand receiving a blow. If so, knowing that the hand is injured via nociception (or quasi-nociception) no longer guarantees that it is one’s hand that is injured. The self-specificity of nociception thus ultimately derives from the mere biological fact that one is connected only to one’s body through nociception.

Since one cares about the body from which one receives nociceptive information and since nociceptive information de facto is only about one’s own body, one de facto cares only about one’s body. But one does not care about one’s body qua one’s own. One can now see how bodily care can play its motivational role for self-oriented pain responses. I remove my hand
from the stove. But this is the hand from which I receive nociceptive information (or that is represented as damaged in the sensory-discriminative system). This is the hand I care about. Hence, it seems that bodily care can motivate the specific type of movements one makes to stop the painful sensation.

Another asset of the demonstrative view is that it can explain pain in ‘alien’ hand. In disownership syndromes, patients still receive nociceptive information about their ‘alien’ hand and their ‘alien’ hand is still represented in their primary somatosensory cortex. Patients can thus care about the hand that is represented as damaged. Consequently, they can feel pain as of being located in that hand. The disownership syndromes are no longer a threat for the care theory of pain. Or so it seems.

3. A return of the first-person?

To recap, I have offered a series of counterevidence to the care theory of pain. Since patients can feel pain in their ‘alien’ limbs, pain cannot require caring for the body that one represents as of one’s own. I have then offered alternative versions of the care theory of pain. In particular, I have suggested that one might be able to maintain the care theory of pain if one revises the notion of bodily care. It may indeed seem that the problem disappears if care is not understood as a kind de se attitude. Rather, it should be understood in demonstrative terms. However, I now want to argue that the revision of the notion of bodily care does not suffice to solve the difficulties raised by disownership syndromes. I will first consider a worry that one may have about the demonstrative view and its capacity to account for the motivational role of pain. But I will show that this worry is not justified. I will then provide new empirical evidence that is problematic for the care theory of pain, even for the demonstrative view.
3.1 Trousers on fire

It has been argued that *de se* attitudes cannot be replaced by any other attitudes at the risk of losing their cognitive significance. This has been well illustrated by Kaplan (1989)’s famous example. I see in a window the reflection of a man whose trousers appear to be on fire. If I believe it under the character ‘His trousers are on fire’, I behave very differently than I would if I believed it under the character ‘My trousers are on fire’. This example is to show that *de se* attitudes have a specific cognitive significance. They have direct implications for self-oriented actions. One may then worry that the notion of bodily care loses its special cognitive significance if one adopts the demonstrative view.

What happens if I believe that “these trousers are on fire”? Could I fail to recognize that I need to pour water on my trousers? No. I will act on the right trousers. Demonstrative thoughts are not like descriptions. For example, I can fail to pour water on the right trousers if I only know that the trousers on fire are the ones in the southwest corner of the room. On the contrary, perceiving *that trousers* on fire justifies my pouring water on them. The demonstrative guarantees that I pour water on the trousers that are perceptually represented. Demonstratives can directly guide action (Peacocke, 1981). But do they have the same imperative strength as the first-person? When I believe *my own* trousers to be on fire, I feel the urge to react immediately. When I believe *these* trousers to be on fire, I will do what needs to be done, but only if I decide to act. My demonstrative thought does not immediately cause, or trigger, my action, unlike the *de se* thought.

The question now is whether proponents of the care theory of pain need the notion of bodily care to have an imperative force. It is worth at this stage looking at the details of the theory. As mentioned in the introduction, there are two versions of it. Colin Klein defends an imperative view of pain. In his view, pain should be understood in terms of bodily order or
command (Klein, 2007). The imperative force of pain derives from the imperative content of pain itself, and not from the capacity to care about one’s body. Bodily care is only the enabling condition of the intrinsic imperative force of pain: “pains are like matches. They do have an intrinsic power to motivate, but that power manifests only if circumstances are appropriate.” (Klein, forthcoming). The appropriate circumstances include bodily care. Hence, for Klein, care itself does not need to be imperative. A demonstrative attitude could suffice. Unlike Klein, David Bain does not endorse an imperative view of pain. Rather, pain has an evaluative content, which represents bodily damage as bad. Nor does he posit bodily care as a mere enabling condition. Rather, in his view, bodily care is a constitutive condition of pain. In Bain’s view, it is thus bodily care that must have an imperative force in pain. But is it compatible with the demonstrative view?

This question brings us back to the exact nature of the attitude of care. Arguably, the notion of bodily care that is required by pain must be quite primitive. Bodily care expresses a brute biological fact, the fact of self-preservation. The basic idea of natural selection is to favour behaviours that help the individual to survive and reproduce. It then seems that the most basic behaviour that increases the individual’s fitness is the avoidance of bodily injury. Bodily care is then not justified by beliefs, desires, or other motivations, but by evolutionary consideration. In this respect, it cannot be defeated. Rather, it has an imperative force such that it immediately and imperatively triggers protective actions. Consequently, the imperative force of pain does not need to come from the target of the care attitude; it comes from the attitude itself. Pain does not need that one cares about one’s own body _qua_ one’s own to play its motivational role.

To recap, one can care only about _that body_, and this suffices to account for the imperative force of pain. In Klein’s view, this suffices because of the imperative content of pain. In

---

6 It should be clear, however, that Klein does not endorse the demonstrative view.
Bain’s view, this suffices because of the imperative force of the specific care attitude involved in pain. I shall now turn to a second objection against the demonstrative view.

3.2 A lack of caring?

If we adopt the demonstrative view, then it does not matter that patients can feel pain in a part of their body that is not represented as their own. They can still care about the limb since it is the limb from which they receive nociceptive information. But do they actually care about their ‘alien’ limb? Or is the lack of ownership associated to a lack of care, as predicted by the first-personal view?

In somatoparaphrenia, it is interesting to note that patients often threaten and treat badly their ‘alien’ limb. For instance, Dieguez and Annoni (2013) describe the case of a patient with extreme misoplegia:

The patient regularly hit the arm on a table violently, scorched it with his right-hand nails and pointed objects such as needles, and sometimes burned it with a cigarette. He also abused the limb verbally, swearing at it and calling it “the damn useless thing.” He sometimes contemplated the idea of “chopping it off with an axe”. (Dieguez and Annoni, 2013)

Without going as far as self-inflicted injuries, many patients with disownership seem to feel little concern for their ‘alien’ limb, trying often to get rid of it (pulling their leg out of their bed, giving it to the doctor, putting them in the garbage, and so forth).

Nonetheless, some patients consider their ‘alien’ limb as a pet, which they cuddle (for review, see Feinberg, 2009). This friendly attitude, however, does not necessarily show that they would protect their ‘alien’ hand in the same way they protect the other hand.
This negative attitude takes an even more radical form in a further puzzling syndrome of disownership, namely, xenomelia (also called Body Identity Integrity disorder). Patients with xenomelia have apparently normal sensory and motor functions. They feel sensations in their limbs, including pain. Yet, they have an overwhelming desire to be amputated of one of their perfectly healthy limbs, often since childhood or early adolescence (First, 2004). The undesired limb is not perceived differently from the other limbs: it neither looks ugly or deformed nor does it feel impaired (Braam et al., 2006). The most frequent explanation offered by the patients is that their limb is unnecessary, superfluous and that it does not feel as part of their body (First, 2004; Braam et al., 2006, Hilti et al., 2013). When surgeons agree to cut their undesired limb off, they feel relieved. It has been argued that their desire to be amputated reveals a mismatch between their actual body and the way they represent their own body (First, 2004; Bayne and Levy, 2005; Ramachandran and McGeoch, 2007; Hilti et al., 2013). With the help of surgical amputation, individuals with xenomelia hope to solve the conflict by aligning their biological body with the way they represent their own body.

I don't understand where it comes from or what it is. I just don't want legs. Inside I feel that my legs don't belong to me, they shouldn't be there. At best my legs seem extraneous. I would almost say as if they're not part of me although I feel them, I see them, I know they are... (Corrine in “Complete Obsession,” BBC, 17th February, 2000).

Interestingly, patients with xenomelia have abnormal brain structures partly in the same areas that are found in pain asymbolia (Hilti et al., 2013). Yet, they can feel pain and no abnormality has been reported in their pain behaviour. Xenomelia thus sheds some serious doubts about the relationship between bodily care and pain. It seems most doubtful that patients care about the limb they want to get rid of. At least, they do not display the type of behaviour one might expect from someone who cares about one’s body. One seems indeed a
very bad caregiver if one performs self-amputation by lying under a train, by building a homemade guillotine, or by freezing one’s legs in dry ice. Oliver Sacks, who himself had an experience of disownership of his own leg following its immobilization during several weeks, well summarizes the situation as follows:

Thus, on the one hand, there was a severe perceptual deficit, so that I had lost all feeling of the leg. On the other, there was a “sympathetic” deficit, so that I had lost much of my feeling for the leg. (Sacks, 1984, p. 54, my underline)

To recap, patients with somatoparaphrenia, xenomelia and CRPS can feel pain, which they experience as unpleasant. They show none of the behaviours that patients with pain asymbolia show. We have seen that the sense of disownership per se is not necessarily an issue if one cares about that body (i.e. the body that one receives nociceptive information from). What is more problematic is that the patients do not seem to care about their ‘alien’ limb. The evidence indeed points in the direction of a care-lack hypothesis, like in pain asymbolia. If this is true, then it seems fatal for the care theory of pain because it shows that the lack of bodily care does not necessarily imply that pain loses its motivational force. Hence, the motivational force of pain must have another origin.

The only reply against this objection is to deny the care-lack hypothesis in disownership syndromes. This can take several forms. One can claim that patients must care about their body since they react normally to pain. But such answer would only beg the question. One can further claim that the type of bodily care that the patients lack is not the type of care that is required by pain. The argument may run as follows. Misoplegia expresses dislike of one’s body. But bodily care is not a matter of liking or not. It is another type of affective attitude towards one’s body. Alternatively, one may compare xenomelia to suicide. Arguably, people who commit suicide are able to feel pain normally. Yet, this does not prevent them to voluntarily injure their body. In this interpretation, patients in disownership syndromes care
about the body that happens to be their own but the motivational force of their bodily care is overridden by other factors.

Although these kinds of explanation seem slightly post-hoc, they cannot be immediately ruled out. There is indeed a lack of operational definition of the notion of bodily care involved in pain that makes very difficult any definitive answer. However, I want to underline two facts about those syndromes, which in my view, indicate that what they miss is the type of bodily care that is said to be required by pain.

First, it is interesting to note that the will to ‘delete’ part of one’s body is found as early as in childhood in xenomelia. Patients report that they have always felt this urge. And they do not regret when their limbs are actually cut. In other words, it is not a temporary fancy, but a persistent desire. This is why some surgeons accept to amputate them (for discussion of the ethical aspect, see Bayne and Levy, 2005). We do not know much about xenomelia yet, but as noted earlier, patients show structural differences in brain regions that are involved in pain asymbolia, including the right parietal area and the insula. Interestingly, Colin Klein (forthcoming) suggests that the insula plays a key role for bodily care. Those structural anomalies as well as the stability of their negative attitude towards a part of their body seem hardly comparable to a more or less temporary desire to commit suicide, which arises at some point in life, often during or after some traumatic experience.

A second argument in favour of the care-lack hypothesis can be found in a disownership illusion. One of the findings that have been taken as evidence for the care-lack hypothesis in pain asymbolia is the lack of reaction to threat. Unfortunately, this has not been tested in patients with somatoparaphrenia, CRPS and xenomelia. But it has been tested in healthy participants (who could normally experience pain) who were induced to experience illusory disownership of their hand (Newport and Gilpin, 2011). In this study, participants placed their hands inside a box, which allowed them to see live video images of their hands. They were
then asked to reach across to touch their right hand with their left hand. In one condition, the experimenter created a situation in which the right hand unexpectedly disappeared from vision and touch. All that could be seen and felt was the table where the right hand had once been (unbeknown to the participants, their right hand had slowly moved outwards). Participants then reported the sensation that their right hand was no longer part of their body. What is especially interesting is that observing the experimenter stabbing the last seen location of the right hand and its real hidden location elicited negligible skin conductance response. In other words, participants did not react when their ‘alien’ hand was threatened. If reaction to threat is taken as a proxy of bodily care, one may then conclude that they no longer cared for their hand when they disowned it. Taken all together, these findings strongly suggest that bodily care is missing in disownership syndromes. And yet, pain keeps its motivational force.

**Conclusion**

One may then draw two conclusions. The first conclusion concerns the target of the notion of bodily care. Although intuitively appealing by its simplicity, the demonstrative view has less explanatory power than the first-personal view. Unlike the demonstrative view, the first-personal view can indeed account for the association between disownership and care-lack. If one cares about what is represented about one’s body, then one no longer cares about the body part that is no longer represented as part of one’s own body. This is also consistent with the presence of pain asymbolia in depersonalisation syndrome noted by Klein (forthcoming).\(^8\) The second conclusion concerns the care theory of pain. Whether care is conceived as an

---

\(^8\) However, one observes only association between the two deficits and by itself, it does not inform us about their causal relationship. Hence, one cannot rule out other explanations to the association between lack of ownership and lack of care.
enabling condition or a constitutive condition of pain, it is a necessary one. Without care, the
theory claims, pain has no motivational force. Without care, one has pain asymbolia.
However, we have seen that this is not always true. Care-lack does not systematically result
into pain asymbolia. Therefore, care is not a necessary condition of pain. How should one
explain then pain asymbolia? An alternative explanation within Bain’s evaluative framework
consists in assuming erroneous evaluation. It is important to remember that in Bain’s theory,
care is a necessary condition, but not a sufficient one for the motivational force of pain.
Arguably, there is room for the evaluation to be faulty. For example, Ramachandran (1998, p.
1858) proposes the following account, according to which patients receive contradictory
information about the badness of what is going on:

One part of the person’s brain (the insula) tells him, ‘here is something painful, a
potential threat’ while another part (the cingulate gyrus of the limbic system) says
a fraction of a second later, ‘oh, don't worry, this is no threat after all’.

One may then describe pain asymbolia in terms of evaluative misrepresentation.
Consequently, it is not because one cares about one’s body that the situation (threat actual or
damage) is necessarily represented as bad.

References


Hillsdale, NJ: Erlbaum


