

Pain, care, and the body: A response to de Vignemont

Colin Klein

Department of Philosophy

and

ARC Centre of Excellence for the Study of Cognition and its Disorders

Macquarie University

Sydney, NSW 2109

colin.klein@mq.edu.au

+61 0431 811 027

Abstract

Frédérique de Vignemont argues on the basis of several empirical counterexamples that Bain and Klein are wrong about the relationship between pain and bodily care. I argue that the force of the putative counterexamples is weak. Properly understood, the association between pain and care is preserved in a way that is consistent with both de Vignemont's own views and the empirical facts.

Keywords: pain, pain asymbolia, bodily representation, bodily care, somatoparaphrenia

1 Setup

Pain asymbolia is a rare consequence of brain damage. Asymbolic patients report feeling pain, but are entirely unmoved by it. Discussing asymbolia, I argued that felt pain motivates only if you care about the integrity of your body [Klein 2015a, 2015b]. Asymbolia shows that the absence of care leads to the sort of indifference that one sees in asymbolia and (more speculatively) in depersonalization syndromes. In response, David Bain [2014] argues that care partially *constitutes* felt pain rather than being a mere precondition.

Frédérique de Vignemont [2015] argues that we both get it wrong. On the one hand, she notes several cases in which the ability to feel pain, bodily care, and guarding behaviour seem to dissociate. As caring for a body part plausibly requires a feeling of ownership over it, such cases look like counterexamples. On the other hand, she argues, Bain and I are vague about terms like ‘body’ and ‘care,’ which makes evaluating their claims difficult.

I am suspicious of the first point. The second is fair, but can be addressed.

2 Judgment and care

Several of de Vignemont’s cases involve on the dissociation of pain from *judgments* or other attitudes directed at body parts. Judgments about ownership are neither here nor there.

(Otherwise phantom limb pain would be a much easier counterexample.) What matters is the *feeling* of ownership over a limb. While the existence of such a feeling remains controversial, this is a point on which de Vignemont [2011, 2013] and I agree.

Complex Regional Pain Syndrome (CRPS) is a difficult test case. As de Vignemont [2015: 548] herself notes, it is unclear whether reports indicate a real lack of felt ownership or simply a personal-level attitude towards a distressingly painful limb. Further, while missing

segments are sometimes reported in CRPS, felt *enlargement* of a bodily segment is the more common response [Lotze and Moseley 2007].

Xenomelia (the strong desire for amputation of a particular limb) is similarly difficult to interpret. Xenomelia results from a mismatch between long-term and short-term body image [Brang *et al.* 2008]. That mismatch is unpleasant and distracting, and can give rise to the (reasonable) belief that one would be better off without the affected limb. Yet xenomelia patients are not delusional. They know that the affected limb is their own, even if they find it convenient to express their distaste for the limb in ownership terms.

One difficulty is that ‘care’ often refers to a full-fledged first-personal attitude, which can surely dissociate from pain. But there is also more basic sense in which we care for the basic integrity of our bodies, and which does not require the sort of complex, *de se* attitudes that are the primary targets of de Vignemont’s attack. Call this *basic care*. Basic care manifests as a set of appropriate dispositions towards the felt body which are sensitive to goings-on in the surrounding peripersonal space [Graziano and Cooke 2006], current homeostatic demands [Craig 2002], facts about which body parts belong to the organism, and facts about what can be done with those parts.

Following Moseley *et al.* [2012] I assume the existence of a ‘body matrix’ which integrates information about bodily facts, homeostatic imperatives, peripersonal threats, and background goals. Integrating each of these sources of information into a single representation is crucial, because each must be able to interact with the others. The hand might be needed to ward off something approaching the head, but only if the hand itself is not immobilized or in pain. A bubbling pot might contain food to sate your hunger, but you run the risk of burns if you grab for it. Solving such trade-offs is an evolutionarily ancient problem faced by any mobile animal [Merker 2005].

The dispositions made possible by this integrative process are what constitutes basic care about the body. Neither xenomelia nor CRPS involve breakdowns of basic care for the body.¹ Notably, xenomelia sufferers often go to extraordinary lengths to ensure that their limbs are amputated in a medically appropriate way. This is in part because self-amputation hurts a lot, and in part because they find it difficult to *injure* themselves. As the subject of an early case report puts it, “The most disturbing aspects of these acts is that I am inflicting injury on myself—I do not like this” [Money *et al.* 1977: 118]. Hence they do seem to care about the integrity of their body in a more basic sense.

Similarly, it does not matter that xenomelia and CRPS patients often express hatred towards the affected limbs (misoplegia). Care is further distinguishable from *bodily affect*, the latter being the (dissociable) set of personal-level feelings one has towards the body and its parts [Gray 1977]. If I look in the mirror and just *hate* my flabby arms, that’s a reason to diet, not to amputate. The negative attitudes in misoplegia are very strong, but they are not breakdowns of bodily care as such. The mere fact of dislike, even strong dislike, directed at a body part does not show that one lacks basic concern for the integrity of the body.

3 Somatoparaphrenia: Ownership or Care?

That leaves somatoparaphrenia (SP), a neuropsychological condition in which patients disclaim ownership of a limb. At least some patients with SP report pain in limbs over which they deny ownership. De Vignemont notes the example of a patient who refers to his left arm as a “prosthesis” and claims that it is “completely useless and very painful” [Maravita 2008: 107]. Moro *et al.* [2004] showed that crossing the left limb over the midline let two SP

¹De Vignemont also cites Romano *et al.*’s [2015] work on skin conductance response in Xenomelia, but the study is problematic. The observed contact-by-side interaction could be explained by the increased attention that xenomelia patients habitually direct towards the affected limb [Aoyama *et al.* 2012]. That would reduce overall anticipatory responses (via long-term habituation) while increasing tactile responses (via top-down enhancement). See Case [2013: 99] for a similar argument about observed responses in anorexia nervosa.

patients feel touch on limbs that they continued to disown. (Asked how they could feel touches in a limb that wasn't theirs, one patient replied merely that "many strange things can happen in life" [2004: 442].)

This is a more serious challenge. SP patients disclaim ownership, yet they feel pain. De Vignemont [2015: 546] claims that SP is thus the mirror image of asymbolia, which consists of "disturbed pain (or disturbed pain behaviour) associated with a normal sense of bodily ownership".

Yet as I have argued [2015a; 2015b], asymbolics *don't* have an ordinary relationship to their body. They are indifferent not just to pain, but to any threats to the integrity of the body. (Schilder later opined that the condition might have been better named "asymbolia for danger" [1950: 103].) Furthermore, asymbolics do not behave as one would expect patients with an otherwise ordinary relationship to their body to behave.

That is precisely what motivates the care-lack theory of asymbolia, which can be recast in present terms as a breakdown in the integrative function of the bodily matrix. The important question is thus not whether SP patients can feel pain, but whether that pain *motivates* them in the usual way. For if they were indifferent to the pain they felt, then SP would simply be a spatially restricted analogue of depersonalization.

Does the data distinguish between these options? No. Moro *et al.*'s study is on touch, not pain. Maravita's patient is clearly motivated by his pain, but a 'prosthesis' can be painful by causing pain. It is not actually clear that the patient feels pain in his *arm*. Later in the same description, in fact, the patient reports pain when pointing to his *shoulder* [Maravita 2008: 107].

If pain is preserved in the absence of ownership, it is a relatively rare feature of SP. The vast majority of SP cases show serious contralesional somatosensory deficits [Vallar and Ronchi 2009]. Further, most studies of SP emphasize the extent to which tactile/pain perception and body ownership converge. Bottini *et al.*'s [2002] patient F.B. reported that her left arm belonged to her niece, and would report tactile stimulation to the left arm only when she was told that her *niece's* arm would be touched. Pia *et al.* [2013] showed that patients with the delusion that the experimenter's hand belonged to them also reported pain when they saw the experimenter's hand pricked. In a follow-up study, Garbarini *et al.* [2014] showed that the effect is not merely a verbal response, but also manifests in skin conductance response (SCR).

Finally, there is positive evidence that SP patients have something like a depersonalization experience towards the affected limb.² Romano *et al.* [2014] showed that somatoparaphrenics seem to lack normal guarding responses to threatening stimuli directed towards the affected limb, including SCR. Further, it is possible for depersonalization to be restricted to body parts. Schilder discusses depersonalization phenomena directed at a limb, noting cases where "the individual feels that his limb is not his own limb although there are sensations coming from it" [1950: 74]. Critchley remarks on a similar phenomenon he called "hemi-depersonalization," noting that it proceeds to somatoparaphrenia in rare cases [1953: 237].

In conclusion, some cases of somatoparaphrenia appear to involve a variety of depersonalization, albeit one restricted to something less than the body. Depersonalization is the phenomenological mark of lack of basic care. Hence insofar as there is evidence that pain

²Following many authors, including de Vignemont [2013], I will assume the two-factor theory of delusions [Coltheart 2007]. The two-factor theory proposes that delusions arise from a combination of unusual perceptual experience and a deficit in reasoning. What follows is thus a claim about factor one in SP.

is felt in a limb in the absence of ownership over that limb, there is also evidence that patients do not care about that pain—exactly as in pain asymbolia.

Far from dissociating, somatoparaphrenia may be treated as a spatially restricted version of asymbolia. Nightingale gives an intriguing report of an SP patient who also “denied any unpleasant affective component even with hard Achilles tendon compression or deep skin penetration with a pin” [1982: 465]. Denny-Brown *et al.* suggest that in many of their patients, pain is never reported spontaneously, and the resulting effect looks like that of pain asymbolia [1952: 454].

4 ‘Body,’ ‘Care,’ and ownership

The ability to feel pain and the presence of bodily care go together after all, so long as the latter is understood in the more basic sense that is supported by the body matrix. That leaves only de Vignemont’s question about the referent of ‘the body’ in such explanations.

In the case of the body, I think de Vignemont has hit on exactly the right answer: one ought to treat care as “a demonstrative attitude that points to the body that is damaged” [2015: 550]. I think this is a wonderful solution. That said, cases like SP do force some important revisions to my theory of bodily care.

In earlier work, I suggested that asymbolia required a complete breakdown of care. Anything shy of that was impossible: that is, it was impossible to be indifferent to pain without *also* being indifferent to hunger, thirst, and so on. Care comes as a package of attitudes, held in total towards the entire body. That (I argued) was necessary to avoid the theory becoming empirically unhinged and so too accommodating.

SP offers an important corrective: it seems like it is possible to have care breakdowns towards only part of the body. I think that this can be accommodated within my framework. Return to the idea of a bodily matrix which integrates bodily representations, homeostatic information, and information about peripersonal space. If there is a deficit in one of the more basic body representations—perhaps the sort that determine bodily ownership—such that information about a particular limb fails to get integrated, then we may cease to care about that limb.

The possibility of partial breakdown still comes with important empirical commitments: even if one may feel care only over part of the body, this picture does not allow for partial *care*. That is, if a limb is included, then we ought to be able to feel pain in it, and feel the impetus to guard it, and to use it to the best of its (represented) ability, and so on.

Finally, the possibility of a breakdown in incorporation without breakdown in the lower-level sensory information suggests an intriguing possibility. Most of this paper, and of de Vignemont's work, has focused on ownership over the body and its parts. But there is another, equally good way, to describe depersonalization episodes. In depersonalization, one might have a failure of ownership over one's *sensations*: the pain in my ankle feels like *a* pain, but not *my* pain. Hence there is no reason to be moved by it. This would fit well with Liang and Lane's [2009] account of preserved sensation in somatoparaphrenia, and with my [2015a] assertion that depersonalised pain involves the failure to recognize one's own body as the authoritative source of the imperative that constitutes pain.

Care may break down for part of the felt body. When it does, we may or may not think of that body part as our own (depending on whether the feeling of ownership is preserved). But so long as we do not care, we will not feel homeostatic demands as *our* demands, and so not be motivated by them. Pain asymbolia is an all-encompassing version of this state, while SP is a

spatially restricted version. Both show the importance of integrated, phenomenologically salient feelings of care in preserving bodily integrity.

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