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How the Attention-Demandingness of Pain Favors Felt-Quality Accounts

0. Introduction

There is extensive disagreement--amongst philosophers, at least--about both the nature of sensory pain and about why it detracts from well-being. Of the theories that aim to provide a unified answer to both questions, felt-quality views and attitudinal views are arguably the most prominent and promising, and, as such, will be the focus of this paper.[1] The disagreement between them with respect to the ontological question is about what it is in virtue of which something counts as a pain. On the one hand, felt-quality theorists hold that an experience is a painful one just in case it involves the phenomenal character of pain. Central to this approach is the claim that there is a qualitative commonality between all instances of pain. Attitudinal theorists, on the other, deny that there is any such felt quality. They instead claim that a person's (properly specified) attitudes at least in part determine whether some mental state is a pain.

Theorists of each kind will typically appeal to their respective accounts of what constitutes pain to additionally explain why it is bad for the person who experiences it. For felt-quality theorists, the qualitative character of pain does not only determine that an experience counts as a pain, it also grounds its prudential badness. Attitudinalists think that a

[1] Carson (2000) was the first to use the term "felt-quality theories" to refer to both the distinctive-feeling view--according to which there is one particular feeling shared by all pains--and the more lenient hedonic tone theory--according to which they have only a vague phenomenal similarity.

pain detracts from well-being in virtue of the fact that it involves the right kind of disfavoring attitude.[2]

Debates about both the nature of pain and the grounds for its prudential disvalue are rampant, and normally center around questions regarding motivation, order of explanation, the heterogeneity of pains, and the nature of well-being more broadly. This paper presents a previously overlooked argument that side-steps most of those issues. I take as my starting point an intuition that is often mentioned in the literature, but only in passing: unpleasant sensory pain demands attention from the person who experiences it. It interrupts, distracts, takes effort to disengage from, gains access to focal attention unusually easily, and can be unignorable. The phenomenon in question is meant to capture the way in which it is unusually difficult to focus on the task at hand when, for example, working with a headache, walking with blisters, or listening to a lecture with stomach cramps.

I contend that this fact--that pain has the property of being especially attention-demanding--tells in favor of felt-quality views over attitudinal ones. In what follows, after preliminary remarks, I defend the claim that pain sets itself apart from many other sensations with respect to attention-demandingness. I then sketch a way for the felt-quality theorist to account for what grounds that property. I go on to argue that no such strategy--or viable alternative--is available to the attitudinal theorist. In particular, their view (1) is extensionally inadequate in that it allows for sensations that lack the property of

[2] I take the term "disfavoring attitude" to be pantheoretical with respect to which kind of attitude might be relevant (Gwen Bradford (ms) introduces the term "pantheoretical" as a secular alternative to "ecumenical"). There are arguably important differences with respect to accounts that hold that the relevant attitude is dislike and ones that appeal instead to desire, but those differences do not matter for our purposes.

attention-demandingness to count as pains, (2) struggles to account for what it is in virtue of which pains are particularly attention-demanding, and (3) cannot accommodate the attentional phenomenon of unignorability. Because attitudinal views fail to accommodate this central property of pain, I conclude that they are untenable.

1. Preliminaries

Felt-Quality and Attitudinal Views

A common motivation for rejecting felt-quality views in favor of attitudinal ones is that the former face the heterogeneity objection, which holds that introspection reveals no qualitative character shared by all sensory pains. Norton Nelkin (1986, p. 140), for instance, writes,

> My claim that pain sensations don't form a natural kind can be reinforced by considering the very different sensations one has when one's head aches as opposed to when one's skin is punctured or when one's tooth nerve is struck. Surely the only thing that brings us to sort these otherwise very different sensations as a single kind is the similarity in attitude expressed in each case.

Christine Korsgaard (1996, p. 148) has similar doubts:

> If the painfulness of pain rested in the character of the sensations ... our belief that physical pain has something in common with grief, rage and disappointment would be inexplicable. For that matter, what physical pains have in common with each other would be inexplicable, for the sensations are of many different kinds. What do nausea, migraine, menstrual cramps, pinpricks and pinches have in common, that makes us call them all pains?

Many find these concerns to be insurmountable for felt-quality views (for a start, see Clark, 2005; Gustafson, 2005; Heathwood, 2007).[3] Though my arguments here aim to show that there is a property shared by all pains, they do not do much to allay the heterogeneity objection. One could consistently hold that the best explanation for the distinctive attention-demandingness of different painful experiences is a shared phenomenal character while maintaining that,

[3] The heterogeneity objection against felt-quality views is variously put in terms of pleasure, pain, or both.

introspectively, it does not seem like any such thing in fact exists. I will note, however, that if my arguments are successful, they would provide one with incentive to bracket the heterogeneity objection in order to seriously consider felt-quality views.

A few terminological notes: throughout the paper, unless I indicate otherwise, when I refer to felt-quality views, I mean to include any view which requires the experiences to have a common phenomenal character, whether the relevant feeling is intentional or not. Also, because there is no consensus as to whether the attitude involved in attitudinal accounts itself has a phenomenal character, it is worth further clarifying that the felt quality invoked by felt-quality views is not one that is attributable to what it is like to have a disfavoring attitude. The relevant phenomenal character is the pre- or non-attitudinal feeling of unpleasant sensory pain.

The target of my negative arguments is the attitudinal approach rather than any theory that rejects the claim that pains share a phenomenal character. This is primarily due to space considerations. Whether views like imperativism and functionalism are subject to the same objection that I level against attitudinal theorists depends on details of those views that I cannot address here.[4]

Attention-Demandingness

Attention is an enigma. Despite William James' (1890/1981, p. 403) claim that "everyone knows what attention is," it is notoriously difficult to analyze, due, in no small part, to the fact that the concept encompasses diverse processes.[5] Consider your current attentional landscape. As you

[4] I suspect that the ability of imperatival views to account for the attention-demandingness of pain will be *prima facie* comparable to that of felt-quality views, but, in footnote 13, I briefly outline why I take the latter to have the advantage.

[5] Eccleston & Crombez (1999) wrote a seminal text on the attention-demandingness of pain (which I discuss further below). In correspondence with Geert Crombez on June 4, 2025, he clarified that in that paper, he and his colleague hold that there is no such thing as a unified concept of attention; that it

read this paper, its content is (hopefully) the focus of your attention. But, of course, you may experience non-voluntary attentional lapses, as when there is a knock at your door, or when your mind wanders to thoughts about what you will cook later tonight. You might also voluntarily focus your attention on particular features of your current experience. You can attend to the brightness of the computer screen, then to the typeface of these words, then to your posture.

Without getting mired in the bog of a conceptual analysis of attention, my argument makes the minimal assumption that when some ongoing experience is attention-demanding, it involves at least one of the following roughly characterized phenomena:

(1) *Distractability*: it detracts from one's ability to focus on other objects of attention; it requires some, but not all, of the person's ongoing attentional resources; it may occupy only peripheral (non-focal) attention; or

(2) *Unignorability*: it has easy access to and persistently intrudes upon focal attention; it prevents meaningful focus on other objects of attention; it requires most, or all, of the person's ongoing attentional resources; it is exceedingly difficult--or near impossible--to disengage from.

These are not mutually exclusive phenomena--I take it that they form two ends of a spectrum--and there may be additional ways in which an experience could be attention-demanding, but this sketch gets us going in the right direction. Notice that both phenomena are best understood as non-voluntary ones. The relevant claim is not that pain especially disposes one to pay it attention of their own volition (though this may very well be

instead makes more sense to speak of "attending to." That does not affect the thrust of my arguments here, since they can be recast in terms of what one is made to attend to.

true, too), but rather that regardless of whether a person is willing to be distracted by pain, one simply *is* distracted by it.

This framework allows us to say that attention-demanding sensations are not ones to which a person necessarily attends; that is, they can be present in one's attentional periphery without being the focus of attention. This is important, since it is clear that not every instance of pain is one to which we in fact attend. There might be pains that are so mild as to fly under the radar of focal attention altogether, as with the pain from a small cut on one's finger that is not noticed until it comes into contact with the lemons one is slicing. That the pain does not enter into focal attention does not show that it is not attention-demanding; it simply shows that it was not sufficiently so to win out over competing attentional demands. There is good reason to think that the degree to which pain captures our attention is generally positively correlated with its intensity, *ceteris paribus*. Mild pains may frequently go unnoticed, even though they, too, would command attention in contexts that were less attentionally taxing. Similar considerations apply to slightly more intense pains that go unnoticed when one is particularly engrossed in the object of their present concern, or when one is in an especially distracting environment. The point is simply that the claim that pain is unusually attention-demanding does not imply that it always wins out over competing attentional demands.

I do not wish to claim that one's experience of pain is necessarily the most phenomenally salient feature of their experience. It is worth emphasizing, however, that much of what I say in what follows depends on it being *unusually* distracting. Many sensory experiences are attention-demanding to some degree. Feelings of hunger, thirst, dizziness, nausea, itchiness, and tickling, for example, can be quite difficult to ignore. The feeling of being oxygen-hungry

may be nearly impossible to ignore. The fact that pain is attention-demanding does not make it unique among sensations. But I do think that the way in which it demands attention sets it apart from many other sensations of similar intensities. In the next section, I aim to show that the attentional interference of pain is greater and more persistent than that of many--perhaps most--other sensations, *ceteris paribus*. Whenever I refer to the fact that pain is distinctly, especially, or unusually attention-demanding, I mean it in just that sense.

Pain

For this project, my topic is limited to sensory pains rather than mental ones. Though I am hopeful that a similar story might be extended to mental pains, I do not have the space to argue for that claim here.

Throughout the paper, unless otherwise indicated, "pain" is meant to be pantheoretical; my use of it is agnostic between felt-quality and attitudinal views. Pain, in this sense, encompasses the normal experiences that people have when we, for example, stub our toes, undergo electrical shocks, burn our skin, and experience headaches. Both views agree that under normal conditions, for most people, those experiences count as pains and are bad for the person having them.

Note, too, that our present topic is unpleasant pain--the kind of pain that detracts from well-being. One might wonder why we should bring the prudential question into play at all since the claim that pain is attention-demanding is arguably only ontological. I will elaborate on this point more in section 4, but for now, suffice it to note that the thing in virtue of which pain is attention-demanding seems intimately related to the thing in virtue of which it is prudentially disvaluable. To see why, consider pain asymbolia. People with this condition report that pain

does not hurt and that it is not bothersome, and they fail to exhibit typical avoidance behaviors when subjected to it.[6] If we should take it at face value that what these patients experience is in fact properly understood as pain--and it is a big "if"--then we have pain without attention-demandingness and, intuitively, without prudential disvalue. This indicates that pain might come apart from attention-demandingness in exactly the same set of cases in which it comes apart from prudential disvalue, which suggests that they are tightly connected.

These considerations are complicated by the fact that there is good reason to doubt that asymbolic pain is genuine pain (Griffith & Kind, 2024). Even so, I think there are important lessons to be learned in considering our intuitions in these cases. All parties seem to agree that whatever asymbolic pain is, it does not detract from well-being. Notably, asymbolic pain is distinguished from typical pain partially in virtue of its lack of attention-demandingness. This suggests to me that the attention-demandingness of pain is closely tied not only to the nature of pain, but also to what makes it bad for the person who experiences it. They are fellow travelers; the thing that grounds the attention-demandingness of pain also seems to ground its badness. If what makes it attention-demanding is the felt quality, then there is reason to think that what makes it prudentially bad is also the felt quality. The attitudinal theorist might think that the link between attention and disvalue is in virtue of the fact that attention-demandingness is closely tied to what one cares about, and that it is what one cares about that (at least partially)

[6] See Grahek (2007) for the seminal philosophical treatment of pain asymbolia. Another thing to note is that I assume above that patients with asymbolic pain are not distracted by it. There is barely research that suggests that pain asymbolia exists, but certainly none that tells against my assumption on this front. Pötzl and Stengel (1937, p. 180) report a patient saying this in response to (what would normally be) a painful stimulus: "I feel it indeed; it hurts a bit, but it doesn't bother me; that is nothing." I take it that a plausible way to interpret one aspect of what it might mean to be *unbothered* by pain is for it to lack attention-demandingness.

determines her well-being. In section 5, however, I argue that the link between attention and disfavoring required to support this thought is untenable.

To reiterate: in what follows, unless I specify otherwise, I use the term "pain" in a pantheoretical way to refer to sensory pains that are bad for the person who experiences them.

2. Evidence for the Distinct Attention-Demandingness of Pain

That pain is attention-demanding strikes me as intuitively plausible. Of central importance for our purposes, though, is the further question of whether it characteristically and reliably enjoys easier access to our attentional resources than other sensory experiences. I think that introspection again supports the thought that it does. While, for most people, non-painful sensations--for example, the sensation of warmth or cold, the hubbub of a café, the glare from a window, motion in one's periphery, and the ticking of a clock--provide some degree of distraction, it seems to me that comparable painful sensations--say, headaches, stomach cramps, back pain, and toothaches--interfere with attention more persistently and to a greater degree. I do, however, recognize that not everyone will share my intuition. In what follows, I offer both theoretical and empirical evidence to support my contention that pain is distinctly attention-demanding.

Theoretical Support

Eccleston & Crombez (1999) provide a persuasive and influential argument for the claim that much of the adaptive function of sensory pain depends on its ability to disrupt a person's focus from other ongoing experiences. We live in environments that are unpredictable and that give rise to competing and sometimes contradictory goals. In this context, for a protective mechanism like pain to be able to effectively serve its function, it must be able to reliably

interrupt one's current concerns such that it can impose a new, superordinate goal of self-preservation.[7]

It takes only a moment of reflection to notice that if pain did not have the ability to disrupt one from their ongoing experience and activity, they would be liable to incur serious injury. This is made obvious by considering people who have congenital analgesia, a condition that prevents one from experiencing pain from noxious stimuli. One such person is reported by Melzack & Wall (1988, p. 4-5) as having bitten off the tip of her tongue while chewing food, incurred third-degree burns from kneeling on a hot radiator to look out a window, and sustained severe injuries (requiring orthopedic surgery) to her knees, hip, and spine. Her surgeon attributed these medical issues to her inability to feel pain, since it is pain that causes us to modify and regulate every day movements to prevent injury. The medical issues just described are not atypical of people with this condition, who not only accumulate injuries, but also die early (this particular patient died at the age of 29).

For present purposes, we should notice that an inability to be interrupted by pain would have (at least some of) the same disastrous consequences of not feeling pain. Typical people are interrupted from their current task (eating, looking out a window, walking) by the experience of pain when some part of their activity becomes noxious (biting one's tongue, burning one's legs, hyperextending one's joints). Of particular note is that for pain to serve its protective function, it is not enough for it to be attention-demanding, for many sensations are attention-demanding. Given the cacophony of ongoing sensations involved in even the calmest of everyday experiences (the sound of birds chirping outside, the feeling of one's feet in their shoes, hunger

[7] Pallies (ms) argues that the fact that pain interferes with our pursuits in this way explains the appealing thought that pain matters more than pleasure does for well-being.

and thirst sensations, the heaviness of one's eyelids after poor sleep, etc.), the capacity of pain to interrupt attentional functionings cannot depend on a lack of competing ongoing sensations. Pain has to stand apart from other demands on attention for it to effectively serve a protective purpose.

Empirical Support

That pain is characteristically interruptive in this way is borne out not only theoretically, but also in the lab. First, consider that naturally occurring pains like headaches and menstrual pains have been shown to impair attention (Attridge et al., 2017; Keogh et al., 2014; Moore et al., 2013). People with chronic pain, too, not only report diminished attentional capacity (Dufton, 1989; Muñoz & Esteve, 2005), but also perform worse on attentionally demanding memory tasks than pain-free controls (Berryman et al., 2013; Grace et al., 1999; Leavitt & Katz, 2006). They show diminished functioning of both selective attention--the ability to ignore goal-irrelevant stimuli--and sustained attention (Bell et al., 2018; Glass, 2009), as well as reduced performance on complex cognitively demanding tasks (Dick et al., 2003; Moore et al., 2012; though see Pincus & Morley, 2001). In cases where pain cannot be avoided, further evidence of its impact on attention might be the avoidance of attentionally demanding tasks, especially when they are risky ones. Fan et al. (2012), for instance, found that, of participants with chronic pain who do not drive, 56% reported that they stopped driving due to pain (whether this was the result of the *attentional* effects of pain was not specified). People with chronic pain also report that driving involves higher mental demand and requires more effort than do healthy controls (Vaezipour, 2022). Though this research implies that a particularly salient aspect of the experience of pain is its impact on attention, it would be helpful to have direct evidence in

support of the further claim that pain is significantly *more* attention-demanding than many other sensations. That will be the focus of the remainder of this section.

The Complications

There are a large number of studies that investigate the question of whether the attentional demands of pain affect performance on attentionally demanding tasks more than those of control sensations. While the bulk of them support the claim that pain is particularly attention-demanding, some do not (e.g., Attridge et al., 2019; De Paepe & Crombez, 2022; Keogh et al., 2013). The first thing to note is that whether pain has a measurable and differential impact on attention may depend on a myriad of factors such as intensity, threat value, novelty, and predictability of the pain, the complexity and type of attentional task involved, and individual differences between persons and their dispositions.[8] The significant heterogeneity in the empirical work with respect to these variables makes it difficult to draw firm conclusions.

But, of course, the fact that some studies fail to find a differential effect of pain on performance does not threaten the claim that pain is especially attention-demanding. Ryckeghem & Crombez (2018) suggest that because of the complex nature of both pain and attention, it is a mistake to think that a failure to show that pain is particularly disruptive to some particular measure of attention shows that pain does not in fact have an especially interruptive capacity. They argue that any cognitive process is liable to be overruled by the attention-demandingness of pain under the right conditions. Distractions--even significant ones--do not necessarily prevent us from executing a task. Unless the successful performance of some task requires significant attentional resources, it should be unsurprising that the presence

[8] See Eccleston & Crombez, 1999 and Moore et al., 2012 for an excellent discussion of the kinds of factors that mediate the disruptiveness of pain.

of a demand on attention does not interfere with the performance of it. To put it crudely, if the task is easy enough, it does not take much focus to successfully complete it. Indeed, some studies have found that pain interferes with complex attentionally demanding tasks, but not with simple ones (Dick et al., 2003; Eccleston et al., 1994, 1995; Moore et al., 2012; though see Moore et al., 2013). We are often capable of resisting that which is demanded of us.

One might wonder, then, what is meant by the claim that pain is attention-demanding even when it does not interfere with behavior. Compare the attention-demandingness of pain to that of a toddler who continuously demands to have ice cream before dinner. We can imagine that they badger their parent about it throughout the whole day, with the kind of single-minded persistence that only a toddler can muster. The mere fact that the child is demanding in this way does not imply anything about their parent's behavior. Were there no observable effect of this demand on the parent (perhaps the parent ignores this kind of thing on principle), one could not conclude on that basis that the demand does not exist. Pain is sometimes attention-demanding in a way not unlike the toddler. It is similarly capable of being a significant source of distraction, even when its attentional demands do not exceed attentional resources such that they impair performance.

In any case, I (and many others) think that the general thrust of the empirical research suggests that pain is distinct from many other sensations with respect to its attention-demandingness, and it is to that research that I now turn.

The Primary-Task Paradigm

There are several possible behavioral measures that could demonstrate whether and to what extent pain is more distracting than many other sensations. The framework employed by a

majority of the following research--the "primary-task paradigm"--relies on the thought that if an experience is attention-demanding, then it can be expected to compete with other demands on attention for limited attentional resources. When the combined attentional demands made on a person exceed their attentional resources, something has to give. This framework lends itself to a straightforward test of the attentional inference of pain. In the primary-task paradigm, subjects are required to perform some attentionally demanding cognitive task while undergoing pain. Experimentally induced pain includes pressure administered to a finger or forearm, electrical pain, thermal/heat pain, and the "cold pressor task", which requires subjects to hold their hand in very cold water for an extended period of time. In many of these studies, the participants are told to complete the cognitive task (the primary task) and to ignore the pain (presumably, the secondary task). The degradation of performance (with respect to either accuracy or response time) in comparison with a baseline is taken to be a measure of the extent to which pain interferes with attention.

The most pronounced way that this might occur is if the pain were so intensely attention-demanding as to prevent the person from performing the task altogether. Needless to say, ethical considerations inhibit empirical investigation into whether and under what conditions that might occur. I think it is probable that the extent to which extremely intense pains are unignorable is unparalleled by most other extremely intense sensations (and will argue for this claim further in section 6), but there is no experimental evidence that tells in support of or against this claim.

In the absence of such a drastic effect, the most obvious way in which the attentional interference of pain might be measured is through diminished accuracy on the primary task. If

people make significantly more errors when exposed to pain than controls, then it would be good evidence that pain is distracting. Several studies have in fact found experimentally-induced pain to have this effect (Crombez et al., 1996, 1998; Eccleston & Crombez, 1999; Moore et al., 2012).

It is important to note, however, that distraction can occur in far more subtle ways. To see this, consider a study conducted by Crombez et al. (1997) wherein participants were asked to discriminate between high- and low-tones while being repeatedly exposed to distractors: either a painful electrical shock or an image of a human face (toward which fellow humans have an attentional bias). While the same number of errors were made during the pain and control trials, it took significantly longer to produce a response in the pain trials. The researchers take the delayed reaction times in the pain trials to suggest that the painful stimulus was more attention-demanding than the control. Many other studies have similarly found that pain differentially slows reaction times (Becker et al., 2022; Crombez et al., 1994, 1996, 1997; Robison et al., 2021; van Laarhooven et al., 2017). Robison et al. (2021) also found that pain increases intrasubject response time variability, which they argue is another indication of attentional interference.[9]

Non-Performance-Based Measures

[9] It would be informative to have more substantive research on the attentional interference of non-painful sensations as it compares that of painful ones when other attentionally salient features are controlled for, but there is limited research to draw upon. There is preliminary research on the attentional interference of itch, for instance, which is a sensation that is intuitively high in attention-demandingness as compared to other sensations. The results are mixed. While van Laarhooven et al. (2018) found no evidence of any attentional interference of itch, Becker et al. (2022) found that itch and pain were similarly attention-demanding, though they note that some of their subjects reported that their itchy sensations were also painful (e63). van Laarhooven et al. (2017) also found that itch interfered with attention, but they note that their evidence suggests that pain interferes more with attentional processing than itch (9).

We can also look to non-performance-based evidence in support of the claim that pain is attention-demanding (even when it fails to affect accuracy or reaction times). For instance, some findings indicate that people report higher levels of perceived distraction, mental effort, or frustration, or the occurrence of more off-task thoughts when they are in a pain condition than when they are in a control condition (Crombez et al., 1996, 1997; Keogh et al., 2013; Leavitt et al., 2002; Robison et al., 2021).

Another way that increased attentional effort could be measured is through physiological responses. For example, pupil dilation is sensitive to attention such that the more focused and engaged one is with a task, the more pupillary response they exhibit (Beatty & Lucero-Wagoner, 2000, as cited in Robison et al., 2021). This pupillary response corresponds with both self-reports of higher task-engagement and better task performance (Hopstaken et al., 2015a, 2015b; Hopstaken, Linden, Bakker, Kompier, & Leung, 2016; Robison & Unsworth, 2019; Unsworth & Robison, 2016, 2017; as cited in Robison et al., 2021). Robison et al. (2021) found that participants' pupillary responses were diminished when performing a task while undergoing pain when compared with a control, even when their performance of the task was not impaired. They argue that this suggests that pain differentially prevents high engagement with and focus on the task at hand because of lapses in attention.

Onset vs. Ongoing Interference

Another thing worth mentioning is a distinction in the literature between two ways in which pain might be distinct in its attention-demandingness. The first is at its onset: when pain is more disruptive immediately after it is introduced than a non-painful control, that is evidence that it stands apart with respect to its onset attentional interference. Crombez et al. (1996), for

instance, found that pain was more disruptive at its onset than a neutral visual stimulus. The other way that it might stand apart is if it causes ongoing attentional interference. If pain persists in being more disruptive than a control after its onset, then that is another indication that it is differentially attention-demanding.[10]

Additional evidence that suggests that pain stands apart from other sensations in its attention-demandingness in an ongoing way is the noteworthy phenomenon whereby habituation of the attentional interference of pain is particularly hard to produce and easy to undo. Habituation is a phenomenon characterized by a decrease in response to a stimulus after repeated presentations or exposure. A classic illustration of it is when someone who lives by a busy highway is initially distracted by the noisy traffic, but eventually stops noticing it. It is important to distinguish the phenomenon that is informative for our purposes from sensory adaptation, though both phenomena can involve a person initially noticing a stimulus but ceasing to after sufficient exposure. The key difference regards what accounts for the diminished noticing response. To see this, compare the person who no longer notices the sound of traffic with a newlywed who is initially very conscious of the feeling of their wedding ring on their finger, but who stops noticing it after a while. In the latter case, what explains the diminished noticing is that the person's sensory neurons stop alerting the brain to the ring's presence there. It is not that the person becomes better at ignoring it; they literally stop feeling

[10] In cases where it is ongoing, there is a further question regarding the nature of that disruption. The attentional interference might be continuous--that is, near-constant--or it might be transient--occasionally but persistently gaining access to focal attention. (Robison et al. (2021) use "persistent" and "transient" to refer to the same distinction.) Much of the empirical work on the interruptiveness of pain has not made this distinction. The exception to this is recent work by Robison et al. (2021), who found that the interruptive effect of pain (as produced by the application of pressure to a finger) on a task requiring sustained attention was transient (which, as they note, is in line with a prediction made by Eccleston & Crombez, 1999).

it. In contrast, when a person habituates to the sound of traffic, it is not that they can no longer hear the traffic; it is rather that their brain filters out that information such that they do not attend to it. The kind of habituation that is relevant for our purposes is of this sort.[11]

Some research indeed suggests that habituation of the attentional interference of pain is hard to achieve and easy to undo when compared with other sensations (Crombez et al., 1997, but see De Paepe & Crombez, 2022). De Paepe et al. (2019) argue that there are motivational-ethological reasons to think that habituation of the attentional interference of pain is comparable to habituation of defense responses of prey animals in the presence of predatory ones in that it is particularly hard to establish and the response may never fully habituate in the way that it does with other sensations.

When taken together, the empirical investigation into whether pain is distinctly attention-demanding conclusively shows that it is. To reiterate, there is evidence that the attentional interference of pain is slower to habituate than that of other sensations, that it is associated with diminished pupillary responses, that it differentially affects both accuracy and reaction times of single-session trials, and that it is particularly disruptive at both its onset and

[11] While there is evidence that sensory adaptation occurs with repeated exposure to noxious stimuli--that is, the subjective experience of pain can in fact diminish with repeated exposure to identical noxious stimuli (e.g., Bingel et al., 2007)--that phenomenon does not inform the habituation process as directly related to attentional interference. If the reason that a person becomes less distracted by a painful stimulus is because they experience less pain, then that does not tell us anything about the attentional phenomenon at play, since there is little mystery as to why less pain is less attention-demanding. Instead, for our questions about habituation of the attentional interference of pain, we are interested in whether and to what extent a person becomes less distracted over time by the same sensation at the same intensity. Since the sensation of pain is a subjective experience that can come apart from nociceptive activity, we cannot precisely measure the extent to which the person is experiencing the same phenomenal intensity throughout the duration of an experiment (particularly because directly asking them about it could interfere with precisely what is being studied). I do not know of any research on habituation of the attentional interference of pain that disentangles the purely attentional effects from those that are due to physiological changes.

in an ongoing way. Henceforth, I assume that pain has the inexorable property of being attention-demanding. In the next section, I sketch a picture of how the felt-quality theorist might accommodate this property, and in the one after that, I argue that attitudinalists cannot.

3. How Each View Might Accommodate Attention-Demandingness

Felt-Quality Views

Felt-quality views hold that pain is pain and that pain is prudentially bad because of what it feels like--it hurts. Its phenomenal character accounts for both the nature of pain and for why it is prudentially disvaluable. In response to the further question regarding what it is in virtue of which pain demands attention, felt-quality theorists can appeal to the very same consideration: it is in virtue of the fact that pain feels the way that it does that it is attention-demanding. How those experiences feel are such that they demand attention in a way that is not true of many other sensations. On this approach, the qualitative character of pain is one that is essentially phenomenally salient; the feeling itself is uniquely well-positioned to intrude on one's awareness. This thought finds support in the following passage in Eccleston (1995, p. 401): "Given that pain seems designed to gain access to consciousness by interrupting all other current processing, the characteristics of the pain are of paramount importance to the success of the pain in capturing attention."

There are a number of ways to flesh out this thought. One is by employing the view that the qualitative character of certain phenomenal properties necessitate their effects. Proponents of this view--the phenomenal powers view--hold that some feelings necessarily produce certain mental effects. This approach is defended by Hedda Hassel Mørch (2017, 2020, ms), who argues that the intrinsic qualitative character of unpleasant pain is such that it necessarily causes the

person who experiences it to try and avoid it, *ceteris paribus* (i.e., in the absence of other, overriding motives). Applying this strategy to our current concerns, we might say that the qualitative character of one's unpleasant pain necessarily causes them to attend to it, *ceteris paribus*. Daniel Pallies' (2022) defends the view that there are certain experiences such that they, either metaphysically or nomologically, necessitate corresponding attitudinal dispositions. This does seem to be the case for certain qualitative characters. It is very difficult to imagine, for instance, feeling the phenomenal character of itchiness without having the disposition to scratch. In this vein, it might be that the phenomenal character of pain necessarily disposes one to pay it attention.

It is worth noting that the most controversial part of the phenomenal powers views defended by Mørch and Pallies is the claim that certain phenomenal characters are necessarily aversive and/or disfavored (in the absence of more powerful motives). Sobel (2005, p. 444-5) addresses a parallel claim about the felt-quality conception of pleasure, which is, according to him, just another "flavor of sensation." He argues that while it might be very surprising to learn that someone did not like that which you love--e.g., the taste of chocolate--or did like that which you fervently dislike--e.g., the taste of dirt--it has to be metaphysically possible.[12] Regardless of whether he is right about that, the point is that my use of the phenomenal powers view of pain, for our purposes, avoids the part of the view that is most contentious--that pain necessarily causes the person who feels it to try to avoid it and/or to dislike it, *ceteris paribus*. The claim that

[12] I myself do not think that a failure to dislike pain is analogous to a failure to dislike dirt. There does seem to be something relevantly different about the sensations of pain and the taste of dirt. This may reflect a failure of imagination on my part, but if so, it is one I have yet to overcome. At any rate, I do not have the space to pursue this thought here.

the phenomenal character of pain necessarily causes the person who feels it to be distracted by it, *ceteris paribus*, seems an easier pill to swallow.

The idea that there are some kinds of mental states that are especially capable of commanding attention also has precedence in the literature on the philosophy of attention. Sebastian Watzl (2017, 2022) argues that attention at least partially consists in the subject's ordering of her occurrent mental states according to their relative priority to her. This fits nicely with the influential view defended by Eccleston & Crombez (1999), according to which pain intrudes upon existing attentional priorities so as to implement a superordinate goal of self-protection (as discussed above). On Watzl's view, this ordering process is subject to both an active force--as when you intentionally attend first to the color of an apple, then to its shape, and then to its size--and a passive force--as when you are non-voluntarily made to pay attention to something, say, a knock at the door. He argues that the notion of imperatival phenomenal salience is necessary to properly understand the passive forces to which our attention is subject. The idea is that the phenomenal character of certain mental states is such that it issues an imperative: "Pay attention to me!"[13]

[13] This view of phenomenal salience is reminiscent of the imperatival view of pain, but is importantly different. As the imperatival view of pain is typically put, pain is not characterized by a felt quality, but rather by the body's issuing of an imperative ("Make it stop," or "Less of me!"). One advantage of adopting a felt-quality view of pain and a phenomenal powers/imperatival account of the attention-demandingness of that qualitative character is that it can account for the way in which pain can capture attention without taking on the highly contentious claim that pain is identical to the imperative. Kate Manne (2017) similarly argues that pain might simply involve the imperative to make it stop rather than being identical to it. Because of the distance between the identity of pain and the imperatives that it issues, I take it that the felt-quality view has an advantage in accounting for pain's attention-demandingness over the imperatival view. The felt-quality view can account for the main advantages, to my mind, of the imperatival account while avoiding the main objections to it. Whether one agrees with that assessment will admittedly depend on whether they find the other theoretical commitments of the felt-quality view plausible.

I take it to be relatively uncontroversial that there are certain experiences that have the property of being particularly attention-demanding. The phenomenal character of the sound of someone screaming, for instance, seems like a good candidate. Whether it is plausible to attribute the property of attention-demandingness to what it feels like to be in pain is certainly more controversial, but it seems overwhelmingly plausible to me. Doing so has both intuitive appeal and is consistent with the empirical evidence discussed in the previous section.

Of course, that research does not prove that such a felt quality in fact exists. The main objection to felt-quality views is that there is no identifiable shared phenomenal character between all instances of pain. The empirical work side-steps the complicated question regarding the identity of pain, presumably so as to get on with scientific inquiry. It is worth noting, though, that this complaint--the heterogeneity objection--is very frequently leveled against felt-quality views of both pleasure and pain.[14] Set pleasure to the side, for now, and consider only whether experiences of pain are so different from one another as to not share a phenomenal quality. The intuition that there is no phenomenal similarity shared by different experiences of pain is surely most powerful when comparing sensory pains with mental ones. Our present topic is sensory pain only, and I contend that it is much less an affront to the intuitions to think that all instances of sensory pain share a qualitative character. It is one thing to think that grief and stomach cramps have nothing in common, but it is quite another to think the same of stomach cramps and sprained ankles.

[14] While I also find the felt-quality conception of pleasure quite plausible, for present purposes, we should restrict our focus to the objection as it pertains to pain. In principle, there is no reason, other than parsimony, to think that the felt-quality views of pleasure and pain must stand or fall together.

In any case, if one cannot get past the thought that there is no felt quality shared by all sensory pains, then the present argument will not be persuasive. But, for those who are not closed-off to the possibility that the phenomenal character of sensory pain might exist, I hope to have sketched how such a feeling could plausibly account for the way in which pains are attention-demanding. The phenomenal powers view and the account of phenomenal salience discussed above provides us with independently motivated ways of explaining how this might work. Though my treatment of it here is cursory, I do think the general strategy holds promise. The details need filling in, but the groundwork has been laid in a way that I hope is not terribly objectionable. However we fill in the specifics, the important point is this: the felt-quality account holds that each instance of pain is necessarily an instance of a certain phenomenal character which is itself especially attention-demanding.

Attitudinal Views

Attitudinal accounts of pain tell us, roughly, that a sensory experience is a pain for a person when they have a properly specified negative attitude toward it. Crucially, this approach denies that there is one way that all pains feel.[15] On the current proposal, if one did not have a disfavoring attitude towards the sensation of slamming one's finger in a car door, it would not be a pain. Proponents of this view can acknowledge that it would be very odd if someone did not have a disfavoring attitude toward that sensation (Sobel, 2005), but they take it as a virtue of their account that they can accommodate the possibility. Importantly, the most plausible versions of such views will restrict the objects of the relevant disfavoring attitudes so as to rule

[15] Kahane (2009, 2016) and Lin (2020) are exceptions to this, as they defend views according to which the relevant attitude has its own phenomenal character. See also Heathwood (2019), who argues that all desires relevant to well-being involve genuine attraction, which arguably amounts to a shared phenomenal character (though see Fortier, forthcoming).

out the possibility that disliking the fact that Albany is the capital of New York could count as a sensory pain. To ensure that sensory pains involve some kind of sensation, the view can simply require that the object of the relevant attitude be a sensation. It is worth being very clear on this point, as it is crucial in what follows: the attitudinal view holds that any sensory experience--a papercut, a twisted ankle, the warmth of a baby on one's lap, the smell of lavender, the taste of cilantro, etc.-- could be a sensory pain, provided that the person has a properly specified disfavoring attitude directed toward the intrinsic sensory qualities of that experience.[16]

The distinctive attention-demandingness of painful experiences--as compared with other sensory ones--should strike the attitudinal theorist as puzzling for at least three reasons. For one thing, it renders their view extensionally inadequate. It is not the case that each member of the set of experiences that the attitudinal theorist counts as pains will have the property of being particularly attention-demanding, since they can count any sensation as a pain (when accompanied in the right way by the relevant disfavoring attitude). Next, even if the view could somehow be put in a way that would guarantee that all members of the set *pain* have the property of being attention-demanding, it is not clear what would account for that property if not intrinsic features of the sensation itself. Attitudinal theorists cannot help themselves to the strategies that are available to the felt-quality theorist because each of those strategies depend on there being a felt quality shared by all experiences of pain. The last objection is that the attention-demandingness of pain seems distinct from that of many other sensations not just in

[16] This is oversimplified, for now. Heathwood (2007), for instance, analyzes unpleasures, not pains *per se*, in terms of desire. So, on an account like his, any sensation is a candidate unpleasure, not pain. I address this complication in the next section.

virtue of its especially distracting nature, but also its ability to hijack one's attention such that it becomes unignorable. I will consider each of these points in turn.

4. Extensional Inadequacy

Attitudinal views tell us that many different types of sensations are pains in virtue of being disfavored in the right way. But if we take seriously the claim that pain--the kind produced by electrical shocks, the cold pressor task, pressure, menstrual cramps, etc.--is particularly attention-demanding, then the attitudinal view is extensionally inadequate.[17] The set of experiences that the research suggests are particularly attention-demanding in virtue of membership in that category comes apart from the set of experiences that the attitudinal theorist tells us are pains. Crudely put, pain is importantly distinct from other experiences when it comes to its attention-demandingness. Since attitudinal theorists allow that any sensation can count as a pain (provided that it is disfavored in the right way), it will include as pains sensations that are not particularly attention-demanding. That is a problem if there is good reason to think that an essential property of pain is its attention-demandingness, which I have tried to show that there in fact is.

The attitudinal theorist might defend themselves against this charge by saying that the research showed only that some painful sensations--the ones associated with the cold pressor task, electrical shocks, pressure, heat, menstrual cramps, and headaches--are

[17] I take the research previously discussed to suggest not only that pain has the property of being particularly attention-demanding, but also the prior claim that there is a category of sensation--that of pain--to which the property can be properly attributed. With respect to that minimal claim, all present are on board. The empirical investigation is pantheoretical with respect to what constitutes membership in that category, but its focus is on experiences that clearly belong in it. And, as we have seen, both the theoretical and empirical work suggests that an important property of pain--whatever it turns out to be--is its attention-demandingness.

attention-demanding. But the research does not and cannot suggest that every member of the category of pain has this property. Fair enough, but recall from section 2 the adaptiveness considerations detailed by Eccleston & Crombez (1999). They persuasively argue that in order for pain to serve its protective evolutionary function, it is crucial for it to have the capacity of interrupting other mental states. The adaptiveness considerations and the fact that every clear instance of pain--those experiences that everyone agrees are pains--has the property of attention-demandingness, when taken together, strongly suggest that an important and necessary property of pain is attention-demandingness. Attitudinal views cannot accommodate that fact.

Another concern with my present line of argument is that I am being too hasty in my claim that the sensations that the attitudinal theorist counts as pains are not particularly attention-demanding. While it is true that not just any sensation, when taken on its own, is attention-demanding in the way that pains are, when those experiences are disfavored, the story might be different. Perhaps disfavored sensations are in fact particularly attention-demanding. This is a suggestion worth taking seriously, and I will carefully consider it in the next section. For now, suffice it to say, I doubt that disfavoring can do the trick. Before I mount my argument for that claim, consider one other line of defense on behalf of the attitudinalist.

Some attitudinal theorists are careful to specify that their account concerns unpleasures, not pains *per se*. Heathwood (2007), for example, sets out to show that both pleasures and pains are reducible to desire. Toward the end of the paper (pp. 40-4), he considers the objection that his view will count experiences as pains that are not properly described as painful. If one has a desire not to experience the sensation of nausea, and if pain is reducible to desire, then nausea

counts as a pain. But, Heathwood rightly notes, this is wrong. Nausea is not pain. He takes this as good reason to hold that it is not pain that is reducible to desire, but rather unpleasantness. This kind of view accounts for the badness of pain attitudinally (since pain is an instance of unpleasure), but leaves the ontological question unanswered.

In response to my complaint that some experiences that attitudinal theorists count as pains are not attention-demanding, the attitudinal theorist might simply tell us that this is because their account is meant to include non-painful unpleasures which are arguably not unusually attention-demanding. There are questions that remain, however (as Heathwood fully acknowledges). First, I have my doubts that the above story really is an ontological account of sensory unpleasures. There are plausibly some sensations that are disfavored in the relevant way that are not unpleasant. For instance, one might desire that some sensation--that of pins and needles, a tepid shower, sticky skin, or being unwashed, for example--not be occurring without finding it unpleasant. Consider the sensations of a person at a spa in which a calming soundscape is broadcast throughout the building. One might desire not to be having those sensations without finding them unpleasant. Insofar as it is not a conceptual mistake to think that one might disfavor a sensation without also finding it unpleasant, one might make a move similar to Heathwood's in response to the fact that nausea is not pain; that is, to back away from the ontological claim about what constitutes unpleasure but to maintain that the experience is prudentially bad in virtue of its relationship to the subject's disfavoring attitudes. But if the attitudinal theorist has no answer about what it is in virtue of which a sensation is a pain or an unpleasure, then it seems like they are not in the business of addressing the ontological question at all.

In any case, our present focus is the viability of the views on the table as accounts of the nature of pain. Insofar as a view does not aim to answer that question, my arguments do not apply to them. One might consistently hold that the felt-quality answer is the right one with respect to the ontological question, but not the prudential one. But things are not so simple. It seems to me that if one accepts the felt-quality answer to the ontological question, there is significant theoretical pressure to adopt the felt-quality answer to the prudential one as well. This might not be immediately obvious, as one might be tempted to think that accepting that there is a phenomenal character in virtue of which an experience is a pain seems no more problematic for the attitudinal theorist than accepting that there is a phenomenal character in virtue of which an experience counts as an instance of nausea. On this picture, even though nausea is defined by a felt quality, it is only prudentially bad when the person adopts the right kind of disfavoring attitude toward it.

The trouble with this approach is that it is entirely implausible to say that the thing in virtue of which a painful experience is phenomenally salient is not the thing in virtue of which it affects well-being. The awfulness of pain is intimately bound up with the fact that it demands attention. One might even think that the less attention-demanding the pain, the less bad it is for the person. Compare two people undergoing painful tattooing sessions. One is able to distract herself from the painful sensations, while the other cannot focus on anything other than the pain. It seems right that the tattooing session is less bad for the person who can distract herself than it is for the person who cannot. This suggests that the badness of a painful experience diminishes as its demand on attention decreases (albeit imperfectly).

There are at least two ways in which the tattooing session might be less bad for the person who can distract themselves from the pain than it is for the person who cannot. One is that being distracted diminishes the subjective experience of pain. On this interpretation, that there are fewer attentional resources available for the processing of pain lessens the pain experienced by the subject. Another is that the subjective experience remains constant, but the person is able to relegate the pain to her attentional periphery. I am not entirely sure what to make of this second possibility. It seems hard to imagine that the phenomenal character of pain is not affected by attention, in part because the phenomenal qualities of our ongoing experience seem to depend on their occupying a certain place in our attentional landscape. I am somewhat compelled by the thought that if there is a change in the phenomenal salience of the experience, then there is also a change in its phenomenal character. There is an important phenomenal difference between what it is like to experience a pain that is the object of attention and one that barely registers on one's attentional radar. In any case, the important point for now is that the attention-demandingness of pain and its prudential badness go hand-in-hand. If one were to concede that the thing in virtue of which pain is attention-demanding is the felt quality, then there is substantial theoretical pressure to also concede that it is said quality that makes it bad.

5. Grounding Inadequacy

Is Disfavoring Itself Attention-Demanding?

If attitudinal views cannot appeal to the phenomenal character of pain to explain its attention-demandingness, then perhaps the disfavoring attitude could do the trick. The idea would be that painful experiences are attention-demanding not in virtue of a shared qualitative character, but rather in virtue of the fact that they are disliked. This might mean one of two

things. On the first picture, experiencing a disfavoring attitude is itself distracting; that is, what it is like to disfavor something is the thing commanding attention. This approach might fit naturally with views according to which disfavoring attitudes themselves have a negatively valenced phenomenal character. The main trouble with locating the attention-demandingness of pain in the qualitative character of the attitude is that it offers a counterintuitive explanation of what it is in virtue of which pain makes us pay attention to it. Intuitively, when we are distracted by pain, the thing that we are distracted by is the painful sensation, not by what it is like to disfavor something.[18] It is reasonable to think that, at least sometimes, the phenomenal quality of disliking can be distracting, but it is far from obvious that we should think it always--or even mostly--is. When a person dislikes some sensation and the experience is particularly attention-demanding, her focus is most plausibly on the object of her disfavoring attitude, not on the attitude itself. The phenomenal character of the sensation--not the attitude--is what demands our attention. Pain is distracting because it hurts.

The Case for The Power of Disfavoring Attitudes to Confer Attention-Demandingness

The second way to understand the idea that disfavoring accounts for attention-demandingness offers a way of accommodating the intuitive thought that the felt quality of the sensation is the part of the experience that is phenomenally salient. On this

[18] The way I phrase it here does not capture some nuances that might be thought relevant. For instance, there are two competing conceptions of the nature of pain on attitudinal views. The combination view holds that pain is identical to the combination state of [sensation+disfavoring attitude]. The object view instead holds that pain is identical to the object of the disfavored attitude. (While van Weelden, 2019 argues that the object view is preferable to the combination view, Lin (2022) thinks that neither is preferable to the other.) Were one to adopt both the combination view and the view that disliking involves a certain phenomenal character, then they might be able to accommodate the intuition that pain is attention-demanding because of the way that it feels. I take it, though, that this approach is still subject to the objection I go on to develop, which is essentially that not all disliked sensations (or combination states) are in fact attention-demanding.

approach, the object of a person's disfavoring attitude is rendered distracting in virtue of the fact that it is disfavored by them. It might be said that a painful sensation is not pre-attitudinally attention-demanding, but the fact that the person dislikes it makes it so, for them. In the same way that attitudes confer (dis)value, on this view, so too might they confer attention-demandingness. This allows one to say what is most intuitive: the feeling of being in pain is the part of the experience by which one is distracted. Because, on this approach, any sensation is a candidate for pain (if it is accompanied by the relevant attitude), the viability of the current attentional story depends on whether it is right that any disfavored sensation could be such that it demands our attention the way that painful experiences do. I will not pretend that the answer to this is intuitively obvious. I think that there is a reasonable case to be made in favor of the idea that, at least sometimes, disliking confers attention-demandingness. It does seem plausible that disliked smells, for instance, are more likely to be distracting than ones that are not. We should take this proposal seriously. Before I give it the careful consideration it deserves, I think that it is worth noting potential ambiguity in our intuitions about these kinds of cases.

The intuition at hand--that disliked sensations seem to be more attention-demanding than they otherwise would be--can be explained in at least two ways. The first is by employing the present proposal and appealing to the thought that the fact of a sensation's being disliked makes it more distracting. The other way, though, is to note that when we reflect on our experience of a distracting disliked sensation, we might call to mind one that is pre-attitudinally attention-demanding, arguably because of features intrinsic to the sensation. While it might be true that one dislikes the sound of a scream and that the sound is attention-demanding, it is

clearly attention-demanding regardless of whether it is disfavored. The sound of a scream is a very obvious candidate for a pre-attitudinally attention-demanding sensation, but this can occur in more subtle ways, too. It seems plausible to me that the smell of smoke, or the cry of a baby, or the feeling of itchiness, for example, are attention-demanding regardless of whether they are disliked. Perhaps we even disfavor certain sensations as much as we do precisely because they are distracting. Would our occurrent disfavoring of the smell of gasoline, rotting food, burning hair, vomit, or sewage be as strong if we could just ignore them? I take it that the answer to this is unclear, but it seems plausible to me that our intuitions about the role of disfavoring are liable to be somewhat muddled by this ambiguity.

An additional thing to note about the relevant intuition is that when we call to mind a sensation that we clearly dislike, we might default to imagining a very intense sensation. But the intensity of a sensation can modulate its attention-demandingness. Again, if we resort to imagining pre-attitudinally distracting sensations when we introspect on the impact of attitude on distraction, our intuitions do not reliably tell us anything about whether it is disfavoring or features intrinsic to the experience doing the work in demanding our attention. In any case, in what follows, I will assume that the relevant intuition--that disfavored sensations are more distracting than they would otherwise be--is in fact reliable. I argue that, even with this assumption in place, the role of disfavoring cannot adequately account for the attention-demandingness of pain.

The present proposal is that disfavoring attitudes confer attention-demandingness to their objects, which, for our purposes, are sensations. To properly assess this suggestion, we should be more precise about the different ways in which attitudes and sensations might factor

into our attentional profile. Consider first the possibility that a person does not know that they have some occurrent attitude. Call this an *anti-luminous attitude*. Similarly, one might experience a sensation that they do not know that they are having. Call this an *anti-luminous sensation*. For a sensation or an attitude to be *luminous*, it must be the case that a person's experiencing it is sufficient to know that they are experiencing it. A full picture of an attitudinal account of the nature of pain must tell whether only luminous experiences--be they attitudes of the right sort or sensations--count in the determination of whether some experience is a pain.

Heathwood (2007) addresses this issue directly as it pertains to attitudinal theories of unpleasure. His account of the reduction of unpleasant sensations to desires requires that a person S, at a time t, have a *de re* desire for a sensation e at t (p. 41). Because the relevant desire must be *de re*--it needs to be about, for instance, the particular lower back ache that S is currently having rather than about back aches in general--he takes his account to entail that an anti-luminous sensation cannot be the object of a disfavoring attitude, and thereby cannot be a pain (pp. 31-32). The thought is that we cannot have a *de re* desire about a sensation that we do not know that we are having. He does, however, allow for the possibility of anti-luminous desires determining whether some sensation is an unpleasant one. On his account, a person might still be in pain without knowing it (in virtue of having an anti-luminous desire towards a luminous sensation). Nonetheless, his view still precludes the possibility that the object of the relevant disfavoring attitude could be an anti-luminous sensation.[19]

[19] Heathwood (2018) slightly modifies this position in more recent work in response to an objection raised by Ben Bramble (2013) which, roughly, contends that attitudinal theorists cannot account for the obvious value and disvalue that unconscious pleasures and pains respectively have, since to adopt a *de re* attitude requires that one be aware of the particular experience in question. I do not have the space to address this intriguing exchange here, though I truly wish I did. For now, I will plow over the nuance and just note

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This way of specifying the attitudinal account initially seems promising as an account of the attention-demandingness of painful sensations. If the sensation in question must be luminous, then it must also be one that the subject knows they are experiencing. If they know that much, then it seems like there is reason to suppose that the sensation is at least somewhat phenomenally salient. But this is too fast. First, it strikes me as implausible that all disfavored sensations are attention-demanding, even when they are luminous.[20] That an experience is luminous tells us only that having it is sufficient for one to know that they are having it. The mere fact of a sensation's luminosity does not imply anything about the degree to which it is in fact attended, even in the absence of more powerful distractors. It seems plausible that a sensation can be a part of a person's phenomenal consciousness even if they never pay it attention. The same is true even if they are never even disposed to pay it attention (in the absence of prompting).[21] For instance, my visual experience of the white walls of the room that I currently occupy seems to me to be a part of my ongoing phenomenal experience, even if I am not at all disposed to think about it. So, here we have a luminous sensation because it is one such that my having it is sufficient to know that I am having it (perhaps the required belief is an

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that since Heathwood defends a view which requires the agent to be even less aware of the sensation than does the view I discuss here, similar concerns will apply here.

[20] Perhaps my assumption that, for the present proposal to work, disfavoring attitudes would *always* have to confer attention-demandingness is unwarranted. Perhaps this is a limitation of my own imaginative faculties, but if disfavoring does not always confer attention-demandingness to sensory experiences, then I do not know what factors would moderate when it does and when it does not. I am open to the possibility that there are some such factors, but even if one were to convincingly identify them, that is still a far-cry from establishing that they reliably (or especially) kick in for painful sensations. Without an argument to that effect, I do not think that this possibility threatens my argument.

[21] Heathwood (2018, p. 225) himself acknowledges this, and goes even further by arguing that a sensation might be part of one's experience even if they do not believe that they are experiencing it when they are prompted to attend to it.

implicit one, but that is fine for our purposes). Furthermore, I might have an ongoing *de re* disfavoring of the visual experience (regardless of whether the disfavoring is luminous or not). If disfavoring attitudes are supposed to confer attention-demandingness, then it should be the case that I am at least somewhat distracted, or at least disposed to be distracted, by the boring white walls. But I see no reason to think that is true.[22] Even in the absence of more powerful demands on my attention, I might just not notice the sensation.

A friend of the attitudinal view might be tempted to claim that this is simply because the disfavoring in question is not strong enough. Perhaps disfavoring attitudes need to meet a certain threshold such that only once they become intense enough do they confer attention-demandingness. But, it's not clear that the suggestion would help. Were we to posit that the white walls were an object of a strong disfavoring attitude, it still seems to me like it might be entirely ignorable--or, at the very least--far more so than a painful sensation would be. This seems especially so when we control for the pre-attitudinal distractingness of the sensation. Imagine that a person sitting next to you smells mildly of anise, a scent that you, let us suppose, strongly dislike. Even though you have a strong disfavoring attitude toward it, it is not obvious to me that you would be unable to ignore it. To be sure, when you do in fact attend to it, you might be quite bothered. But I take it that the mere fact of your strong disliking of it does not determine whether it in fact demands your attention. This point seems to be particularly pressing given that, on the present proposal, the relevant attitude can be anti-luminous. I do not

[22] Notice that this problem remains even if we stray from Heathwood's suggestion by requiring that pains involve a luminous *attitude*. Even if my having the attitude is sufficient to know that I have the attitude, there is no reason to think that it should be distracting to me.

see any reason to think that we can be unaware of mild disfavoring attitudes but not strong ones.

Another way of motivating this point is to move away from sensations for a moment and reflect on disfavored experiences more generally. There seems to be nothing wrong with the idea that a person might have an occurrent disfavoring attitude--a strong one, even--toward some object, a Gauguin painting, say, without at all being distracted by it. Perhaps they think it does not have aesthetic merit, or that the color palette is ghastly, or that the content is offensive. Whatever the specific object of their disfavoring attitude, it does not seem that the mere fact of the disfavored painting being in their visual field is sufficient for it to be distracting.[23] These sorts of cases seem to me to be commonplace. One might dislike a fellow dinner party guest because they are dull and self-involved. There is even a case to be made that, at least sometimes, the fact that something is the object of one's disfavoring attitude actually make it attention-diverting. The dinner party guest might be particularly easy to dismiss or ignore. They are, afterall, uninteresting.[24] One dislikes the promotional emails in their inbox, but they are not distracting. Imagine an advertisement featuring graphic design that you despise--think clip art, Comic Sans, and drop shadows--promoting a product you might otherwise have been interested in, but which you ignore because of your disfavoring attitude.

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[23] It is also worth noting that if the disfavored attitudes in the previous examples do in fact render their objects more attention-demanding than they otherwise would have been, then the extent to which that occurs is minimal. We might allow that disfavored objects are more notable than they would be if they were not disfavored, but the kind of attention-demandingness that we are looking to account for is relatively robust.

[24] There is a story to be told according to which the disliked dinner party guest is more distracting. Perhaps every sentence uttered by the disliked person is grating and aggravating, precisely because of who they originate from. I do not think this poses a threat to my argument here, since the relevant point is simply that disliking is not sufficient to confer attention-demandingness.

Even if we set all these concerns aside, and assume for the moment that disfavoring attitudes reliably make their objects more phenomenally salient than they otherwise would be, we do not yet have a way of accounting for the plausible thought that a disfavored non-painful sensation and a disfavored painful one are not equally attention-demanding, *ceteris paribus*. Pains stand out. For many of us, disfavoring is ubiquitous. One might have disfavoring attitudes toward any number of the components of one's ongoing phenomenal experience. One might absolutely despise the taste of cilantro, the scent of an unbathed companion, the sight of their messy workspace, or the feeling of a cool breeze on their face, but pain needs to be harder to ignore than all of that if it is to reliably promote survival. Pain must be able to cut through other sensations because its phenomenal salience is a prerequisite for its function.

In any case, I hope to have motivated the idea that the mere fact that an object is disfavored by an agent is not sufficient to render it attention-demanding. Note, too, that even if we were to admit the possibility that there are some cases in which such conferral does occur--which I do not think we have much reason to do--that would be consistent with the thrust of my argument. The claim that disliking confers attention-demandingness to some objects and not others gives us no reason to think that it (especially) does so for the set of sensations that we call pains. The onus is on the attitudinal theorist to provide an explanation for what might account for the inconsistent or differential conferrence of attention-demandingness to disfavored sensations. I do not know what such a difference could amount to.

6. The Threat of Unignorability to Attitudinal Views

Oftentimes, pain does not politely request one's attention; it elbows its way into one's focus. In some such cases, a painful experience can be unignorable and very difficult--sometimes nearly impossible--to disengage from. Mild headaches demand attention, but they are not so disruptive as to prevent meaningful focus of the kind needed to successfully complete a task. The agent who has a mild headache might make more mistakes and be slower to produce responses on an attentionally demanding task, but they can still complete it. A person with a migraine, however, might be unable to focus on anything but their pain. Very intense pains can be attention-demanding to such a degree as to prevent a person from focusing on anything else in a meaningful or sustained way. A late-stage labor contraction, for instance, is an example of pain that becomes sufficiently intense so as to make it next-to-impossible for one to think about anything other than the pain. Were one to request that a person in the transition stage of labor to perform even a minimally attentionally demanding task, the problem would not (only) be one of defiance, but of futility. Our attentional resources can be satiated by the processing of certain pains. We might say that a pain is unignorable--or that it succeeds at attaining attention-capture--to the extent that it prevents the person from attending to anything else. Less intense pains can also be unignorable, to lesser extents. But the point is that there seems to be a threshold at which an attention-demanding experience changes from merely distracting--where one can still focus enough to get the job done--to being unignorable or attaining attention-capture--where that is not the case. Perhaps this phenomenon can be analyzed in terms of the extent to which the person's focal attention is involuntarily overtaken by the sensation. When an attention-demanding sensation is merely distracting, one is more or

less able to keep it in attentional periphery, but when it is unignorable, it intrudes into focal attention.

In any case, felt-quality accounts can accommodate this phenomenon by appealing to the same story that they give to explain its attention-demandingness more generally. As the phenomenal character in virtue of which an experience is attention-demanding becomes more intense, so too does the extent to which it becomes unignorable. It crosses the threshold from distracting into attention-capture at some point that corresponds to the intensity of the felt quality of unpleasant pain.

How might the attitudinal theorist account for this? They certainly cannot if my arguments from the previous section are successful. But even if they are not and we suppose that disfavoring a sensation can render it significantly attention-demanding, it seems to me that the attitudinal theorist still comes up short. Consider what they might say about attention-capture: a sensation crosses the threshold from merely distracting to unignorable at some point that corresponds with the strength of the disfavoring attitude. The problem with this picture is made particularly vivid by considering the spectacularly unsuccessful attempts to create a prosthetic pain system. One way in which pain is produced is through nociception, which is how the body perceives and protects against potentially noxious stimuli. This process depends on the ability of nociceptors--nerve cell endings--to respond to various threats to tissue damage, such as heat and pressure. Some nerve disorders deteriorate nociceptors and prevent the production of some sensory pain. As a result, the people who suffer from these disorders are at great risk of injury (and in fact do often seriously hurt themselves).

Paul Brand, who was a surgeon and leading scholar on leprosy (which progressively destroys nociceptors in the hands and feet), endeavored to create a substitute pain system that could compensate for this kind of defective pain perception. He and his colleagues designed a glove that contained synthetic nociceptors that were sensitive to both pressure and heat. They successfully engineered--not without significant expense and difficulty-- the prosthetic system so that, when activated, these receptors would convey information to a response device, which would in turn produce a warning signal to inform the person of the possibility of tissue damage. Yet, despite its impressive design, the synthetic system was doomed:

> Even when the transducers worked correctly, the entire system was contingent on the free will of the patients. We had grandly talked of retaining "the good parts of pain without the bad," which meant designing a warning system that would not hurt. First we tried a device like a hearing aid that would hum when the sensors were receiving normal pressures, buzz when they were in slight danger, and emit a piercing sound when they perceived an actual damage. But when a patient with a damaged hand turned a screwdriver too hard, and the loud warning signal went off, he would simply override it—This glove is always sending out false signals—and turn the screwdriver anyway. Blinking lights failed for the same reason. (Brand and Yancy 1997, p. 194; cited in Grahek 2007, p. 84)

One notable feature of these cases is that people were able to work through the signals emitted by the prosthetic pain system in part because they did not ever rise to the level of attention-capture, even though they were designed to be as phenomenally salient as possible. Of course, a primary phenomenon at play here is motivational, not attitudinal. It seems that one reason that the person continued to turn the screwdriver was because they were not sufficiently motivated to stop. But I contend that there is a key attitudinal insight here as well. Loud sounds and blinking lights are all *ignorable* in a way that the phenomenal character of pain is not. The way in which the latter can assert itself as the primary object of phenomenal salience cannot be emulated by merely disliked experiences. Crucially, this is true regardless of the strength of

other motivations. Even if one intensely wants to maintain focus on something else, pain overrides attentional volition. That people were able to ignore the signal which indicated that they were undergoing bodily injury is not just a matter of their not being motivated to stop it. Imagine that your life depended on the successful completion of some attentionally demanding task. While you work on it, you must be subjected to one of the following distractions: (a) the playing of a song you intensely dislike, (b) tasting something that you intensely dislike, (c) smelling something that you intensely dislike, or (d) undergoing an intensely painful experience. It seems quite obvious to me that the right answer is any but (d).

One might worry that this intuition might be driven by an additional distracting element in the case of pain--that of fear for one's own well-being. Since sensory pains are associated with bodily damage, it might not be the intrinsic features of the qualitative character of pain that are responsible for its attention-demandingness, but rather the fear of injury. But I think that if we stipulate that the relevant pain is administered in a controlled environment where specialized practitioners will ensure that no tissue damage will accompany the painful experience, the intuition remains. This worry might perhaps be even more effectively dispelled by recalling the reason for the failure of the prosthetic pain system. When subjects were explicitly told that a stimulus indicated that they were undergoing bodily injury, they nonetheless had little difficulty ignoring it.

Admittedly, we do not know the degree to which the test-drivers of the prosthetic pain system disliked the stimuli in question. It might be that they had only a moderate disfavoring of them, but had they truly hated the stimulus that signaled bodily damage, it would have rendered the signal unignorable. I do not find this approach promising both because, as I

argued in the last section, I am skeptical that disfavoring reliably confers attention-demandingness, and because there seems to be particular reason to doubt that they can confer unignorability. I take it that the prosthetic pain system would not have been salvageable had they replaced the loud alarm with, for example, a loud song strongly disliked by the person.

Noxious Stimuli as More Disfavored

A response worth considering here is that, as a matter of fact, most people do not ever disfavor other sensory experiences to the extent to which they disfavor pain. A defender of this position might tell us that while it is possible to disfavor the sensory qualities of the experience of music as much as the sensory qualities of a painful experience, that is quite unlikely to happen for most people. Along these lines, Richard Hall (1989) argues that the fact that dislike of pain is so ubiquitous is due to adaptive pressures, which might have selected for this exact feature of our psychologies. The idea here is that our ancestors were those who were disposed to dislike sensations produced through nociception. Those who did not dislike such sensations died out. If we can, contrary to what I argued in the previous section, make sense of how it might be that disfavored sensations are attention-demanding in virtue of being disliked, and we make use of Hall's evolutionary story, then the attitudinal theorist might be able to account for not only the fact that pain can achieve attention-capture in a way that many other sensations cannot, but also for the empirical data that shows that pains are more attention-demanding than many other sensations. Perhaps were we, in practice, to disfavor other experiences to the extent to which we do pain, we would see the empirical data on attention reflect this, and pain would no longer stand apart.

Even if we set aside that it seems that the best way to ensure that a noxious sensory experience is reliably disliked is in virtue of its having a painful qualitative character, this response, in my view, fails. What we are after here is not just an account of why pain is consistently disfavored, but of why it is reliably disfavored more than other sensory experiences of comparable intensities such that pain, but not most other sensations, has the capacity to become unignorable. The evolutionary story can offer us a plausible-enough explanation of the former, but not the latter. Consider the other ways in which sensory experiences might signal a threat to survival. The smell of smoke, the crackling sound of burning wood, and the flickering light of a flame are associated with a potentially dangerous fire; the taste of rotten food with something unsafe to eat. Gesturing toward evolution does not provide us with the kind of explanation we need to support the contentious claim that pain is reliably disfavored more than other sensations, given that other sensations can also signal threats to a person's livelihood. Without the evolutionary story, we simply have no reason to think that pain is reliably disliked more than other sensory experiences. In the absence of such a reason, the attitudinal theory cannot accommodate the fact that pain can be unignorable in a way that an intensely disfavored sound, for instance, could never be.

Perhaps the attitudinal theorist can avoid the implication that the effect of pain on attention is best explained by a unified phenomenal character by telling us that whatever sensations--plentiful and disparate as they might be-- produced through nociception are particularly distracting. Though the feeling of one's skin burning and the feeling of a pinprick do not share a common phenomenology, they are both sensations that are produced through the same neurological process. But this is too quick. First, there are felt experiences that are not

produced through nociception--e.g. phantom limb pain, allodynia, and neuropathic pain--that are phenomenally indistinguishable from those that are.[25] To my knowledge, there is no empirical research that investigates whether this specific type of pain is equally attention-demanding as pain produced through nociception, but it would be extremely surprising if this were not the case. People with the relevant conditions report being very bothered by their pain. Of course, this proposal need not make the claim that only sensations produced through nociception are attention-demanding. But the point here is that since non-nociceptive pain seems to be phenomenally indistinguishable from nociceptive pain and just as bothersome, the best explanation is that it is the pain itself rather than the biological process that produces it that accounts for its attention-demandingness.

There is another reason to reject the possibility that we are distracted by pains not because of some feature intrinsic to the pain, but because it is a sensation produced through nociception. It seems that the very fact that we call the biological processes that produce said sensations "nociceptive" is in part determined by the fact that they produce one kind of thing: pain. The use of the concept of nociception arguably presupposes the existence of a unified response that alerts the person to noxious stimuli. That some biological response is a nociceptive one is not a matter of its involving one particular neural process. There are different kinds of nociceptors (for instance, some that detect pressure and others, temperature) that behave differently and that convey different kinds of information. There is not, strictly speaking, a single biological process at play. Unifying the neurological phenomenon functionally--whereby a process would be nociceptive if it alerted the body to noxious stimuli--would not do the trick

[25] See Loeser & Treede (2008) for more on this and for precise definitions of the concepts at play.

either, since that would count the prosthetic pain system that we considered earlier as nociceptive, and, as we saw, that did not produce reliably distracting sensations. The way around this is to accept what is most intuitive: nociception produces a certain phenomenal character--that of pain--and it is it that demands our attention.

7. Conclusion

There is intuitive, theoretical, and empirical reason to think that pain is necessarily distinct from other sensations in its attention-demandingness. I contend that felt-quality views are well-positioned to accommodate that fact by attributing the attention-demandingness of pain to its phenomenal character. Attitudinal views, on the other hand, fail to account for the attention-demandingness of pain in three ways: they count experiences that are not attention-demanding as pains, they are unable to identify the feature of pains in virtue of which they demand attention, and they cannot account for the fact that pain can be distinctively unignorable. This three-pronged failure is a mark against the viability of attitudinal views of the nature of prudentially bad pain.[26]

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[26] Thank you to Amy Berg, Keilee Bessho, Ben Bradley, Teresa Bruno-Niño, Geert Crombez, Chris Holland, Anthony Kelley, Ana Patricia Melchor Organista, Hedda Hassel Mørch, Daniel Pallies, David Pizarro, David Sobel, Willem van der Deijl, Joseph van Weelden, Preston Werner, the members of the Well-Being Working Group, and the participants at both the 2025 Kansas Workshop on Well-Being and the 2025 SPAWN conference for helpful discussions and comments on the ideas in the paper.

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