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Is Pain Necessarily Unpleasant:

A look at the curious case of pain asymbolia through the evaluativist, pure imperativist, and intensive theories of pain.

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## Abstract

The conscious experience of the bodily sensation of pain has proven problematic for theorists. One of the primary issues has been formulating the exact nature of pain experience. It has been argued by some that pain experience has three elements: the pain experience itself, an unpleasant affective element, and a motivational element. Furthermore, the nature of the connection between these three elements has been a point of contention between theorists. What is now the standard view, it is argued that there is no necessary connection between these elements; that is, one is able to undergo a pain experience which is neither unpleasant nor motivational. This view has been supported, in part, by claims made by those reported to be pain asymbolic. These individuals claim that they undergo pain experiences which they find neither unpleasant, nor are they motivated to alleviate themselves of their pain experiences. Within this work, two theories which hold the standard view of pain will be discussed, as well as their explanation of the conscious experience of those purported to be pain asymbolic when undergoing pain experiences: evaluativism and pure imperativism. In addition, a third theory of pain will be defended which is counter to the standard view: the intensive theory. It will be shown that the intensive theory is not only able to account for the clinical evidence and testimony of those purported to be pain asymbolic but, also, demonstrate that pain experience is necessarily both unpleasant and motivational.

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## Introduction

The bodily sensation of pain is enigmatic. While the vast majority of people experience pain, little is understood about this near ubiquitous phenomenon. Indeed, the exact nature of what it is to experience pain has given rise to much debate. Typically, pains are thought to be unpleasant. That is, when one is undergoing a pain mental state, one considers the experience to hurt or to be painful. For example, the feeling one experiences from a problematic tooth is generally thought to be unpleasant. Much the same can be said concerning other pain experiences. Bee stings and sprained ankles are typically thought to be unpleasant experiences; if one were given the choice between eating one's favourite ice-cream and being stung by bees, I suspect none would prefer the latter.

In addition to being generally considered unpleasant, pain experience is motivational. The pain experienced from the problematic tooth motivates one to avoid further irritation of said tooth and, if the irritation is great enough, motivates one to visit their dentist to have the problem rectified. Likewise, bee stings or the threat of further bee stings will motivate one to seek shelter and treat one's wounds, and a sprained ankle will motivate one to not bear weight on the injured limb. In such cases one is motivated to behave in a way as to alleviate themselves of the painful experience and avoid further pain experiences.

Note that while the preceding examples of pain experience correspond to an injured bodily state, it is not the case that in all instances one is motivated to avoid the injured bodily state, rather, one is motivated to avoid the pain experience itself. One may sprain one's ankle, and rather than avoid using the injured limb, opt instead to take pain-killers. As the name suggests, one does not take pain-killers because of their effect on an injured body part, but rather to diminish or alleviate the pain experience itself. Therefore, while pain motivates, it does so not only to rectify the injured state of one's body, but also to alleviate the experience itself.

What the preceding examples show is that pain experience is generally thought to be both unpleasant and motivational. However, the question remains: is pain experience *necessarily* unpleasant and motivational? Is it the case that in all instances of pain experience it is necessarily found to be unpleasant and, furthermore, that the experience necessarily motivates one to avoid or alleviate the sensation? To be sure, in addition to pain experiences there are non-pain experiences which are unpleasant. Being ill with the flu, an itch one cannot scratch, or being asked to **perform** a task that one would prefer not do are all unpleasant. Be that as it may, illnesses, itches, and involuntary tasks are not pains. What this demonstrates is that pain experience is dissociable from unpleasantness; one may experience unpleasantnesses which are not considered pains. However, can the converse be the case? Can it be the case that one is able to experience pains which are not unpleasant?

While it may be taken as a putative truth that pains as typically felt are both necessarily unpleasant and motivational, odd cases in which pain experiences are claimed to be neither unpleasant nor motivational have put this putative truth into jeopardy. Indeed, within the current philosophic literature, the claim that pain experience is neither necessarily unpleasant nor necessarily motivational is considered the orthodoxy (Beecher 1959, p. 166; Hall 1989; Grahek 2007, pp. 1-2, 51; Bain 2013, 2014; Klein 2015; Carruthers 2017). This non-necessity of the unpleasant and motivational elements of pain experience has been brought into question, in part, by purported cases of pain asymbolia. **‘Necessary’ within this work ought to be understood as ‘essential’. As such, the claim made within may be regarded as pain experience is essentially unpleasant and motivational.**

The strategy of this work will be as follows. In chapter 1, I will give an overlay of the purported condition of pain asymbolia. This discussion will draw primarily on Nikola Grahek’s work, *Feeling Pain and Being in Pain*. While Grahek attempts to demonstrate that pain asymbolia is a legitimate condition, I will demonstrate in chapter 4 that those who are reported to

be afflicted with said condition merely possess a higher tolerance for mechanical, chemical, and thermal experiences which, when excessively intense, give rise to pain experiences. As such, I will argue throughout that when those purported to be pain asymbolic claim that they are undergoing “pain” experiences which are neither unpleasant nor motivational are in actuality incorrectly identifying these experiences as pain. Therefore, the analysis of Grahek’s work will not be used to lend credibility to the purported condition of pain asymbolia, but rather be used as a starting point to address the curious purported condition of pain asymbolia.

In chapter 2, I discuss evaluativism and its explanation of purported cases of pain asymbolia. This discussion will focus on the evaluative formulation as proposed by David Bain. Under Bain’s formulation, pain asymbolia is a legitimate condition. As such, evaluativism holds the standard view of pain experience; that is, one is able to undergo a pain experience which is not unpleasant nor motivational. As such, evaluativism argues that an additional element is present in those who find pain experience both unpleasant and motivational. According to evaluativism, this additional element is care for one’s body. However, it will be demonstrated, through a close examination of the testimony of those purported to be pain asymbolic, that bodily care is insufficient as a link between pain experience and the hedonistic element (unpleasantness and motivation) if, in fact, the hedonistic element is able to disassociate from pain experience.

In chapter 3, I discuss pure imperativism and its explanation of purported cases of pain asymbolia as formulated by Colin Klein. Like evaluativism, pure imperativism is a standard view of pain experience; again, the claim is that pain experience is able to disassociate from both the unpleasant and motivational elements. However, unlike evaluativism which argues that pain experience is indicative (insofar as pain experience indicates a bodily state), pure imperativism argues that pain experience is imperative. Stated otherwise, pain experience commands. Furthermore, like evaluativism, pure imperativism conjectures that it is care for one’s body



which is the element which links pain experience, unpleasantness, and motivation; if one does not care for one's body, then when one undergoes a pain experience one will neither find the experience unpleasant nor will one find the experience motivational. This, pure imperativism argues, is the element lacking in those purported to be pain asymbolic; since they lack bodily care, even though they are able to undergo pain experiences they do not report that the experiences are unpleasant and, in addition, are not motivated to alleviate themselves of the experience. However, as will be demonstrated in the discussion of evaluativism, it will be shown, through a close examination of purported pain asymbolic testimony, that not in all cases do those purported to be pain asymbolic lack bodily care.

In chapter 4, I discuss the intensive theory. This chapter will draw, in part, from the work of Richard Gray. For introductory purposes, the intensive theory argues that one undergoes pain experiences when mechanical, chemical, or thermal experiences become excessively intense. However, unlike Gray, my construal of the intensive theory, like evaluativism, argues that pain experience is indicative of a bodily state. However, unlike evaluativism, which holds the standard view of pain experience (that pain experience and the hedonistic element are dissociable), the intensive theory contends that pain experience is not dissociable from the unpleasant and motivational elements. The non-dissociation argued for by the intensive theory is important insofar as it is counter to what is considered the standard view of pain experience. Again, the standard dissociative view of pain experience has been formulated, in part, due to problematic cases such as the reported condition of pain asymbolia. Therefore, the primary goal of this chapter will be to show that pain asymbolia is not a legitimate condition and, furthermore, to demonstrate that pain experience is necessarily both unpleasant and motivational.

## Chapter 1: Pain Asymbolia

Pain asymbolia is a purported condition which is thought to be brought on by brain damage and which presents in adulthood. What makes cases of pain asymbolia problematic for accounts of pain experience is that while the asymbolic claims to be undergoing a pain mental state, they claim that the experience is not unpleasant nor do they behave in a way which indicates that they are motivated to alleviate the experience. It is claimed that what pain asymbolia demonstrates is that both the unpleasant and motivational elements are not necessary for pain experience. In other words, there is a dissociation between pain experience, unpleasantness, and motivation.

First, a clarification ought to be made at the outset. Pain asymbolia is not congenital insensitivity to pain. Those with congenital insensitivity to pain are unable to experience pain. As such, sadly, many with congenital insensitivity do not live past their teenage years. This is due to the role pain plays in survival and self-preservation. Those with congenital insensitivity lack painful interoceptive awareness which indicate threats to their bodily state; they lack the ability to feel when injury is occurring to their body. Congenital insensitivity to pain is a genetic disorder which renders the individual unable to perceive painful stimuli from birth. While these individuals possess the ability to register thermal, mechanical, and chemical stimuli, that is, temperature, pressure, and pH changes to the body, they do not possess the ability to register painful stimuli. This is not to say that they lack the ability to recognize bodily threats through other perceptual means. These individuals are able to recognize when they have suffered, say, a lesion through visual perception, and they are able to recognize such an injury as a threat to their bodily condition. In contrast to those with congenital insensitivity, pain asymbolics are able to interoceptively recognize painful stimuli. However, while such stimuli are recognized by the pain asymbolic as pain, they claim that they are simply not bothered by the experience and, as

such, do not find the experience to be unpleasant or motivational. Therefore, while both pain asymbolics and those with congenital insensitivity show non-typical reactions to noxious physical stimuli, it is not the case that pain asymbolia is congenital insensitivity to pain, nor visa-versa.

In his book, *Feeling Pain and Being in Pain*, Nikola Grahek gives a detailed account of the suspected physiological mechanisms underlying pain asymbolia, as well as a philosophical interpretation of said condition. Drawing on well cited cases of pain asymbolia, those investigated by Berthier, Starkstein, and Leiguarda (1988), as well as Hemphill and Stengel (1940), Grahek details the findings of these studies and formulates an interpretation of what is the case in the pain asymbolic's mind when presented with noxious stimuli. While Grahek's interpretation of pain asymbolia is debatable, his research and insights are invaluable insofar as they provide a firm account of the asymbolic condition and establish a solid base from which to formulate a more sound interpretation.

The exact nature of pain asymbolia is little understood; it remains unclear what precisely is different in those with pain asymbolia than those who feel pain in the typical sense. Grahek writes, "Why do patients fail to respond not only to somatic noxious stimuli, but also to visual threats? And why are they unable to learn appropriate escape or avoidance responses to threatening stimuli presented in *any modality*?" (Grahek, 2007, pp. 54-55, emphasis mine). The case Grahek is referring to is the case of an individual purported to be pain asymbolic described by Berthier et al. (1988) who was neither responsive to noxious physical stimuli nor verbal and visual threats. Berthier et al. write:

When the patient was asked specific questions concerning his sensory and affective feelings generated by a noxious stimulus, he tended to underrate the intensity of pain and made no adverse comments. In the course of pain testing sessions he seemed unable to

learn appropriate avoidance responses. Verbal and visual threats also failed to produce protective or emotional reactions. (Berthier et al. 1988, p. 42)

Furthermore, the patient studied by Hemphill and Stengel (1940) was almost struck by a lorry while he was walking down the road. They write:

He made no effort to get out of the way of a lorry behind him in spite of the loud warning of the horn. That he heard the horn and recognized its character is certain, for he admitted as much with considerable heat when he was forbidden, for his own safety, to walk alone on the main road. It was obvious from his action at the time that when he heard the motor horn he did not react as if it were a sound of warning. (Hemphill and Stengel, 1940, p256)

Therefore, to fully appreciate what distinguishes pain asymbolics from those who feel and are responsive to pain in the normal sense, one must also account for why the pain asymbolic demonstrates an indifference to threats in general.

To account for the indifference exhibited by pain asymbolics to noxious physical stimuli and visual and verbal threats, Grahek argues that pain asymbolia is a dissociation syndrome. He writes, "I will claim that among the sensory-affective disassociation syndromes to be found in human pain experience, pain asymbolia is the sole case in which all affective reactions to pain are literally lost for good, while the sensory aspect of pain is fully preserved" (ibid, p. 39). That is, there is a disassociation between pain's sensory dimension and its affective, cognitive, and behavioural components. It is argued that this disassociation between the sensory and limbic systems is responsible for the pain asymbolic's ability to recognize noxious physical stimuli as pain experiences and inability to appreciate the affective-motivational dimension of the experience. In addition, due to the sensory-limbic disassociation, pain asymbolics also demonstrate an inability to learn to avoid their pain experiences. As Berthier et al. write concerning their purported asymbolic patient, "In the course of pain testing sessions he seemed unable to learn appropriate avoidance responses" (Berthier et al., 1988, p.42). Therefore, while the pain asymbolic is able to perceive noxious stimuli, which they report to produce pain

experiences, the component which registers such stimuli to be painful or hurting appears to be lacking and, as such, they fail to learn to avoid such experiences. In this way, Grahek argues that the experience undergone by the pain asymbolic when presented with noxious physical stimuli is “pain without painfulness” (ibid, p.1).

As Grahek acknowledges, pain asymbolia threatens both the subjectivist and objectivist accounts of pain experience. Subjectivist accounts concern the phenomenal feeling of pain: the feeling of what-it-is-like to undergo a pain mental state. Pain asymbolia threatens such accounts due to the alleged disassociation of painfulness from pain itself. It is this phenomenal feeling of painfulness which possesses both the affective and motivational elements. This disassociation undermines the subjectivist claim that the phenomenal feeling one experiences when one is undergoing a pain mental state is the necessary or essential feature of pain experience itself. The claim is that what it is to undergo a pain mental state is to feel painfulness or hurt; stated otherwise, pain hurts or pain simply is painful. However, if painfulness or hurting are dissociable from pain experience then it cannot be the case that painfulness or hurting are either necessary or essential to pain experience itself. As such, pain asymbolia undermines the subjectivist claim that pain experiences are necessarily or essentially unpleasant and motivational.

Alternatively, objectivist accounts claim that pain experience is a representation of bodily damage, disorder, or disturbance of a sort. That is, when one is undergoing a pain mental state, one is informed through their pain experience of damage to their bodily condition. However, typically pain does not simply inform one of one’s bodily states of affairs. The role of pain experience is not only to inform of a bodily state, but also to motivate; as was shown, typically pain motivates one to avoid injury or further injury. Again, recall the example of one spraining one’s ankle. One will be informed through their pain experience that their ankle is, indeed, in a state of damage or disorder. However, along with being informed of said state, one will in

addition be motivated by the pain experience to alleviate themselves of the experience; one will be motivated to, say, not bear weight on that foot, to place ice on the injured joint, or to search for pain killers. Alternatively, one may be informed through other perceptual modalities about a bodily state of affairs but fail to be motivated by said state. To see why this is so, take for instance visual perception. One may perceive that there is a blue cube in one's visual field. However, while one is informed about there being a blue cube in one's visual field, one is not motivated by the perception. Likewise, again consider congenital pain insensitive. While these individuals lack phenomenal pain experience, some have learned the ability to perceive threats visually. While they are able to see that, say, they have a cut on their hand, their visual experience does not motivate them to rectify their bodily state of affairs in the same way as those who experience pain in the normal sense do. As such, pain experience seems to be motivational in a way as other perceptual experiences are not. Therefore, due to the disassociation between the sensory and affective-motivational dimensions, pain asymbolia presents the challenge to objectivist accounts to explain why those who experience pain in the normal sense are not only informed by the experience, but also typically find the experience motivational if the affective-motivational component is neither necessary nor essential.

While the experiential aspects of dissociative cases are enigmatic, it is the hope that the underlying physiological causes of such cases will shed light on why dissociative cases occur. In Berthier, Starkstein, and Leiguarda's well cited article (1988), they examine individuals with pain asymbolia and hypothesize its underlying physiological basis. Initially, they conclude that pain asymbolia was caused by an abnormality within the inferior parietal lobe; the function of the inferior parietal lobe is thought to involve perception of emotions and the interpretation of sensory information. Berthier et al. draw on the research of Schilder and Stengel (1928) who first noted pain asymbolic behaviour exhibited by an individual with sensory aphasia; sensory aphasia being an inability, or impaired ability to process sensory stimuli as a result of damage to the brain. What they found was that in the individual with pain asymbolia, there was a "left supra marginal gyrus infarction and additional damage involving the angular gyrus, the second

frontal and first temporal convolutions, the external capsule, and the insular cortex” (Berthier et al. 1988, p.41). Furthermore, in an additional ten individuals with pain asymbolia there was damage to the left inferior parietal lobe. While it may be concluded that it is damage to this area of the brain which is responsible for purported cases of pain asymbolia, in a following twenty-two cases, only thirteen had lesions to this area of the brain. Therefore, while it may be speculated that lesions, occurring in a specific area of the brain, are responsible for purported cases of pain asymbolia, there is evidence that, if pain asymbolia is a legitimate condition, there may be multiple causes which give rise to the condition. While detailed physiological analysis of the remaining nine individuals is absent, one must consider that although there is a strong correlation between the purported pain asymbolic condition and lesions in the left inferior parietal lobe, it cannot be conclusively determined that these lesions can be said to cause pain asymbolia if said condition is legitimate. Indeed, since the first reported cases of pain asymbolia (Schilder and Stengel 1928), various physiological abnormalities have been attributed as the cause for the purported condition. As Grahek notes, “In light of Robinson and Burton’s findings, it seems plausible that opercular and insular damage is the major cause of pain asymbolia, rather than damage to the secondary somatosensory area, as Biemond claimed (1956, pp.221-231)” (Grahek, 2007, p.57). Therefore, due to the inconclusive physiological findings and the relatively small group of individuals purported to have pain asymbolia studied, any conclusions reached regarding an underlying physiological mechanism must be considered with caution.

In light of purported pain asymbolics’ claims that the pains they are undergoing are not unpleasant as well as their non-responsiveness to noxious physical threats, the purported condition of pain asymbolia presents challenges to the claim that pain experience is necessarily both unpleasant and motivational. Therefore, any theory of pain must account for the purported disassociation between pain and painfulness, and provide an explanation of the relationship between the sensory and affective-motivational dimensions of pain experience. Here, three theories of pain will be discussed: evaluativism, pure imperativism, and the intensive theory. I

analyze each theory with regard to how they account for the affective-motivational dimension, as well as discuss how each accounts for the purported condition of pain asymbolia.

## Chapter 2: Evaluativism

### Overview

Evaluativism is an intentional theory of pain experience. At a first pass, intentionality is a claim about supervenience; that is, the phenomenal character of a given conscious experience supervenes on the intentional content. In other words, if there is a change or difference in the phenomenal character of the experience there is, *necessarily*, a change or difference in the content. For example, take the paradigm case of visual experience. Suppose one is undergoing a phenomenally conscious experience of perceiving a green cube in one's visual field at  $t_1$ . The intentional content is the propositional phrase that there is a green cube in one's visual field at  $t_1$ . Therefore, the character of the phenomenal experience (say, the phenomenal greenness) supervenes on the green cube existing in one's visual field at  $t_1$ . In this way, the intentional content is *represented* by the phenomenal experience. While it may be argued by some that the intentional content supervenes on the phenomenal content or that the phenomenal experience is identical to the intentional content, it will be taken here that the phenomenal experience supervenes on the intentional content.

It is important to note that in the preceding example, the intentional content is truth-apt. To say that the content is truth-apt is to say that the content attempts to make a claim about the world in such a way that, if it were false, it is criticizable (Bain, 2013). According to evaluativism, in the case of pain experience the experience makes a claim about damage, disorder, or disturbance of a certain sort at a bodily location. In addition, the claim is criticizable if there is no disturbance of a certain sort at a bodily location; if there is no disturbance of a certain sort at a bodily location, the phenomenal character which supervenes on the intentional



claim is to be criticized as being a false claim. Furthermore, such representational content holds a mind-to-world direction of fit. That is, one's phenomenal mental state is deemed true if it is in accord with the world, and false if it is not in accord with the world. If one is undergoing a phenomenal mental state of a pain experience which represents that there is a disturbance of a certain sort occurring at one's left foot, the experience will be deemed true if, in fact, there is a disturbance of a certain sort occurring at one's left foot. Conversely, the experience will be deemed false if there is not a disturbance of certain sort occurring at one's left foot. Furthermore, with regard to direction of fit, it is the case that if there is no disturbance of a certain sort occurring at one's left foot but one's conscious mental state is informing one that there is a disturbance of a certain sort occurring at one's left foot, then it is the mental state which is at fault and not the world; stated otherwise, the mental state that one is being informed that there is a disturbance at one's left foot is taken to be incorrect and the state of the world, in which there is no disturbance occurring at one's left foot, is taken to be correct.

As stated, evaluativism is a representational theory of pain. However, due to such purported cases as pain asymbolia which claim that pain experience and the affective-motivational elements are dissociable, evaluativism makes independent claims for each. Note, as was stated in the introduction that this dissociation is the standard view of pain experience. Therefore, the evaluativist claims can be stated thus:

*Evaluativism*

*S's being in pain consists in: S's undergoing an experience which represents to S, veridically or non-veridically, that there is a disturbance of a certain sort at a bodily location.*

*And*

*S's pain being unpleasant consist in: that experience additionally representing the disturbance of some sort at a bodily location to be bad for S.*

It is important to note that evaluativism is representational in two senses. It is not only the case that pain experience represents damage, disorder, or a disturbance of some sort at a bodily location but, also, that the bodily condition of disturbance is represented as bad for the individual. But what is it to be represented as bad in the bodily sense to the individual? Bain answers, "One answer is that a disturbance's being bad in that sense is simply its being apt to harm the subject's body, in the sense of being apt to impede its proper functioning. Another says that a disturbance's being bad additionally requires that the subject care about his proper functioning" (Bain, 2013, p.82). The first answer states that it is the evaluation that the condition of her body is bad due to its improper functioning; this answer speaks to the evolutionary function of body parts. If one's body has been damaged, or has undergone a disturbance of a certain sort which does not allow for its functioning as biologically intended, the damage or disturbance of a certain sort will be evaluated as bad by the individual. If, for example, one's left foot is disturbed in some way that does not allow the individual to avoid predators, it is disadvantageous for the subject's survival and is therefore evaluated as bad by the individual. The second answer, importantly, states that in addition to the state of her body being represented as having a disturbance of some sort, she must also care that her body functions properly; if one does not care if they are attacked by predators, so it is argued, the individual will not evaluate the damage or disturbance of a certain sort occurring to their body as being bad. But what of the motivational element of typical pains? As was shown, pain experience motivates the individual who is undergoing the experience in a way in which a purely informative mental state does. Again, recall that pain experience motivates in a way which visual experience lacks. Bain argues that unlike beliefs, moral evaluations are motivational; one's moral evaluation that it is good to pick up an abandoned baby motivates one to pick up the child. One is motivated by their moral evaluation that it would be bad to not pick up the baby, and it is this evaluation which motivates the action to pick up the child. In the same way, one's evaluation that one's foot undergoing a disturbance of some sort is bad in the bodily sense will motivate one to behave in such a way as to alleviate or avoid the disturbance.

Therefore, evaluativism addresses the three components, the pain experience, the unpleasantness, and the motivation in the following way. To experience pain is to undergo a somatosensory experience which represents to the subject that a part of her body is undergoing a damage, disordering, or a disturbance of a certain sort. Additionally, the subject will deem the experience as an unpleasant pain experience if said experience further represents to her that the condition of her body is bad for her in the bodily sense. Furthermore, it is the disturbance of a certain sort being evaluated as bad for the subject in the bodily sense which motivates her to avoid the pain experience.

### *Problematic Pains*

Evaluativism, however, faces challenges. One such challenge is to be able to account for types of pain experience: transient, acute, and chronic pains. Transient pains are those which are short in duration and high in intensity. Suppose, for instance, that one were to hold one's hand too near a flame. The pain experience one undergoes would be high in intensity, but would subside when one's hand is removed from the flame or, alternatively, when the flame is removed from one's hand. Acute pains are those which are typically brought about by damage to the body and which are alleviated with the onset of healing. Take for example cutting one's hand with a knife. While there is undoubtedly damage, disorder, or a disturbance of a certain sort done to one's hand, the pain experience will subside when healing of the damage has been completed. Alternatively, chronic pains are those which are also brought on by damage, disorder, or a disturbance of a certain sort, but which do not subside with the onset of healing. Many individuals suffer from chronic lower back pain brought about by accidents or repetitive movements. In many cases, these pains remain even though all possible healing has been completed.

As discussed, the intentional content of evaluativism is that of a disturbance of a certain sort at a bodily location. That is, pain experience supervenes on the disturbance-representing

content. Some evaluativist claims make reference to the intentional content as being “damage” or “disorder.” Such content is able to account for both acute and chronic pains insofar as in such cases bodily damage has occurred. But recall that a satisfactory theory of pain must be able to account for all types of pain experience. In order to broaden the intentional content to include transient pains, those where damage has not yet been done but where damage is imminent, other formulations of evaluativism argue that when one is undergoing a pain experience, one is experiencing a bodily disturbance of a certain sort. However, there are other instances where a body is undergoing a disturbance of some sort, or where there has been damage, but where there is no corresponding pain experience. Furthermore, there are instances where there is no bodily disturbances but one is undergoing a pain experience. Simply put, pain experience and a bodily disturbance of some sort can dissociate.

An example of a disturbance of a certain sort without corresponding pain experience is that of Indian hook-swing ceremonies. In such ceremonies, an individual is pierced with large hooks through the skin and then suspended from height. Undoubtedly, in such ceremonies there is a disturbance of a certain sort or damage to the individual’s skin; however, these individuals do not claim to be undergoing a pain experience. While such ceremonies are conducted by relatively few individuals, other phenomena demonstrate that the connection between a bodily disturbance of some sort and pain experience is not tightly correlated: that of phantom limb syndrome and migraine headaches.

Phantom limb syndrome is a condition in which one experiences pain in a limb that has been amputated due to illness or injury. For example, suppose an individual had their right arm removed due to an accident. In cases of phantom limb syndrome this individual would continue to undergo a pain experience as if it were emanating from their right hand, even though their hand was long since removed. In fact, this was precisely what was reported by Admiral Horatio Nelson after he lost his right arm due to a gunshot wound suffered during the Battle of Santa

Cruz de Tenerife. While most of his right arm was surgically removed due to the injury, he continued to experience pain throughout his life in the area where his arm would have been. As is demonstrated by Nelson, these phantom pain mental states experienced at an absent bodily location demonstrate not only that a dissociation between a bodily disturbance of some sort and pain experience is possible, it is also possible for there to be a dissociation between pain experience and the body itself. Indeed, Admiral Nelson reported, due to this dissociation, that he had “found the direct evidence of the existence of soul” (Weinstein, 1998). Therefore, cases of phantom limb syndrome present challenges to any representational theory of pain due to the absence of the bodily location which is to be represented when one is undergoing a pain experience.

It may be argued that there are instances where there is a conscious experience but where there is no corresponding worldly state. Such experiences are considered hallucinatory. Phantom pains may be argued to be hallucinatory due to the lack of a corresponding bodily location. In hallucinatory cases, it seems to the individual undergoing the mental state that what they are consciously perceiving to be the case is not a representation of the world. This is not to say that what is being consciously represented is an inaccurate depiction of the world, but rather what is being represented does not exist at that time or place in the world. For example, one may be undergoing a perceptual experience due to the ingestion of psychedelic drugs of there being a green cube in one’s visual field at  $t_1$  when, in fact, there is no green cube present in one’s visual field at  $t_1$ .

Other problematic pain experiences such as headaches, specifically migraine headaches, are experienced by many individuals. However, the physiological mechanism (the bodily state which the pain mental state is to supervene upon) underlying such experiences is not well understood. As Dan Levy writes:

The lack of identifiable pathologies as well as direct evidence for activation of a unique pain pathway during a migraine attack remain one of the major hurdles in identifying the sites and mechanism underlying the genesis of migraine headache. Identifying

conditions or processes capable of promoting the 3 hallmarks of the migraine attack—the premonitory symptoms, the throbbing headache, and the associated symptoms remain the holy grail of migraine research. (Levy, 2010, p.913)

Therefore, in light of further evidence which demonstrates that there is a “unique pain pathway” which gives rise to pain experiences during a migraine headache attack, it cannot be conclusively determined that in all cases bodily disturbance of a certain sort gives rise to pain experience.

It may further be claimed that there are many perceptual instances where there is a conscious experience but which represent the world inaccurately: these experiences being illusory. It may be claimed that migraine headaches due to their location within the head but without a corresponding identifiable physiological mechanism are illusory experiences. In illusory experiences, what seems to be the case to the subject is not an accurate representation of a worldly state. For example, it may seem to a perceiver that a half-submerged stick in water is bent when, in fact, the stick is straight. However, if one claims that migraine headaches are merely illusory experiences, the question remains as to why there is a consistency of experiences within subjects and between subjects; there is ample clinical evidence demonstrating that migraine headaches reoccur within a given subject and, furthermore, that these inflictions are experienced by many individuals. For example, “A projection to the US population suggests that 8.7 million females and 2.6 million males suffer from migraine headache with moderate to severe disability. Of these, 3.4 million females and 1.1 million males experience one or more attacks per month” (*J.A.M.A.*, 1992;267:64-69). While it may be argued that it will seem to *all* who perceive a stick half-submerged as bent and, as such, migraine headaches could be regarded as illusory, it is not the case that *all* humans experience migraine headaches. Therefore, with these findings it is doubtful that migraine headaches can be said to be simply illusory experiences. As such, migraine headaches present serious challenges to any representational account of pain experience.

Referred pains are also problematic to representational theories of pain which argue that pain experience arises from damage or a disturbance of some sort to a given bodily location. This is due to the pain experience one undergoes not emanating from the location of damage or disturbance. For example, in some cases, when one is experiencing a heart-attack, it will seem as though the pain is felt in one's left arm. In such cases, although one's body is in a state of damage or disturbance at one's heart, the pain experience will be felt in one's left arm. Here too, there is a non-correlation between one's conscious experience and bodily states of affairs. Like migraine headaches it may be argued that such referred pains are hallucinatory or illusory experiences insofar as they do not correlate accurately to an objective state of affairs. However, like the problem of phantom limb syndrome, one must have a further explanation as to why the pain is experienced in a location at which there is no damage or disturbance; one must explain why the pain mental state occurs at a bodily location where there is no damage or disturbance rather than at the location where there is damage or a disturbance. Therefore, like phantom limb syndrome and migraine headaches, any representational theory of pain must explain why such cases occur without reference to damage or a disturbance of a certain sort.

In addition to the dissociation between bodily disturbances of a certain sort and pain experience, the claim of evaluativism's represented content faces a further challenge. As was demonstrated in the discussion concerning phantom limb syndrome, migraine headaches, and referred pains, if one opts for "damage" as that which is represented, there are many dissociation cases. However, if one attempts to broaden the content to a "disturbance of a certain sort", it may be argued that the content is too broad and encompasses too many bodily sensations. For example, it may be argued that the bodily sensation of itches can also be classified as disturbances of a certain sort. However, a pain experience and an itch experience are not the same experience. If one is undergoing a mild itch experience, one will not claim that the experience is one of pain. Alternatively, if one is undergoing a pain experience, one will not claim that the experience is one of itch. While it may be the case that in intense itch experience

may be claimed to become one of pain, it is not the case that when undergoing a mild itch experience it is considered a pain experience. In response, it may be claimed that “of a certain sort” is what differentiates pain experience from, say, an itch experience. However, this is simply to say that disturbances of a painful sort give rise to pain experiences or that disturbances of an itchy sort give rise to itch experiences. This problem speaks to evaluativism’s inability to accurately describe the *feeling* of pain. In comparison to visual perceptual experiences, in which one is able to describe what-it-is-like to experience the redness of an apple, the feeling of pain, under an evaluativist reading, can only be said to feel “painful.” Therefore, until more is said regarding what constitutes the feeling of the mental state associated with pain experience, “disturbance of a certain sort” remains unsatisfactory.

### *The Purported Case of Pain Asymbolia*

In addition to the previously discussed problematic dissociation cases, a further challenge must be met by any sound theory of pain experience. This challenge is to account for claims made by those purported to have pain asymbolia. Bain (2014) draws the distinction between those who undergo “normal” pain experience and those who claim to be pain asymbolic thus: Norm is normal. The pain experiences he undergoes are those which are typically felt. His pain experience is both unpleasant and motivational. Furthermore, Norm is motivated by both threatening gestures and verbal menaces. If Norm is confronted with aggressive language, he will be motivated to take action to avoid or alleviate himself of the threat. Alternatively, Abe is purported to be pain asymbolic. He claims that his pain experiences are not unpleasant, nor do his pain experiences motivate him to avoid the experiences. Furthermore, Abe is not motivated to avoid threatening gestures or verbal menaces. Unlike Norm, if Abe is confronted with aggressive language, he will not be motivated to take action to avoid or alleviate himself of the threat.

The question is, how does evaluativism account for the differences between Norm and Abe? Is it Abe who is different than Norm, or is it Abe’s pain experience which is different from



Norm's? To draw a distinction between the two models, Bain labels the former as a non-hedonic psychological model, and the latter as a hedonic model. With regard to the non-hedonic psychological model Bain writes:

What is abnormal is not Abe's pain, but Abe. His pain is unpleasant—just as unpleasant as Norm's—and it fails to motivate him only because of a psychological deficit of his, for example an abnormally high tolerance of unpleasantness, or an incapacity to care about his own body, as Colin Klein has recently claimed [ms]. So asymbolia does not show that unpleasant pain is composite, since Abe's is a case not of pain without unpleasantness, but of unpleasantness without motivation, and the motivation is missing only because of Abe's psychological defect. (Bain, 2014, p.306)

Alternatively, with regard to the hedonic model, Bain writes:

Abe's pain is abnormal. It is neither unpleasant nor motivational. So asymbolia shows that normal pain is composite, comprising a neutral pain component and a hedomotive component, which contributes the overall state's unpleasantness and motivational force, and which Abe's pain lacks [Grahek, 2007]. (Bain, 2014,p.306)

While it may be understood that the two models are mutually exclusive, Bain argues that the two views are best taken in tandem; that is, Abe's pain experience is abnormal because Abe, himself, is abnormal; Abe is lacking a feature which Norm possesses: care for one's body. Abe does not care for his body while Norm does care for his own body. In this way Bain argues that the best account of the testimony of those purported to have pain asymbolia is both psychological and hedonic.

Bain argues that a hedonic psychological view is available if two considerations are taken. First, that a dual-claim account of pain experience is maintained; again, recall that evaluativism makes two representational claims: one for the pain experience itself and one for the unpleasantness of the experience. This enables a dissociation between the feeling of pain and the unpleasant and motivational elements. Second, the lack of care for one's body undermines not only the motivational component but also the unpleasant component. That is, when Abe is undergoing a pain experience, not only is he unmotivated to avoid the sensation, he also does not find the sensation unpleasant simply because he does not care for his body. In this way, Bain

claims one is still able to maintain that all unpleasant pain are necessarily motivational, but not all pains are necessarily unpleasant. Stated otherwise, if pain experience is unpleasant, it is also necessarily motivational.

But the question remains, why should an additional feature, that of care for one's body, be the factor which determines if pain experience is considered unpleasant or not. Bain writes:

Because its unpleasantness—its hedonistic component—consists in a layer of evaluative content by dint of which it represents states of damage as bad; and a pain will represent states of damage as bad only to a subject who cares about the putatively damaged body. Bodily care, in short, is a condition on one's possessing the evaluative content that constitutes its unpleasant, motivating character. To be clear, I concede—indeed, I insisted—that bodily states could strike Abe as damaging even while he fails to care about his body. But, if he doesn't care about his body, they won't strike him as bad, hence won't be unpleasant, hence won't motivate avoidance behaviour. Evaluativism answers the relevance question. (Bain, 2014)

Again referring to the two senses in which evaluativism argues that unpleasant pain experience is representational, it is the second sense which is absent in Abe but present in Norm. Abe does not care for his body and, as such, he will not evaluate the state of his body as bad for him. Due to this lack of the experience being evaluated as bad, Abe, in turn, will not find the experience unpleasant. Furthermore, since Abe does not find his pain experience unpleasant he will not be motivated to avoid the sensation. Therefore, there is a phenomenal difference between Abe's pain experience and Norm's pain experience; the pain experienced by Abe is not unpleasant pain since he does not care about his body, whereas the sensation Norm is experiencing is considered by him to be unpleasant pain because he does care about his bodily state.

Bain foresees four objections to his psychological hedonic account (Bain, 2014). First, he argues that non-hedonic accounts reject the claim that pain experience is necessarily motivational and hedonic accounts reject that pains are necessarily unpleasant. Why then is it preferable to reject the claim that pain experience is necessarily unpleasant rather than the claim

that all unpleasant pains are motivational? He responds that by rejecting the claim that all pains are necessarily unpleasant, one is able to take the testimony of those purported to be pain asymbolic as accurate. For example, citing Berthier, Starkstein, and Leiguarda, regarding patients purported to be pain asymbolic, “None of them became anxious or angry during the pain testing procedure; in fact, while all could recognize pain, none of them reported any unpleasant feeling” (Berthier et. al., 1988, p.43). While Abe is not motivated to avoid his pain experience, it is also the case that he does not find the experience unpleasant.

However, if one is to take the testimony of those purported to be pain asymbolic as true, the testimony of the purported pain asymbolic individual studied by Hemphill and Stengel lends credibility to the claim that in some instances those who are claimed to be pain asymbolic do find *certain* pain experiences both unpleasant and motivational. They write:

The patient soon discovered that the examiners were interested in the way he reacted to painful stimuli. He accordingly tried to explain his reactions by such expressions as: “I am not a man who cannot stand pain,” or “I am used to that because I have worked on the road,” or “Labourers are always hurting themselves; we don’t take any notice of it”. On the other hand, his wife assured us that he had always been susceptible to pain and had reacted violently whenever his children pricked or pinched him in play. (Hemphill and Stengel, 1940, p.256)

While this preserves the claim that if pain experience is unpleasant it is necessarily motivational, it undermines the claim that Abe *does not find any pain experiences unpleasant*; the behaviour of the individual purported to have pain asymbolia studied by Hemphill and Stengel would indicate that in such instance of his children pricking and pinching him in play, this individual *did* find the experience unpleasant and was additionally motivated to avoid the experience.

Second, it may be objected that the evaluativism claim is too strong. It may be the case, so the objection goes, that there are unpleasant pains which motivate, but in which the subject does not care about the state of their bodies. Therefore, it is not lack of care for one’s body which is responsible for the difference between Norm and Abe. Bain uses the bodily sensation of thirst to elucidate three possible responses since the individual purported to be pain asymbolic

described by Schilder and Stengel was motivated to drink: (i) pain and thirst, while both being bodily sensations, are not comparable in their hedonistic aspects, (ii) more evidence is required to determine in what way Abe is motivated to drink, or (iii) there is a distinction to be made in the types of care required by pain and thirst, and it is the lack of care required by pain experiences which Abe is lacking, not the care required by thirst. Bain further contends that it is Abe's damaged brain which produced his purported pain asymbolia which is responsible for the lack of care in the case of pain experience and not in the case of thirst.

However, counter to the claim that those who are purported to be pain asymbolic experience pain which is not unpleasant or motivational, the evidentiary statements reported by Hemphill and Stengel demonstrate that there are circumstances where their patient did find the pain experience unpleasant and was additionally motivated to avoid it. In response to Bain's third reply, if we are to take the testimony of those purported to have pain asymbolia as credible, then brain damage cannot be claimed to be responsible for the purported pain asymbolic's behaviour since brain damage is not a transitory condition. If one's brain is damaged, for example by a lesion which severs the connection between the sensory and limbic systems, it cannot be the case that this connection is absent in some instances but maintained in others. If purported cases of pain asymbolia are due to lesions in the brain, it will be the case that there will always be a disconnect between the sensory system and the limbic system. One may argue that in some cases brain damage may be a transitory condition: where healing has remedied the disconnect between the sensory and limbic systems. However, such an explanation is unable to account for pain experiences undergone by the pain asymbolic in some instances and not in others. If brain damage were responsible for purported cases of pain asymbolia, one would suspect that they would either undergo unpleasant pain experiences or pain experiences which are not unpleasant, not both. Furthermore, it may be argued that the disconnection between sensory and limbic systems is dependent on the type of pain experience the pain asymbolic is undergoing. However, it is unclear to me how the physiological connection between the two systems could be reliant on a given pain experience.

Furthermore, counter to (i) it may be claimed that pain and thirst are comparable in their hedonistic aspects since, as was demonstrated by Hemphill and Stengel's patient, some pains are considered unpleasant and motivational, but that there is a different feature of the experience which accounts for the presence of the hedonistic element in some cases and its absence in others. When attention is turned to the intensive theory, I will demonstrate through a thought experiment that it is the intensity of the experience which is the responsible feature; it will be argued that when both pain experience and thirst experience are intense enough, both experiences will be considered unpleasant and, in addition, will motivate one to alleviate one's self of the unpleasant experience. What the testimony of the purported pain asymbolic studied by Hemphill and Stengel demonstrates is that if it is claimed that all individuals purported to have pain asymbolia lack care for their bodies, in some instances they still find pain experience unpleasant and are additionally motivated to avoid said experiences. As such, it cannot be definitively claimed that the difference between Abe and Norm is bodily care.

How might the evaluativists respond to this inconsistency in the purported pain asymbolic's reaction to noxious stimuli if it cannot be conclusively determined that it is lack of care which distinguishes Abe from Norm? I foresee two possibilities. One possibility is that they may wish to maintain that it is lack of care which is responsible for this distinction, but that further conditions are required. For example, it may be claimed that while the purported pain asymbolic is at work they lack care for their body, but while at home with their family they do demonstrate bodily care. However, such a response poses problems if one considers situations where the purported pain asymbolic is working at home, or if their family is brought to their work. In such cases it is unclear if the purported pain asymbolic would demonstrate care for their body or if this element would be absent. In light of such considerations, the claim that they care for their body in some situations while they lack care in others appears ad hoc. As such, the response that further conditions in addition to lack of bodily care is what distinguishes Abe from Norm appears too weak. The second possibility is that the evaluativist may wish to abandon the

reliance on lack of bodily care altogether in favour of a different condition. However, I am uncertain what this alternative condition could be and, as such, will leave the speculation to the evaluator. Therefore, in light of the preceding discussion, it seems that it cannot be the case that lack of bodily care is that which distinguishes Abe from Norm.

The third objection is that evaluative content is not care-dependent. Bain writes, “A might believe that damage to B’s body is bad even while not caring about B’s bodily integrity” (Bain, 2014, p.317). As a reply, Bain states that this is not the sense meant by the term ‘bad.’ He argues that it is only the experiential sense, undergone by the subject, which is to be evaluated as bad. While this may be the case, what the discussions of the preceding objections demonstrate is that it is questionable that lack of care for one’s body is responsible for the difference between Norm and Abe: be it care for his own body or care for another’s.

The fourth objection foreseen by Bain is that, “The relationship between care and desire (or motivation more generally) makes [an evaluator’s] explanation of Abe either (i) trivial, (ii) excessively demanding, or (iii) otiose” (Bain, 2014, p.318). (i) Claims that since one is motivated to care for one’s body, Abe’s lack of care is simply a lack of desire (lack of motivation) to protect his body. However, Bain argues that his account is more than this claim. He argues that, “Bodily care is not a mere inclination to avoid bodily damage. It is a standing, non-episodic state, one that is non-conceptual yet itself evaluative” (ibid, p.318-319). However, turning again to the testimony of the individual purported to have pain asymbolia studied by Hemphill and Stengel, if we are to take bodily care as what differentiates Norm from Abe, care *does* seem to be an episodic state. Specifically, the patient does not seem to care about his body when undergoing clinical tests or when he is working, but seems to care about his body when he is being pinched and pricked when playing with his children. Therefore, care for one’s body cannot be considered a standing attitude for one’s body but, rather, episodic and transitory in nature.

Furthermore, while some have taken this purported pain asymbolic's testimony to demonstrate that this condition was brought on by a head injury which initially brought him to the hospital, upon closer examination of his testimony it appears as though this individual had reacted the same way to noxious physical stimuli pre-accident. Recall that he used the phrase, "I am used to that because I have worked on the road." This phrase demonstrates that his reaction was the same pre-accident as it was post-accident. In addition, what is more telling is that he, himself, was not surprised at his lack of responsiveness to the noxious physical stimuli presented to him through experimentation. One would think that if his non-reactivity were novel, then he would have demonstrated the same surprise and intrigue as the medical examiners. Furthermore, he does not simply claim that he is used to experiencing noxious physical stimuli, but also that his fellow workers demonstrate the same non-reactivity to noxious physical stimuli. Recall his statement, "Labourers are always hurting themselves; *we don't take any notice of it*" (emphasis mine). It may be argued this particular purported pain asymbolic was simply confabulating to explain their condition. **However, one of the reasons that the standard view of pain experience holds that not all pain experiences are necessarily unpleasant is to account for the face-value testimony of those purported to be pain asymbolic. As such, it ought to be taken that *all* testimony of those purported to be pain asymbolic is credible.** Therefore, due to the episodic care for his body demonstrated by this purported pain asymbolic, the claim that care for one's body is not simply an inclination to avoid damage is undermined.

Concerning (ii) the objection is that if bodily care is a desire to be in a properly functioning bodily state, such desires place too demanding a condition on unpleasant pains. In response to this objection, Bain argues that care is more than a disposition or inclination and, as such, his account of care is undemanding. However, due to the preceding discussion concerning the purported pain asymbolic studied by Hemphill and Stengel whose testimony indicates that his concern for his body is indeed dispositional or inclinational, it is questionable if care is more

than a mere disposition or inclination. To reiterate, much of this purported pain asymbolic's testimony seems to give credibility to care being episodic and, therefore, is unable to do the work required by evaluativism which, again, contends that bodily care is a standing disposition (ibid, p.318-319).

In response to (iii) Bain writes, "My opponent might again insist that care is a motivational state, hence complain that my appeal to a difference in evaluative content between Abe and Norm's experience is otiose" (ibid, p.319). But, Bain claims, since there is a hedonic, phenomenal difference between Abe and Norm's experience (Norm's pain experience being unpleasant), Abe's lack of care cannot be identical to unpleasantness; if this were the case, Norm would remain in a state of unpleasantness even when not undergoing a pain experience due to his standing disposition to care about his body. However, it has been demonstrated that the disposition to care for one's body is episodic rather than a standing disposition. As such, if one were to claim that care for one's body and unpleasantness are identical, it is no longer the case that Norm would always be in an unpleasant state. Rather, it is only when the caring mental state is invoked that Norm would find his bodily condition unpleasant. For example, if Norm were to, say, be laying on the couch watching television, he would not be in a bodily care mental state since threats to his bodily integrity would be lacking. This is not to say that he would lack care for his body but, rather, that bodily care in that circumstance would not be a part of his mental economy. As such, he would not find his experience to be unpleasant. However, if Norm were to go to the kitchen to get a snack and were to cut himself with a knife, then he would find the experience unpleasant and bodily care would enter into his mental economy since this cut to his hand would be a threat to his bodily integrity. It seems then that since bodily care is episodic or transitory rather than a standing disposition, it cannot be claimed that Norm would be in a constant state of unpleasantness even when not undergoing a pain experience. Therefore, it seems as though it may be claimed that care is a motivational state and that the reliance on the difference in evaluative content between Norm and Abe is, indeed, otiose.



In sum, while evaluativism as a theory of pain carries advantages, it faces three challenges. First is the dilemma that it has difficulty in accounting for cases where there is a damaged or disturbed state of the body but where there is no pain experience, and cases where one undergoes a pain experience but where there is no corresponding damaged or disturbed state of the body since evaluativism argues that phenomenal pain experience supervenes on the intestinal content of bodily damage or disturbance of some sort; this has been demonstrated by reference to cases such as Indian hook-swinging ceremonies in the former, and migraine headaches in the latter. Second, the intentional content of “a disturbance of some sort” appears too broad and can be interpreted as including non-pain experience cases such as itches. While it may be argued that an amendment of content to that such as “damage” or “disorder” would be more apt, such claims are still problematic as was shown due to instances of pain experience where no damage or disorder is present, and cases where damage or disorder is present but where there is no pain experience. Third, as concerns purported cases of pain asymbolia, evaluativism’s claim that it is the lack of care for one’s body which distinguishes Abe from Norm is problematic, since it cannot be claimed that in all cases Abe lacks care for his body: recall the purported pain asymbolic’s reaction to being pinched and poked by his children. Therefore, in light of these issues, attention will now be turned to pure imperativism as an account of both pain experience and the purported condition of pain asymbolia. It will be shown that while pure imperativism claims that an imperative intentional content is able to account for the dissociation between pain experience and bodily states of affairs, its reliance on care for one’s body to bridge pain experience and the affective unpleasantness component faces some of the same challenges as evaluativism.

### Chapter 3: Pure Imperativism

Like evaluativism, pure imperativism is an intentional theory of pain; that is, again, the character of the experience supervenes on the intentional content. However, alternatively to evaluativism which argues that the intentional content is indicative, pure imperativism argues that the content of bodily sensations is imperative; with regard to pain experience, the command is to protect the body in a certain way, with a certain intensity (Klein, 2015). The idea behind pure imperativism is simply that because pains and commands are both motivational, the content of pain experience is imperative. However, unlike the mind-to-world direction of fit of indicative representational content, imperative content holds a world-to-mind direction of fit. That is, if there is a discord between one's mental state and the world, it is the world which is at fault, not the mental state; if one's mental state is not in alignment with a worldly state of affairs, it is the world which is to be taken as incorrect rather than one's mental state. For example, under a pure imperativist reading, if one is undergoing a mental state which is commanding one to drink or eat, it is the world which needs to become aligned with the mental state; one must satisfy one's thirst or hunger by drinking or eating.

However, some may claim that there is implied indicative content held within imperative mental states; as an example, take the non-mental state command a parent might issue to their child to, "Clean your room!" It may be argued that indicative content, such as the fact that the room is not clean, that there is a room at all, or that there is in fact a child to which the command is issued, is implied within the imperative content. However, as Klein writes:

The pure imperativist claims that pains *only* command. They have no (psychologically relevant) content beyond their imperative content. Contrast this with *hybrid* imperativism, which claims that pains have additional content over and above what they command. Hybrid imperativism could take pains to be simple conjunctions of commands and representations, or they could appeal to more complex contents that both motivate and inform. (Klein, 2015, p.7)

Klein goes on to write, “Imperativism simply claims that the subvening content in the case of pain is a *command* rather than a proposition” (ibid, p.7). While there are differing accounts of imperativism, such as those formulated by Manolo Martinez (2010) and Richard Hall (2008), it is the pure imperativism of Klein (2015) which will be the main target of this chapter and, therefore, when discussing pure imperativism it will be taken here that pain experience is strictly imperative.

As argued by Klein, pure imperativism is a motivational theory of pain. Bain writes that pure imperativism can be conceived as, “A subject’s being in unpleasant pain consists in the subject’s (i) undergoing a certain neutral sensory experience (the pain) and (ii) receiving a command from the ‘pain module’ to stop doing whatever he is doing” (Bain, 2013, p.S77). Again, the idea is that since imperatives motivate and pain motivates, the content of pains is imperative. But while Bain claims that the pain experience one undergoes is a neutral sensory experience and, further, that the pain module commands one to stop doing what one is doing, the affective dimension of remains lacking. Therefore, the unpleasantness which so often accompanies pain experience must be accounted for by other means. In order to do so, Klein writes:

The phenomenology of suffering is strongly motivating. Because pains hurt, we generally want to avoid them and get rid of them when we feel them. Insofar as pain is a bad thing (and unnecessary pain an uncontroversially bad one), it is because it causes suffering. Because hurt is an extremely salient feature of most pains, many have assumed that it must be a constitutive, intrinsic, or necessary property of pain.

An imperativist should be wary of such claims. Pure imperativism must reject them outright. Most pains do feel bad, to be sure, but the primary motivational force of pain—and one that is wholly constitutive of pain on a pure imperativist account—is

simply a command from a body to protect the affected body part. Commands from the body do not intrinsically, essentially, or necessarily feel bad. I have argued that pain is a homeostatic sensation and so comparable to hunger, thirst, and cold. But the mild forms of these sensations do not feel bad. Mild hunger is a command to eat and motivates me as such. But that doesn't feel bad or good: it's just a sensation, with no particular further valence. So the pure imperativist should also avoid saying that pains feel bad intrinsically, necessarily, or essentially. (ibid, pp. 48-49)

Note that Klein does not say that pains are not unpleasant but, simply, that they are not bad. However, since he relies on the mild forms of bodily sensations to claim that they do not intrinsically, essentially, or necessary feel bad, then much the same ought to be said about the unpleasantness of bodily sensations. For example, take the homeostatic sensation of feeling cold. Arguably, in its mild form coldness is neither pleasant nor unpleasant; on a warm summer's day, the feeling of mild coldness may feel pleasurable. However, on a cold winter's night the same feeling of coldness may be regarded as unpleasant. Therefore, if Klein is to use the same treatment for all bodily sensations, it should be concluded that he does not think that pains in their mild forms are pleasurable or displeasurable. As such, it should be concluded that pure imperativism conceives of pain experience as motivating but not unpleasant.

To account for such bold claims, Klein proposes that with respect to pain experience there are two types of motivational force: primary motivational force and secondary motivational force. *Primary motivational force* is that which is an element of pain experience. As Klein writes, "Imperativism claims that the primary motivational force of a pain is simply that which derives from its content: that is, the motivation to protect a certain body part, in a certain way, with a certain urgency" (ibid, p.45). *Secondary motivational force* is that which is not an element of pain experience but, rather, is an element of attitudes *held toward* pain experience. According to Klein, unpleasantness is what accompanies secondary motivation. These, Klein argues, are those mental states which are caused by, directed toward, or a response to pain experience, such as anxiety, fear, vigilance, anger, etc.... It is being in such mental states which typically accompany pain experience which pure imperativism cites as unpleasant.

As such, like evaluativism, pure imperativism hold the standard view of pain experience. Again, the standard view argues that unpleasantness and pain experience are able to dissociate. As such, two claims are required to formulate the mental state one undergoes when one experiences an unpleasant pain experience. While Klein does not formulate his view precisely as follows, here pure imperativism will be stated thus:

*Pure Imperativism*

*S's being in pain consists in: S's undergoing an experience which motivates through a command for S to protect her body in a certain way with a certain level of urgency.*

*And*

*S's pain being unpleasant consist in: S having an additional attitude toward the pain command, such as fear, anxiety, or apprehension.*

To further support the claim that pain experience is not intrinsically unpleasant, Klein cites cases such as morphine pain and purported cases of pain asymbolia; however, he is aware that such cases may be interpretively challenged. Therefore, as a less contentious example, he cites mild pains. Klein quoting R.M. Hare (1964) writes:

There are, in fact, small degrees of pain which are by no means disliked by everybody. Most people could draw the point of a needle rather gently across their skin (as in acupuncture) and say truthfully that they could distinctly feel pain, but that they did not dislike it. Some might say that they would rather be without it than with it; but that would apply to a great many sensations about which no philosopher, to my knowledge, takes the line that some do with pain. Most people would rather be without a feeling of giddiness (though children often induce it in themselves out of interest); but nobody says that no sense can be given to the sentence "I feel giddy, but do not dislike it." (Klein, 2015, p.49)

However, it ought to be noted that in the previous example of the needle being drawn across the skin as well as cases of morphine pain and purported cases of pain asymbolia, while not deemed

unpleasant, are not motivational; in Hare's example, one is neither primarily nor secondarily motivated to be rid of the pain experience caused by the needle. This, in turn, is problematic for the pure imperativist since it is claimed that in such cases one is undergoing pain experience which is neither unpleasant nor, importantly, motivational. Since Klein's view is a motivational theory, instances where one undergoes a pain experience but where one is not motivated to be rid of the experience presents challenges to pure imperativism.

An example which Klein contends supports the claim that pain experience is motivational without being unpleasant are pain experiences which motivate small postural adjustments. For example he argues, if one is sitting at a computer typing for an extended period of time, one will be motivated to shift one's body weight. These mild occurrences of pain experience, so Klein argues, motivate bodily adjustments in the primary sense while being void of unpleasantness. While Klein outrightly admits such occurrences of pain experience may become unpleasant, say, on transcontinental flights, the claim is that, ordinarily, such adjustments are motivated by pain experiences which are not unpleasant. However, such a claim may be interpreted in various ways. For example, it may be claimed, contrary to Klein, that such mild pain experiences are indeed unpleasant, albeit only mildly so. If it is, in fact, the case that such experiences are mildly motivational and mildly unpleasant, then such experiences are conducive to being pain as typically conceived.

Klein suggests that if one interocepts on one's body throughout the day, one will undergo a variety of (what he considers) pain experiences which are motivational but not unpleasant. While he does not include examples found through interoception, he admits that, "At least, it becomes hard to tell whether, for example, a brief and easily eliminated postural cramp really hurts" (ibid, p.50). Therefore, while it may be the case that there are pain experiences which motivate but are not unpleasant, it may also be the case that such pain experiences are both motivational and unpleasant, albeit mildly so.

It may be argued that the experience of sexual masochists and those who self-mutilate could be interpreted as pain experiences which are neither unpleasant nor motivational. The claim, I suspect, is that since individuals are drawn to such activities as sexual masochism, they must not find the experience unpleasant and, therefore, these must not be unpleasant pain experiences and, as such, do not motivate the individual to alleviate themselves of the experiences. However, recall Pitcher who argues that sexual masochists do find the pain experiences unpleasant, and it is precisely the unpleasantness that they enjoy: speculatively, likewise with those who self-mutilate. The claim that pain experiences undergone by sexual masochists and those who self-mutilate are motivational but not unpleasant is problematic for two reasons: first, the way in which pain experiences associated with such activities do not seem to be motivating one to protect one's body or for one to avoid the sensation; quite on the contrary the motivation appears to motivate one to undergo more of the experience. Second, as the quote from Pitcher noted, if the sexual masochist or self-mutilating individual did, in fact, enjoy their pain experience, they would continually seek greater afflictions and greater disorder to their bodies; yet, this is not what occurs. Protocols such as safe-words signal when the experience has become sufficiently intense and enables the masochist to signify that they wish the experience to end. In light of such considerations, it seems as though the masochistic individual does find the experience unpleasant to some degree and, therefore, such experiences cannot be said to be motivational but not unpleasant.

Other cases of pain experience seem to put the pure imperativist claim into further jeopardy. Chronic pain is broadly defined as pain which lasts greater than six months. According to a study done by the Institute of Medicine, it is estimated that there are 1.5 billion people worldwide who experience chronic pain (Institute of Medicine, 2015). Klein argues that chronic pains are unsatisfiable commands, and it is this unsatisfiability of the command in the secondary motivational sense which accounts for them being unpleasant. For example, one

might have anxiety about not being able to treat their chronic pain, and it is this anxiety at the inability to ease their pain experience which is found to be unpleasant. Along with chronic pains, Klein also includes phantom limb pains as unsatisfiable commands. While Klein goes into detail regarding phantom limb pains as unsatisfiable due to the absence of a given limb, little is written about chronic pains and why they remain unsatisfied. It seems odd that in the case of chronic pains, the command to protect one's body should continue even after all possible healing has been completed; after all possible healing has been completed, there is no need to continue to protect one's body in a certain way with a certain intensity. Again, since pure imperativism argues that pain's role is motivational, what is the command of chronic pain, either primarily or secondarily, motivating one to do? To be sure, many who are inflicted with chronic pain are motivated to alleviate themselves of the experience, hence the rise in opiate prescriptions for those with chronic pain. However, it is unclear how opiate prescriptions are aiding in the command to protect the body. Rather, it seems more plausible that such potent analgesics are sought to mitigate pain experience because the pain experience is itself unpleasant. Therefore, chronic pains appear to go against pure imperativism in two respects. First, it is unclear what action the imperative from the body's pain module is motivating in the case of chronic pains since all possible healing has been completed. And, second, due to the wide-spread use of pain-killers, it appears that the phenomenal experience of chronic pains is itself unpleasant.

Furthermore, pure imperativism faces the challenge of describing the *feeling* of pain experiences. While Klein claims that the imperative issued from pain experience is a command to protect one's body in a certain way, with a certain intensity, little is said about why pain experience feels the way it does. Klein argues that commands issued as bodily sensations are given in, what he calls, "mentalese" (Klein, 2015). However, since pure imperativism argues that all bodily sensation (thirst, hunger, itches, etc...) are all issued in this mental language, an answer to why pain experiences feel the way they do is left lacking. As was the case with evaluativism, until more is said regarding why pain experiences have the phenomenal feel that they do, pure imperativism remains unsatisfactory.



Therefore regarding the pure imperativist theory in general, while Klein claims that it is only the motivational element which is held within the imperative, it is difficult to conceive of pain experiences which are not themselves unpleasant. Recall that it was non-unpleasant but motivational pains which Klein needs for pure imperativism since pure imperativism is a motivational theory of pain. Furthermore, it is also questionable that the experiences which motivate small postural adjustments can be said to be pains and, if it is claimed that they are in fact pains, it could be argued that they are pains which are mildly unpleasant. Furthermore, as will be shown, like evaluativism, pure imperativism has difficulty accounting for odd cases such as purported cases of pain asymbolia since the pain experienced by those purported to be pain asymbolic is claimed to be neither unpleasant nor, more importantly, motivational.

As with other theories of pain experience, purported cases of pain asymbolia are problematic for pure imperativism. Again, instances of pain which are not motivational are problematic for pure imperativism due to the pure imperativist claim that the motivational element is constitutive of the imperative content; according to pure imperativism, the motivational force of pain experience, unlike the unpleasantness of the experience, is held within the pain experience itself. As already introduced, those purported to have pain asymbolia claim that, while they are undergoing pain experiences, they do not find the experience unpleasant nor are they motivated to alleviate themselves of the experience.

The purported condition of pain asymbolia poses a problem for pure imperativism due to Abe's pain experiences being non-motivational; if it is correct, as Abe claims, that one may be undergoing a pain experience but not be motivated by the experience, pure imperativism appears to be undermined. To counter such issues, Klein proposes an alternative interpretation of Abe's reports and behaviours. In contrast to Grahek, who argues that Abe is undergoing a deficiency in his pain experience, Klein, like Bain, contends that Abe has lost the capacity to care about his

body and it is this lack of care which is why Abe is not motivated to avoid the experience. Klein distinguishes the two models describing purported cases of pain asymbolia thus: the degraded input model and the lost capacity model. The diminished input model is comparable to Bain's hedonic model, and the lost capacity model is comparable to Bain's non-hedonic psychological model.

The diminished input model of the purported pain asymbolic condition is predicated on the relationship between the sensory-discriminative dimension and the motivational-affective dimension. The sensory-discriminate dimension being the pain experience itself, and the motivational-affective dimension being the motivational force and the unpleasantness. In the diminished input model there is a double dissociation between these two dimensions. In short, it is argued that there can be pain without painfulness, and painfulness without pain. This, Klein posits, is how Grahek views purported cases of pain asymbolia. He argues that while the sensory-discriminative dimension has not changed, the motivational-affective dimension present in typical individuals is absent or diminished in those purported to be pain asymbolic. Under the diminished input model, Abe's motivational-affective dimension no longer has the motivational force which impels Norm to protect his body. The diminished input model, therefore, argues that while Abe feels pain, the experience's unpleasantness has been diminished and is therefore no longer motivational; Abe's pain *feels* different than Norm's. Grahek writes, with regard to the dissociation of these components, "[Pain] becomes a blunt, inert sensation, with no power to galvanize the mind and body for fight or flight. Such pain no longer serves its primary biological function" (Grahek, 2007, p.73). Pain's primary biological function, again, is to motivate action to protect the body from harm, and it is this function which Abe is lacking.

While one half of the dissociation, pain without painfulness, is plausible, the converse is less conceivable: that is, painfulness without pain. Klein cites a case report by Ploner, Freund,

and Schnitzler (1999). Here, the patient had a unilateral lesion to the primary and secondary somatosensory cortexes (SI and SII). As Ploner, et al. write:

We report findings from clinical examination and cutaneous laser stimulation in a 57-year-old male, who suffered from a right-sided post-central stroke. In this patient, we were able to demonstrate (i) a dissociation of discriminative and affective components of pain perception and, for the first time humans, (ii) the dependence of sensory-discriminative pain components and first pain sensation on the integrity of the lateral pain system. (Ploner, et al., 1999, p.211)

Simply put, when the patient underwent laser stimulation to the left hand, they reported that they did **not** undergo a pain experience but that the experience was unpleasant and that they wished to avoid it. Furthermore, Kulkarni, et al. (2005) were able to demonstrate that there is a difference of function between the lateral and medial components of the human pain processing system: the lateral pain system being responsible for location of the noxious stimuli, and the medial pain system being responsible for the affective dimension of the noxious stimuli. Klein concludes, if there is a double dissociation between the perceptual mental state and the affective mental state, there is no *necessary* connection between them. Therefore, one is able to experience pain without painfulness (unpleasantness) or vice-versa; and it is the absence of the painfulness in Abe's pain experiences which, under the diminished input model, accounts for the testimony of those purported to have pain asymbolia.

However, Klein notes two objections against the diminished input model. First, he argues, the patient who's hand was stimulated by the laser did appear to feel pain, although it was registered at a much higher threshold. Ploner, et al., write:

In the patient reported here, clinical examination and cutaneous laser stimulation revealed prolonged reaction times to painful laser stimuli, an elevated pain threshold, loss of sensory-discriminative pain component and preserved motivational-affective dimension of pain. This clear perceptual dissociation was paralleled by an anatomical

dissociation between affected lateral pain system and spared medial pain system.  
(Ploner, et. al., 1999, p.213)

Second, Klein objects, the patient felt unpleasantness before they felt the pain. However, so the objection goes, there are many other experiences which can be unpleasant, such as unpleasant itches, so “why think that the patient felt the negative affect associated with pain rather than just some other unpleasant sensation?” (Klein, 2015, p.145). Therefore, Klein suggests an alternative model to account for Abe’s experience: the lost capacity model.

The lost capacity model contends that Abe is not motivated by the experience because, as is argued for by evaluativism, he has lost the capacity to *care* about his body. Here, note, alternatively to the diminished input model, which argues that there has been a change in the experience undergone by Abe, the lost capacity model contends that there has been a change in Abe himself. To further support the lost capacity model, Klein argues that since there is a change in Abe and not the experience, Abe should demonstrate other lack-of-care behaviours. This is precisely what was shown in the individual purported to have pain asymbolia as documented by Hemphill and Stengel. They write:

The patient was observed proceeding one morning along the main road of the hospital. He made no effort to get out of the way of a lorry behind him in spite of the loud warning of the horn. That he heard the horn and recognized its character is certain, for he admitted as much with considerable heat when he was forbidden, for his own safety, to walk alone on the main road. It was obvious from his action at the time that when he heard the motor horn he did not react as if it were a sound of warning. (Hemphill and Stengel, 1940, p.256)

In this example there is obviously no bodily damage or disturbance, but yet the individual showed no regard for possible bodily damage or disturbance; this individual did not feel threatened by the possibility of damage to his body. Therefore, Klein concludes, Abe has lost the capacity to be motivated by his pain experiences. In addition, Abe has also lost the capacity to

be motivated by threats or menaces, not simply pain experience. However, according to the pure imperativist, it is precisely this motivation which is essential to pain experiences. Therefore, Abe lacks what is crucial to avoid threats and menaces to one's self: both physical and non-physical. This ability to account for Abe's non-pain deficits is one of the major advantages of the lost capacity model.

However, an objection arises when one considers what is meant by lack of care for one's body. Again, Klein must invoke care-lack in order to account for problematic pains such as those undergone by Abe due to pure imperativism being a motivational theory of pain. Since Abe claims that he feels pain, but is not motivated to rid himself of the experience, Klein must explain this lack of motivating force. As Klein rightly notes, the patient purported to have pain asymbolia as described by Schilder and Stengel (1928) asked to eat and use the restroom. Klein argues that homeostatic sensations, those which regulate the body such as hunger, thirst, itches, etc... are all imperative in nature. He writes:

Homeostatic sensations are best understood as sensations with imperative content. Each expresses a command. Satisfying that command will, under ordinary circumstances, remove the condition that caused the homeostatic sensation in the first place. Thirst is caused by low fluid levels. Thirst commands you to drink. If you drink, then you'll raise your fluid levels. Your thirst will cease. (Klein, 2015, p.19)

If, in fact, this individual had lost *all* capacity to care for their body, then the question becomes, why did this individual care in these cases and not in cases of threat or bodily disturbance? Klein argues that a distinction is to be made between threats which are immediate and those which are distant. He suggests that threats such as pain experiences and verbal threats and menaces are immediate, whereas the threats of not eating or relieving oneself are distant. To be sure, if one were to not eat or relieve oneself for an extended period of time, there could be great harm done to one's body. But, under normal circumstances, there are many courses of action which can be taken before such instances bring about bodily damage or pose significant threats. Therefore,

Klein concludes that the lost capacity model of purported cases of pain asymbolia is confined to immediate threats rather than distant.

While much has been discussed concerning accounts of the testimony of those purported to have pain asymbolia and their lack of concern for their pain experiences, these individuals do feel pain and on occasion demonstrate that they find the experience both motivational and unpleasant. As an aside, it is acknowledged that in order to fully discount pain asymbolia as a legitimate condition, it must be the case that those purported to be pain asymbolic must find their pain experiences both unpleasant and motivational in all cases. However, due to the limited testimony and insufficient clinical experimentation conducted with these individuals, it will be taken here that instances where these individuals find their pain experiences to be both unpleasant and motivational is sufficient to demonstrate that pain asymbolia is merely a purported condition. It will be argued in the next chapter that if the pain experience undergone by these individuals is intense to an excessive degree, they will find their pain experiences to be both unpleasant and motivating. Returning to Hemphill and Stengel's patient, when asked about his non-reactivity to painful stimuli, responded, "I am not a man who cannot stand pain," and that he was able to "feel the painful stimulus for what it [is]" (Hemphill and Stengel, 1940, p.256). Here, it is the use of the word "stand" which is most telling. Such a word indicates that this individual does, in fact, find the experience unpleasant but is able to bear its unpleasantness. As Hemphill and Stengel go on to report, "On the other hand, his wife assured us that he had always been susceptible to pain and had reacted violently whenever his children pricked or pinched him in play" (ibid, p.256). Like the evaluativist account, Klein's account of the lost capacity model does not seem to be able to accommodate such testimony. If, as Klein argues, the behaviour of those purported to have pain asymbolia is limited to direct threats, why does this individual react in a typical manner in cases such as playing with his children? If Klein were correct, such direct threats from his children would not be able to produce avoidance behaviour any more than lories or verbal menaces.

It may be challenged that because Abe does not appear to have lost the capacity to care for his bodies in all cases (i.e., when children are pricking and pinching), the diminished input model may be more suitable to account for such irregularities. Put another way, it may be argued that in some instances the pain has changed and in other instances the pain has not changed. However, here again, there are instances where individuals purported to have pain asymbolia are not motivated to protect themselves because they are able to *stand* the experience. While such testimony is open to interpretation, it appears that the pain experience has not changed since it requires “standing.” The experience is still felt to be unpleasant but those purported to have pain asymbolia are more tolerant of the experience’s intensity. In instances where those purported to have pain asymbolia are unmotivated to protect their body they are able to stand the intensity of their experience, and in instances where they are motivated to protect themselves they are not able to stand their experience or, possibly, do not *want* to stand it. Therefore, while the diminished input model and the lost capacity model interpret Abe’s behaviour and testimony differently, it is more likely that there has been a change in Abe; however, it will be shown in the next chapter that such a difference is not a lack of capacity to care for his body, but an increased tolerance for the experience’s intensity.

As the preceding has demonstrated, pure imperativism appears to be undermined in two ways. First, it is questionable whether or not there are pains which are motivating but are not unpleasant. As was shown, Klein gives few examples of pain experiences which are motivational but not unpleasant. While he argues that pain experiences which motivate small postural adjustments are not unpleasant, such experiences interpreted as pains may be questionable. Furthermore, he contends that there are many pain experiences undergone through interoception which are not unpleasant; however, he does not give specific examples. Therefore, in light of further evidence of pain experiences which are motivational but not unpleasant, the existence of such pain experiences cannot be conclusively claimed.

Second, since pure imperativism claims that pain experience is inherently motivational, pain experiences such as those undergone by Abe are problematic due to his not being motivated to avoid the experiences. Klein claims that an additional feature must be present in order for pain experience to be motivating: care for one's body. However, as was the case with evaluativism, due to the testimony of the individual purported to be pain asymbolic studied by Hemphill and Stengal, care for one's body appears to be transitory in nature. As such, bodily care cannot be what constitutes the difference between Abe and Norm.



## Chapter 4: The Intensive Theory

### Conditions

Within this work the intensive theory will be regarded as a perceptual theory of pain. As such, it is claimed that the role of pain experience is to represent a bodily state of affairs to the subject. However, unlike representational theories, for example evaluativism, which claim that pain experience represents damage or a disturbance of some sort occurring at a bodily location, the intensive theory argues that pain experience represent a specific set of nerve fibres being stimulated to an excessive intensity. To formulate such a claim, at a first pass the claim can be stated thus:

#### *Intensive Theory A*

*S's being in pain consists in: S's undergoing an excessively intense experience which represents stimulation of nociceptor nerve fibres to S.*

It is argued that this specific set of nerve fibres, called nociceptors, when stimulated are responsible for giving rise to pain experience. Nociceptive nerve fibres are activated when there is excessively intense thermal, mechanical, or chemical stimulation. Due to their role in responding to multiple types of stimuli, nociceptors are considered a type of free nerve ending. Free nerve endings may differentiate in rates of adaptation, stimulus modality, and fibre type. With regard to rates of adaptation, free nerve endings can be rapid, intermediate, or slow adapting. These rates of adaptation correspond to types of nociceptor nerve fibres. Nociceptors are composed of both alpha-delta fibres and C fibres. Alpha-delta type II fibres are considered to

be those which are rapidly adapting, giving rise to the intense experience often felt with transient pains—again, those pains which are high in intensity and limited in duration—whereas alpha-delta type I fibres and C fibres are slowly adapting which give rise to acute and chronic pains: again, acute pains being those which are brought about by injury but are limited in duration, and chronic pains which are also brought about by injury but which are longer lasting and may resist treatment.

In contrast to sensory theories which argue that nociception ought to be considered a distinct sensory modality, the intensive theory argues that nociception is a fundamental component of the five sensory modalities as traditionally conceived: tactile, visual, auditory, olfactory, and gustatory. It is argued that excessively intense stimuli occurring within each of the five modalities will trigger nociceptive nerve activity which will, in turn, give rise to the experience of pain. It is further argued that nociception which gives rise to pain experience ought not to be considered to comprise a dedicated sensory modality since nociception fails to meet much of the criteria of what it is to individuate a distinct modality. Gray (2014) suggests there are three such conditions for individuating specific sense modalities. The conditions are as follows:

1. *The experiences are facilitated by a distinctive sensory organ and connected physiological system;*
2. *The experiences have a separate class of physical stimuli as their causes; and*
3. *There are experiences that have a general character and content that simultaneously unifies them and distinguishes them from other kinds of experiences.*

Here it will be argued that nociception fails to meet two of the three conditions for what it is to individuate sensory modalities. As such, it will be argued that what all pain experiences arising from nociceptor nerve activity have in common is the third condition. That is, pain experiences are alike insofar as they possess a unified intentional content and phenomenal character. It will also be shown that by reference to the excessive intensity of a given stimulus, the intensive theory is able to account for the different types of pain: transient, acute, and chronic. Furthermore, it

will be shown that the intensive theory is better able to explain problematic cases of pain such as central neuropathic pains, and referred pains. Importantly, in addition, it will also be shown that the intensive theory is able to accommodate purported cases of pain asymbolia, demonstrating that all pain experiences are necessarily unpleasant and motivational.

### First Condition

The first of Gray's conditions for a singular sense modality is the requirement of a distinctive sensory organ and connected physiological system. However, against nociception as an independent modality fulfilling the first condition, Gray (2014) argues that individual modalities are only able to be distinguished by comparison to other sensory modalities. In comparison to nociception as a dedicated sensory system, take the example of a normally functioning human visual system. The human visual sensory system is composed of three main parts: the eye, the lateral geniculate nucleus (LGN), and the visual cortex. Furthermore, within the eye there are photoreceptors, rods and cones, which are activated by electromagnetic waves which exist within the spectrum visible to humans. In a properly functioning visual system, objects' size and shape, distance to objects, and colour are detected by the perceiver. In short, the visual system is responsible solely for detecting visual stimuli. Therefore, the visual sensory system is distinguishable from the other sensory modalities due to its distinct sensory organ and connected physiological mechanism.

In contrast, the auditory sensory system possesses none of the aforementioned components possessed by the visual sensory system. The sensory organ of the auditory system is composed of the outer ear, the middle ear, the inner ear. Furthermore, information which is detected by the ear travels via primary auditory neurons to the primary auditory cortex. Unlike the visual system which responds to electromagnetic light waves, the auditory system responds to sound waves within the environment which are within the detectable range of humans. Sound

waves within the audible range travel from the outer ear and through the auditory canal, which then causes the eardrum to vibrate. Unlike the visual system which is responsible solely for detecting visual stimuli in the environment, the auditory system is solely responsible for detecting auditory stimuli. Therefore, both the visual system and the auditory system have distinctive sensory organs and connected physiological systems which distinguish them from each other.

Much the same can be said about the olfactory and gustatory sensory systems. The olfactory sensory system is responsible for detecting odours in a subject's environment. The olfactory system is composed of the nostrils, the ethmoid bone, the nasal cavity, and the olfactory epithelium. Furthermore, the epithelium is composed of mucous membranes, olfactory glands, and olfactory neurons. When a scent is detected, odour molecules travel through the nostrils and pass through the nasal cavity where they are dissolved by the mucous which is produced by the olfactory glands. Once the odour molecules have been dissolved, the olfactory neurons are stimulated which transmits information about the odour to the primary olfactory cortex within the brain via the primary olfactory neurons.

While there is a strong connection between the olfactory system and the gustatory sensory system, there is a distinction between their sensory organs and connected physiological systems. The gustatory system is that which is responsible for detection of tastes. Taste receptors, taste buds, are found on the tongue, soft palate, pharynx, and upper part of the esophagus. Similar to the olfactory system, molecules from a substance that is tasted interact with taste receptors which then transmit information about the substance via gustatory cortex neurons to the gustatory cortex. Even though there are many similarities in the ways in which substances are detected by the olfactory and gustatory sensory systems, they maintain distinct sensory organs, the nose in the case of olfaction and the mouth in the case of gustation, and connected physiological systems as were previously described. In addition, both the olfactory

system and the gustatory system are able to be distinguished from the visual sensory system and the auditory sensory system for the reasons previously described.

The fifth sensory modality is the somatosensory system: the sense of touch. This system is composed of a complex system of sensory neurons which respond to stimuli on the surface of the body or within the body itself. There are a variety of types of sensory receptors located throughout the body. These include mechanoreceptors which respond to changes in pressure, thermoreceptors which respond to changes in temperature, and chemoreceptors which respond to chemical stimulation. Tactile information about the environment is transmitted via the somatosensory pathway to the parietal lobe. Here, again, the somatosensory system has a distinct sensory organ and connected physiological system which individuate it from the auditory, visual, olfactory, and gustatory systems. It is not the case that one is able to perceive gustatory or olfactory stimuli through the somatosensory modality. Stated otherwise, one cannot come to know the taste or smell of something merely by touching it.

In contrast to the aforementioned sensory systems, nociception does not seem to have a distinct sensory organ and distinct connected physiological system. Indeed, nociceptors are found within the somatosensory system and, as such, ought to be considered akin to touch. However, it is due to this dedicated class of nerve fibre that some have argued that nociception ought to be considered a distinct sensory modality. Some nociceptors are considered polymodal due to their responsiveness to multiple types of physical stimuli. As already stated, it is the intensive theory's claim that nociception is a component feature of the five sensory modalities. For example, suppose one places one's hand into water that is of moderate temperature but which is increasing in temperature. Initially, the thermoreceptors in the somatosensory modality will transmit the information to the brain that the water is of moderate temperature. As the temperature of the water has reached a significant level of intensity, nociceptive nerve fibres will activate which, when processed by the brain gives rise to phenomenally conscious pain sensation.

Therefore, it is argued here that nociception is a *part* of the tactile sensory organ and the connected physiological system rather than being its own sensory modality.

Furthermore, nociceptor receptors are distinct from the chemoreceptors, mechanoreceptors, and thermoreceptors found in the somatosensory modality by other means. While nociceptors are activated when there is an excessively intense stimulus impinging on these types of receptors, it is not the case that these receptors will be activated when there is a stimulus applied to another type. For example, if one were to hold one's hand too near a flame, the thermoreceptors in the somatosensory modality will activate. In addition, if the stimulus is excessively intense, nociceptor receptors will also activate. However, it is not the case that, due to the thermal stimulation, mechanoreceptors or chemoreceptors will be activated; one will not feel an increased pressure sensation along with the increased thermal sensation. Likewise, if a chemical stimulus is applied to the skin, it is not the case that mechanoreceptors will be stimulated. If one were to come into contact with, say, poison ivy, while one may experience a pain sensation, it is not the case that one would feel increased pressure on the surface of the skin. Here too, one is able to see how nociception ought to be considered a functional component of the somatosensory sense modality.

Much the same regarding pain experience arising from excessively intense stimuli can be said about the other sensory modalities. If one is exposed to sound waves of moderate frequency and volume, the mechanical pressure from the sound waves will transmit the information to the auditory cortex that the frequency and volume of the sound waves are moderate. In turn, this information will give rise to a moderate phenomenal sound experience. However, if the sound waves were to become excessively intense in either frequency or volume, nociceptive activation will transmit this information to the brain and, in turn, give rise to a painful phenomenal sound experience. Here again, while an excessively intense mechanical stimulus activates nociceptor activity, it is not the case that the excessively intense mechanical stimulus will active

chemoreceptors or thermoreceptors; if one were to perceive an excessively loud sound, one would not also feel an increase in temperature in one's ears.

Similarly, while it has been shown that excessively intense thermal and mechanical stimuli activate nociception in the tactile and auditory sense modalities, in the olfactory and gustatory sense modalities it is excessively intense chemical stimulation which is responsible for nociceptor activation which in turn gives rise to painful smells and tastes. For example, suppose one is detecting the molecules emanating from a source of ammonia. If the intensity of the odour is slight, one's chemoreceptors in one's nose will transmit information about the odour to the olfactory cortex which will then give rise to a slight phenomenal smell experience of ammonia. However, if the stimulation becomes excessively intense, nociceptors will additionally be triggered and, in turn, give rise to a phenomenal smell experience which is additionally painful. Again, as in the case of an excessively loud sound, excessive stimulation of the chemoreceptors in the gustatory and olfactory sense modalities will not also trigger mechanoreceptors; if one were to smell or taste a strong ammonia stimulus, one would not also feel increased pressure in the mouth or nose.

What the preceding discussion demonstrates is that while the five sensory modalities have their own distinct sensory organs and distinct connected physiological mechanisms, nociception lacks both a distinct sensory organ and connected physiological mechanism. Furthermore, nociceptors as a receptor type are distinguishable from other types of receptors due to their responsiveness to the excessively intense activation of these other types of receptors. As a result, nociception fails to meet the Gray's first condition of what it is to be a distinct sensory modality. Therefore, it is not the case that nociception should be considered distinct from the other sensory modalities but, rather, as a functional component of said modalities.

### Second Condition

The second condition, the nature of the physical stimulus that impacts on the sensory organs, is also difficult to explain by reference to a dedicated pain sensory modality due to the variety of excessively intense stimuli which activate nociceptive nerve firing. Recall that nociceptors are activated when an excessively intense stimulus is detected by thermoreceptors, mechanoreceptors, or chemoreceptors found within the other sense modalities. In contrast to nociception, take for instance the visual perceptual system which responds to only one type of stimuli: electromagnetic light waves. It is not the case that the visual perceptual system is responsive to, say, odours or tastes; one is not able to see how a particular food smells or tastes simply by viewing said food. Furthermore, similar to the tactile sensory modality, the auditory modality is responsive to pressure changes in the form of sound waves within the human auditory spectrum. However, it is not the case in a *normal* individual that either the tactile modality nor the auditory modality are able to detect electromagnetic light waves; one is not able to hear lightwaves. Note here that the normalcy of the individual must be emphasized. To be sure, there are cases of synesthesia in which an individual reports seeing sounds or smelling colours. However, a detailed discussion of such cross-modal conditions would take the present discussion too far afield.

In addition, it is not the case that the auditory or visual modality are able to detect changes in temperature; one cannot visually or audibly perceive that the Sun is hot. While one is able to see that the Sun is bright, one is unable to visually perceive the temperature of the Sun. Much the same can be said about the olfactory and gustatory sense modalities; one is unable to smell or taste the temperature of the Sun. Furthermore, compare the tactile modality and the gustatory modality: if one is to, say, eat a hard candy, one is able to taste the flavour of the candy, but one does not taste the hardness of the candy. To be sure, one is able to detect the hardness of the candy by means of mechanoreceptors since the inside of the mouth is considered to possess the same sensory receptors as the skin. However, the hardness of the candy is a tactile property, not a gustatory property.



In contrast, nociceptor activation occurs when there is an excessively intense thermal, mechanical, or chemical stimulus occurring within the other sense modalities. It is this variety of proximal stimuli which are detectable by nociceptor nerve fibres which demonstrates that nociception ought not to be considered to be activated by a distinct sensory modality but, rather, activated by proximal stimuli which are detected by all of the sensory modalities. As such, nociception as a dedicated sensory modality fails Gray's second condition.

### Third Condition

While it has been demonstrated that pain experience arising from an independent sensory modality fails to meet the first two conditions, it will be argued here that it is the third condition which is common to all pain experiences. Recall that the third condition for unifying experiences is that they have a general character and content that simultaneously unifies and distinguishes them from other kinds of experiences. It ought to be noted that while some have argued that the character and the content of the experience are able to disassociate, it will be argued here that there is no such distinction. By denying that such a disassociation is possible, one is able to maintain the claim that the phenomenal character of an experience supervenes on the content; again, if there is a change in the phenomenal character of an experience there is, *necessarily*, a change in the intentional content. *Again, as was stated during the discussion of evaluativism, some may argue that the intentional content supervenes on the phenomenal experience, or that they are identical with each other. However, as with evaluativism, here it will be argued that the phenomenal character of the experience supervenes on the intentional content.* It is important to note that, like evaluativism and pure imperativism, the intensive theory is an intentional theory of pain experience. It is the intentional content which is represented by the phenomenal character of the experience; the excessively intense stimuli being applied to a specific set of nerve fibres is represented *by* the subject as phenomenal pain experience. Stated

otherwise, phenomenal pain experience supervenes on the excessively intense stimulation of nociceptor nerve fibres. **It is important to note that while phenomenal pain experience supervenes on excessively intense stimulation of nociceptor nerve fibres, it is not the case that it is necessarily represented or described as such. —**

Recall the initial intensive theory claim of what it is for *S* to undergo a pain experience. It is crucial to note the importance of the *excessiveness* of the intensity of a given stimulus. While a given stimulus may be intense, it is the excessiveness of the intensity which is responsible for the experience to be considered pain; if an experience is merely intense, it may be considered to be simply uncomfortable rather than painful. Take again the example of placing one's hand into water of increasing temperature. As the temperature increases, one may find the experience to be intense but not excessively so and, as such, report that the experience is merely uncomfortable. One may indeed report that the uncomfortable experience they are undergoing is intense, yet fail to report that the intensity is excessive. However, as the temperature of the water continues to increase, an intensity threshold will be crossed where the intensity of the experience becomes excessive and, in turn, unpleasant and motivational. It is this crossing of the intensity threshold which is argued by the intensive theory to give rise to experiences of pain.

An alternate example is that of itches. While one may be experiencing a slight itch on one's left forearm, one will not regard the experience as intense and, as such, may feel no discomfort while experiencing the itch. As the intensity of the stimulation increases, one may find the experience to be intense and uncomfortable. However, due to the experience being intense, rather than excessively intense, the experience may be described as being one of an uncomfortable itch rather than one of pain. As the intensity of the stimulation increases further, an intensity threshold is passed which renders the intensity to be excessive. As such, due to the excessiveness of the intensity, the itchy experience becomes a painful experience. Therefore, the feature which is common to all pain experiences is not that they arise from a distinctive sensory

organ and connected physiological system, nor that there is a separate class of physical stimuli as their causes, but that they all share a common phenomenal character and representational content.

### *Types of Pains*

The discussion of the intensive theory thus far has focused on transient pains: those which are high in intensity but short in duration. But what is the intensive theory to make of acute and chronic pains? Again, recall that both acute and chronic pains are those which are suspected to arise from injury to the body. As a result, it may be conjectured that it is damage and not excessively intense stimuli which is represented by phenomenal pain experiences. Michael Tye is one such proponent of the damage representational view. He writes, pains “represent correctly if, and only if, they are caused by bodily damage” (Tye, 1995, p.229). However, such an explanation is insufficient insofar as it is unable to account for transient pains, since transient pains are not caused by damage to the body. Take again the example of holding one’s hand too near a flame. While one will undergo an experience of pain, one’s body will not sustain damage. As a result, it is not the case that transient pain experience can be said to arise from damage done to the body. Therefore, since the damage representational view fails to account for all types of pain experience, one of the main challenges to the intensive theory (as was the case for evaluativism and pure imperativism) is to account for pains which are transient, acute, and chronic.

While it has been demonstrated that the intensive theory has little difficulty in accounting for transient pains, the question remains as to how the intensive theory is to account for acute and chronic pains. To be sure, there seems to be a correlation between bodily damage and acute and chronic pains. How might then the intensive theory explain this correlation? The solution, Gray (2014) suggests is that if one's body is damaged then it will also be the case that the nociceptor nerve fibres which have been intensely stimulated to excess will also be damaged. In this way, one is able to explain why both acute and chronic pains remain while the noxious stimuli has been removed. While the noxious stimuli has been removed, the damage done to the nociceptor fibres remains due to their being stimulated to such a degree that they are unable to return to their pre-activated state. Again, take for example the transient pain one experiences when one holds one's hand too near a flame. When the flame has been removed, or one remove's one's hand from the flame, the specific set of nerve fibres—in this case thermoreceptors and nociceptors—are able to return to their pre-activated condition. However, if one's hand remains too near the flame both the thermoreceptors and the nociceptors will sustain damage and, as such, will be unable to return to their pre-activated condition. If they are able to return to their pre-activated condition after a time, the pain experience felt will be considered to be acute. Alternatively, if the damage to the specific nerve fibres has been so great that they are unable to return to their pre-activated condition the pain experience one feels will be considered chronic.

To add further support to the intensive theory's claim that acute and chronic pains arise through the inability of nociceptive nerve fibres to return to their pre-activated state, one ought to consider how analgesics, typically known as pain-killers, interact with the nervous system. An especially potent class of analgesic are opioids. This class contains morphine, fentanyl, and oxycontin amongst others. Opioids work by attaching to opioid receptors located in the brain, spinal cord, and other parts of the body. When this attachment occurs, the signals received from activated nociceptors are blocked, inhibiting the signals from arriving at the somatosensory cortex. As such, while activation of the nociceptive nerve fibres remains, the message sent by

the nerve fibres is unable to be registered as occurring. As has already been argued in previous chapters, it is not the case that analgesics aid in the healing of a damaged body part, rather, they inhibit the reception of the excessively intense signal sent from the nociceptor nerve fibres. In cases of acute or chronic pains, if one were to take an analgesic, while the nociceptor nerve fibres are damaged, they remain stimulated to an excessive degree. However, due to the opioid receptors being blocked the signals sent from the damaged nerves are unable to reach the somatosensory cortex. Therefore, the intensive theory, unlike damage representational theories, is able to explain not only acute and chronic pains, but also transient pains. As Gray writes, “Indeed, only the intensive theory is able to provide a comprehensive explanation for the variety of pain types” (Gray, 2014, p.18).

### Problematic Pains

It may be objected that there are cases of pain experience in which there is no corresponding nociceptor nerve activity or in which the pain experience does not correspond to a part of the body. Examples of such cases are central neuropathic pains, and referred pains. Central neuropathic pains are those which occur without stimulation from nociceptors. Nociceptors are found in the peripheral nervous system. As such, it may be objected that excessively intense stimulation of nociceptive nerve fibres cannot be responsible for giving rise to central neuropathic pains; in other words, one may undergo a pain experience without nociceptive activation occurring at a corresponding bodily location. Central neuropathic pains are also troublesome for other representational theories of pain which take the pain experience to represent damage or a disturbance of some sort to a bodily location, due to the absence of injury or absence of a body part.

One such example of central neuropathic pains is that of phantom limb syndrome. Phantom limb syndrome occurs when a given limb has been amputated due to illness or injury

but one still experience pain in the location of the absent limb. While representational accounts of pain experience, which argue that pain represents damage or a disturbance of some sort to the body, have difficulty in accounting for phantom limb syndrome due to the absence of a given body part which is to be represented, the intensive theory is able to accommodate such problematic cases due to damage to the nociceptor nerve fibres themselves. During amputation, while the limb is removed, remnants of the nociceptive nerve fibres which are connected to the somatosensory cortex remain intact. As such, nerve fibre stimulation which originally emanated from the pre-amputated limb remain in a state of activation even though the limb has been removed. For example, suppose a patient required amputation of her left arm at the elbow. Pre-amputation, the nociceptive nerve fibres would be activated due to the injury or illness in her left forearm. The nociceptive nerve fibres would send signals from her left forearm to her somatosensory context informing her of the injury. During surgery, the amputation would sever not only her left forearm but all the nerve fibres contained within. The never fibres which originally ran from her forearm to her somatosensory cortex would be severed at the elbow. However, post-amputation these nerve fibres would remain intact from her elbow to her somatosensory cortex thereby signalling to her the excessive intensity of the stimuli as if it were emanating from her left forearm.

Furthermore, the intensive theory argues that central neuropathic pains are caused by changes in parts of the central nervous system (CNS). It is argued that these changes are due to neuroplasticity (Moller, 2007). Neuroplasticity is the ability of the brain to adapt and change throughout the course of one's life. It is argued that while the changes in the brain may have been initially caused by excessively intense stimulation of the nociceptors in the peripheral nervous system at a given location, say, in the case of an amputated limb, due to neuroplasticity the pain experience one undergoes still corresponds to the location of the original injury. While there is no nociceptive activity occurring at a bodily location in the case of a phantom limb pain, one will experience pain in the absent limb due to changes in the brain *caused by the initial* stimulation of the nociceptors at said bodily location.

In this way, one is able to see a similarity between central neuropathic pains and tinnitus.

Tinnitus is a condition in which the subject will **undergo an experience of** a sound although there is no external sound. This **sound** experience may present as a ringing, clicking, hissing, or roaring (NIH, 2014). This sound **experience** may also vary in pitch and be perceived as occurring in one or both ears. It is argued that, like central neuropathic pains, tinnitus is a result of damage to the auditory sensory nerves. Again, while there is no external source which can be attributed as giving rise to the sound **experience**, it is argued that the initial injury to the auditory sensory nerves, as well as neuroplasticity, are responsible for tinnitus. As Gray writes, “Strange as it may sound, on the present proposal, many experiences of pain are comparable to photisms and tinnitus” (Gray, 2014, p.18).

By claiming that pain experience supervenes on stimulation of sensory nerve fibres rather than damage or a disturbance of some sort to a bodily location, much the same as was claimed concerning central neuropathic pains can be argued by the intensive theory regarding referred pains. Referred pains are those which are experienced at a location other than the part of the body which is injured. An example of a referred pain is the pain sometimes experienced in the left arm when one is having a heart-attack. It must be emphasized that it is not the case that in all cases of heart-attack one will experience pain in one’s left arm. Indeed, one may experience a referred pain from a heart-attack at any bodily location. It is argued that referred pains occur due the interconnected network of nociceptor nerve fibres. When one is having a heart-attack, the nociceptive nerve fibres which originate in one’s left arm, say, will also be stimulated along with the nociceptive nerve fibres located at the heart. This stimulation will then also give rise to a pain experience at one’s left arm. Therefore, while damage representational theories have difficulties in accounting for pain experiences which do not correspond to bodily damage, as was the case with central neuropathic pains and referred pains, the intensive theory is able to explain

such pains by reference to neuroplasticity and the interconnectedness of nerve fibres located throughout the body.

Now that it has been determined that phenomenal pain experience arises from excessively intense stimulation of nociceptor nerve fibres, a further question regarding the phenomenal experience presents itself. Recall that it was argued that what all pain experiences have in common are their phenomenal character and their intentional content. However, the nature of the phenomenal content has yet to be determined. While evaluativism and pure imperativism attempt to describe the feeling of pain by reference to a painful feeling, or some sort of mentales, the intensive theory is able to describe the feeling of pain by reference to other types of bodily sensations. Since the intensive theory argues that pain experience arises from the excessive intensity of chemical, mechanical, or thermal experience, the intensive theory is able to state that pain experience is chemical, mechanical, or thermal experiences, brought to an excessively intense degree. However, it is admitted that reference to other bodily sensations brings challenges of its own. For example, one must address why these bodily sensations feel the way they do and, to a greater extent, why does anything *feel* like anything at all. An analysis of this problem, however, would take the present discussion too far afield. Be that as it may, returning to the nature of pain experience, while some problematic pains have been able to be accounted for by the intensive theory, an analysis of the purported condition of pain asymbolia will demonstrate the connection between phenomenal pain experience, unpleasantness, and motivation.

### *Is Pain Necessarily Unpleasant?*

In contrast to the dual-claim theories of evaluativism and pure imperativism which account for pain and unpleasantness separately, the intensive theory makes a unitary claim of unpleasant pain experience. That is, pain experience is not dissociable from unpleasantness; if



one undergoes a pain experience, one *necessarily* finds the experience to be unpleasant. Therefore, the relation between pain and unpleasantness can be stated thus:

*PU: Necessarily, all pains are unpleasant.*

In addition, it is further claimed that it is the unpleasantness of the experience which motivates one to avoid or alleviate one's self of the experience. To demonstrate this, consider again placing one's hand into water of moderate temperature. Suppose that the temperature is thought not to be either cool nor warm and that the experience is perceived as neither pleasant nor unpleasant. Again, suppose further that the water is becoming increasingly warm; one starts to feel the sensation on one's hand to be uncomfortable and the sensation becoming mildly uncomfortable. As the temperature increases from warm to hot, one begins to undergo a pain experience which is unpleasant, and the unpleasantness of the experience motivates one to remove one's hand from the water. In addition, when the water is returned to a moderate temperature, or one removes one's hand from the water, the unpleasant pain experience subsides. Note, in such a case, it is transient pain which arises from this excessively intense thermal experience. If the pain experience did not subside with the removal of the stimuli, the pain would be considered acute or possibly chronic pain.

The role of desire ought to be acknowledged with respect to the aforementioned scenario of one's hand being submerged in water. Under normal circumstances, the unpleasant pain experience one undergoes when being subjected to the hot water will motivate one to remove one's hand. However, if, say, one is offered a substantial reward for their hand to remain submerged in the hot water, the motivation given by the reward may supersede the motivation by the unpleasant pain experience; the desire for the reward may outweigh the desire to avoid or alleviate the unpleasant pain experience. As such, the claim concerning the relation between unpleasant pain and motivation can be stated thus:

*PUM: Necessarily, unpleasant pains innately motivate the subject to avoid or alleviate the experience independent of further desires.*

As was previously noted, such a unitary claim account is contrary to what is held to generally be the standard view of pain experience. While dual claim accounts of pain are able to rely on the disassociation between pain experience and unpleasantness to account for the claims of pain without painfulness made by purported pain asymbolics, unitary claim accounts must attempt to account for such claims by other means. Therefore the challenge here will be to demonstrate that the unitary claim account of the intensive theory is not threatened by such purported cases.

In order to account for the necessary connection between pain and unpleasantness, a new formulation of the intensive theory is required. As such, the intensive theory can be formulated thus:

*Intensive Theory B*

*S's being in unpleasant pain consists in: S's undergoing an excessively intense experience which represents stimulation of nociceptor nerve fibres to S.*

Recall that such intentional representational content is truth-apt. That is, the content of the experience attempts to make a claim that is in accord with some worldly state of affairs. Take again the paradigm example of visual experience. Suppose one is undergoing a mental state in which they are perceiving there to be a green cube in their visual field. The intentional content is that there is a green cube in one's visual field. This content is true if there is, indeed, a green cube in one's visual field existing in the world at  $t_1$ , and false if there is not a worldly state of affairs in which there is a green cube in one's visual field at  $t_1$ . Returning to pain experience, the content of the experience, that an experience arising from a stimulus in a given sensory modality

is excessively intense makes a claim about worldly states of affairs. The content is considered veridical if the experience arising from a stimulus in a given sensory modality is excessively intense, non-veridical if it is not. Combining the claims that unpleasant pains are necessarily motivational and that representational content is truth-apt, along with the initial intensive theory claim, one is able to conclude:

*The Intensive Theory C*

*S's being in unpleasant pain consists in: S's undergoing an excessively intense experience which represents, veridically or non-veridically, a stimulation of nociceptor nerve fibres to S. And, in addition, due to the unpleasantness of the experience, S is motivated to avoid or alleviate herself of the excessively intense experience independent of further desires.*

By formulating the intensive theory in this way, one is able to maintain a unitary account of pain experience while accounting for both the affective and motivational elements.

Unitary claim accounts contend, counter to the claims made by purported pain asymbolics, there can be no pain without painfulness. However, the question remains: why do purported pain asymbolics claim that they are in pain, but fail to report that what they are experiencing is unpleasant and, furthermore, fail to be motivated to avoid or alleviate themselves of the experience if pain experience is *necessarily* both unpleasant and motivational? Stated otherwise, the question is, is the intensive theory as a unified claim able to account for the differences between Norm and Abe? While dual-claim accounts are able to make the distinction between Norm and Abe by claiming that there is a disassociation between the sensory dimension and affective-motivational dimension of pain experience, unitary claim accounts must account for the distinction in a different fashion. Dual-claim theorists are able to argue that while both the sensory and affective-motivational dimensions are present in Norm, only the sensory dimension is present in Abe; the idea is that Abe lacks the affective-motivational dimension due to a disconnect between the sensory and limbic systems. The idea is that Abe is able to feel the

sensory aspect of pain, the pain experience itself, but he does not possess the affective-motivational elements. As has already been discussed, some theorists take the intentional content of pain experience to represent damage or disorder occurring to one's body at a given location. According to such theorists, while Norm is able to feel damage to his body, he also feels that said damage is unpleasant. Alternatively, Abe is able to feel bodily damage, but he does not take the feeling of said damage to be unpleasant, nor is he motivated to avoid or alleviate himself of the damage being done to his body. In this way, it is claimed that Abe is able to experience pain without painfulness. In addition, Norm is motivated to avoid or alleviate himself of visual and verbal threats. When threatened with verbal threats and aggressive physical gestures, he is motivated to avoid or alleviate himself of said threats. Abe, however, is not motivated by such threats. When he is presented with verbal threats or aggressive physical gestures, he makes no attempt at avoidance.

While there is limited clinical research done on the purported condition of pain asymbolia, as was demonstrated in the evaluativism chapter, what little there is demonstrates an inconsistency in the claim that Abe simply does not find all pain to be unpleasant, nor does he in all cases find verbal threats and physical gestures to be nonthreatening. Again, referring to the study by Hemphill and Stengel (1940) the purported pain asymbolic did, on occasion, find pain experience to be both unpleasant and motivational. They write:

The patient soon discovered that the examiners were interested in the way he reacted to painful stimuli. He accordingly tried to explain his reactions by such expressions as: "I am not a man who cannot stand pain," or "I am used to that because I have worked on the road," or "Labourers are always hurting themselves; we don't take any notice of it". On the other hand, his wife assured us that he had always been susceptible to pain and had reacted violently whenever his children pricked or pinched him in play. (Hemphill and Stengel, 1940, p.256)

While this passage preserves the claim that if pain experience is unpleasant it is necessarily motivational, it undermines the claim that Abe does not find all pain experiences to be

unpleasant; the behaviour of the individual claimed to have pain asymbolia studied here would indicate that in such instances of his children pricking and pinching him in play, this individual *did* find the experience unpleasant and was additionally motivated to avoid the experience.

This individual was initially brought to hospital in a state of unconsciousness due to a fall from a bus. Due to the nature of his injury, it has been assumed by some that his purported pain asymbolic condition was brought about by this brain trauma. While there is little asymbolic testimony to rely on, it is of importance when interpreting what is occurring in the purported pain asymbolics' mental states. As was described in the above passage, this individual did find some pain experiences unpleasant and was further motivated by said experiences. However, examiners took his condition to be the result of the recent trauma and concluded that that is why he failed to react to their testing. As was noted, the examiners were surprised by his non-responsiveness to painful stimuli. However, what is more important, is that this individual himself was not surprised at his failure to respond to said stimuli. One would suspect if this individual's condition were novel, he would have expressed the same surprise as the examiners at his lack of dislike and motivation. For example, if this individual, post-injury, failed to respond to a stimulus that pre-injury would have caused him unpleasant pain, in all likelihood he would have reported as such, yet this is not what occurred. His statements indicate that he responded to these experiences brought about by clinical testing in the same manner that he would have responded to similar experiences before his accident. Therefore, it cannot be claimed that in all cases this purported pain asymbolic is able to feel pain but does not find it to be unpleasant, nor does he find pain experience to be non-motivational in all cases. The question then presents itself: why does Abe find purported pain experiences to be not unpleasant in some instances but unpleasant in others? And, furthermore, why does Abe react to purported pain experiences in some instances but fails to do so others?

Other asymbolic research presents much of the same conundrum. For example, in another oft cited case study, Berthier, Starkstein, and Leiguarda note that in some trials some of the purported pain asymbolics studied did show reactions to noxious physical stimuli. While they conclude that said condition is caused by a disconnection between the sensory and limbic systems due to lesions in the brain, in some cases it appeared as though a connection remained intact. They write:

During some trials, however, fluctuations in motor performance and asymmetrical responses were occasionally noted. After prolonged deep painful stimuli, 2 patients showed local and incomplete withdrawal responses of the legs (Patients 4 and 5). (Berthier et. al, 1988, p. 43)

If their hypothesis was correct that there was a dissociation between the sensory and limbic systems, these individuals should have demonstrated a complete lack of withdrawal to the painful stimuli.

Furthermore, while the experiential aspects of this condition are enigmatic, it was the hope that the underlying physiological causes of such cases would shed light on why such purported dissociative cases occur. Berthier et al. initially concluded that the cause of the asymbolic condition was caused by an abnormality within the inferior parietal lobe; the function of the inferior parietal lobe is thought to involve perception of emotions and the interpretation of sensory information. They suspected that due to lesion placement, these individuals lack the ability to correctly interpret painful stimuli. For example, those with sensory aphasia, as was discussed in chapter 1, are able to use a pencil or a comb but cannot say that what they are using is a pencil or a comb; there is a disconnect between what they know to be the usage of the object and the meaning they attach to the object. Similarly, the purported pain asymbolic is able to know what the bodily sensation of pain is but lacks the ability to attach meaning to the experience. What Berthier et al. found was that in the purported pain asymbolic there was a left supra marginal gyrus infarction as well as damage to the angular gyrus, the second frontal and first temporal convolutions, the external capsule, and the insular cortex (ibid, p.41).

Furthermore, in an additional ten individuals with the purported condition there was damage to the left inferior parietal lobe. While it may be concluded that it is damage to this area of the brain which is responsible for purported cases of pain asymbolia, in a following twenty-two cases, only thirteen had lesions to this area of the brain. Therefore, while it may be speculated that lesions, occurring in a specific area of the brain, are responsible for the condition, it is highly dubious to conclude that if pain asymbolia is a genuine condition it is the result of brain damage occurring in a specific brain location. While detailed physiological analysis of the remaining nine individuals is absent, one must consider that although there is a strong correlation between the purported condition and lesion placement in the left inferior parietal lobe, it cannot be concluded that these lesions were the cause of the condition if, indeed, pain asymbolia is a legitimate condition. Indeed, since the first reported cases of pain asymbolia (Schilder and Stengel, 1928), various physiological abnormalities have been attributed as the cause of this purported condition. As Grahek notes, “In light of Robinson and Burton’s findings, it seems plausible that opercular and insular damage is the major cause of pain asymbolia, rather than damage to the secondary somatosensory area, as Biemond claimed (1956, pp.221-231)” (Grahek, 2007, p. 57). Therefore, due to the inconclusive physiological findings and the relatively small group of individuals who are claimed to be pain asymbolic, any conclusion reached regarding an underlying physiological mechanism must be considered with caution.

In light of the preceding discussion, how then is one to make sense of the distinction between Norm and Abe since in some cases Abe does find painful experiences unpleasant and is additionally motivated to avoid said experiences? While dual-claim theories such as evaluativism and pure imperativism have difficulty interpreting such findings, due to their reliance on a dissociation between the sensory and affective-motivational components, the intensive theory is able to account for such findings by claiming that Abe has a higher threshold

for the intensity of phenomenal experiences arising from noxious stimuli; simply put, Abe is *tougher* than Norm.

### Thought Experiment

Returning to the thought experiment of placing one's hand into water of steadily increasing temperature, a simple empirical experiment could be used to determine if, in fact, pain asymbolia is a legitimate condition. This experiment could also determine if those who have experienced morphine pain and those who have undergone lobotomy are actually experiencing pain experiences which are not unpleasant or if they simply have a higher tolerance for noxious stimuli. Although it is recognized that such an experiment poses ethical problems insofar as it is deemed unacceptable by many to inflict pain in the name of experimentation, such an experiment could conclusively determine if, in fact, these individuals do experience unpleasant motivational pain.

Scenario 1 takes Abe as having a higher tolerance for excessively intense experiences arising from noxious stimuli as opposed to a complete disconnect between his sensory and limbic systems. Suppose Norm and Abe are willing participants in an experiment to determine what is actually occurring in purported cases of pain asymbolia. Since Norm is normal, his response is considered the baseline of the experiment. Norm places his hand, along with a thermometer, into water of moderate temperature which he finds to be neither pleasant nor unpleasant. While the temperature increases, Norm begins to find the water warm and experiences slight discomfort in his submerged limb; however, he remains unmotivated by his experience. As the water becomes hot, Norm acknowledges that he is feeling an intense stimuli, but claims that it is not yet excessive and still remains unmotivated by his experience; typically, nociceptor activation produced by thermal stimulation occurs at 42°C. Norm's acknowledgement that he is feeling an intense stimuli occurs when the temperature of the water has reached 41°C. When the



temperature of the water has reached 42°C, Norm claims that the experience arising from the stimuli has become excessively intense, he reports that he is feeling unpleasant pain, and additionally is motivated to remove his hand from the water. The water is then returned to the initial moderate temperature.

Since the baseline has been established by Norm, Abe places his hand into the water of moderate temperature. As the temperature of the water increases, Abe reports that he finds that, like Norm, the water to be increasing in temperature but the experience is neither pleasant nor unpleasant. As the water reaches 41°C he reports that the experience is uncomfortable, but it is not unpleasant, and he additionally not motivated to remove his hand from the water. As the temperature passes the 42°C threshold, at which point Norm claimed the experience arising from the stimulus to be excessively intense and additionally reported to be unpleasant pain and at which he was motivated to remove his hand from the water, Abe claims that the experience is intense, but not excessively so. However, *crucially*, at the 42°C threshold, Abe claims that he does, in fact, feel pain. Yet, while Abe claims that he is undergoing a pain mental state he claims to neither find the experience unpleasant nor is he motivated to pull his hand from the water. As the temperature of the water continues to increase to 48°C, Abe claims that the experience he is undergoing is *like* the pain he was undergoing at 42°C and that the stimulus is excessively intense. Interestingly, he now claims that the experience is unpleasant and he is also motivated to remove his hand from the water.

Unitary claims of unpleasant pain, such as the intensive theory, are able to make sense of both Norm's experience at 42°C and Abe's experience at 48°C, since in both cases the pain is considered to be unpleasant and the experience was additionally motivational. But what are unitary claim accounts to say about Abe's experience at 42°C when he claims that he is undergoing a pain experience but he does not find it to be unpleasant, nor is he motivated to avoid or alleviate himself of the stimulus? Recall that the main claim of unitary accounts is that

pain is necessarily both unpleasant and motivational. As a result, those who support unitary claim accounts have two options.

- (i) What Abe was feeling was pain, but he claimed that the experience was not unpleasant, nor was he motivated by the experience due to further desires.
- (ii) Abe was not feeling pain and, as such, he did not find the experience to be unpleasant, nor was he motivated to avoid the experience.

While (i) is plausible, suppose that Abe is a man of integrity and he is just as curious as Norm to determine if, indeed, pain experience is necessarily unpleasant and motivational. Suppose further that both Norm and Abe are aware that further desires will compromise the results of their experiment. As such, both agree to remove as many desires as possible in an attempt to arrive at a valid conclusion. While it is admitted that it may be impossible to account for every further desire, both Norm and Abe agree to conduct the experiment as legitimately as possible.

If it is not the case that further desires are responsible for Abe's non-reaction to what he considered pain experience, one is left to conclude that Abe simply did not feel pain. But the question remains, why did Abe claim to be undergoing a pain experience if what he was experiencing was not, in fact, pain? The intensive theory is able to account for such claims due to the intensity of an experience being considered as a continuum. As the intensity of an experience increases there is a threshold between those stimuli which are considered to be merely intense and those which are excessively so. While admittedly such a threshold is vague, such an explanation is able to account for Abe's claim of non-unpleasant, non-motivational pain experiences. Abe simply misattributed the concept of pain to an experience which was intense, but not excessively so. Since it is claimed that the purported condition of pain asymbolia occurs in adulthood, it is highly likely that Abe understands the experience to be that which he has always called pain, but due to his increased experience intensity threshold he is no longer correct to do so. Simply put, Abe has grown tougher in adulthood but he continues to attribute the same

concepts he has always used to describe experiences pre-toughening to experiences he undergoes post-toughening.

Indeed, some purported pain asymbolic testimony confirms such an interpretation. As the purported pain asymbolic studied by Hemphill and Stengel remarked, “I am not a man who cannot stand pain,” or “I am used to that because I have worked on the road,” or “Labourers are always hurting themselves: we don’t take any notice of it” (Hemphill and Stengel, 1940, p. 256). In the aforementioned statements there are key words which indicate that, in fact, the purported pain asymbolic is just simply tougher, such as “stand” and “used to.” What is more, this individual does not simply indicate that *he* no longer takes notice of noxious physical stimuli but, rather, his fellow labourers also fail to demonstrate avoidance reactions to experiences arising from said stimuli. Therefore, it is not only this purported pain asymbolic who is tougher than Norm, but also his fellow labourers who are tougher than Norm.

However, if it is the case that Abe is simply tougher than Norm, why does *Norm* not undergo experiences which he claims to be pains but which he claims are not unpleasant and do not motivate. For example, in the case of Norm’s hand submerged in water of increasing temperature, why does he not claim that he is undergoing a pain experience at 41°C which he claims to be neither unpleasant nor motivational? I suspect that such a claim is highly plausible, but that Norm is better able to attribute the correct concept to his experience. Since Norm has always attributed the same concept to the same mental state, he is better able to correctly identify unpleasant pain experiences *as* unpleasant pain experiences. Indeed, if one introspects on one’s physical states throughout the day, I suspect one will find there are many instances that one could possibly consider to be experiences of pain but which one does not find to be unpleasant and which fail to motivate avoidance behaviour. For example, suppose one is participating in some form of physical exercise. While one is engaged in an intense physical workout, there may come a point when one experiences a sensation which one may attribute to be pain, but which is not

considered to be unpleasant: e.g., burning muscles. In such cases, if one were to categorize the experience one is undergoing as pain, one would be misattributing the concept since the sensation is not felt to be unpleasant, nor is it motivating one to avoid the activity. In fact, quite the opposite may be the case. One may find the experience to be pleasant and in addition be motivated to sustain the activity. Therefore, in light of the preceding discussion concerning Norm and Abe, while Abe claims that the pain experience he undergoes is not unpleasant nor is it motivating him to avoid the experience, it is simply that Abe is misattributing the concept of pain. As such, it remains the case that pain experience, when correctly attributed, is both necessarily unpleasant and motivational.

A further question remains: do all purported pain asymbolics respond to the same levels of intensity? In other words, are all purported pain asymbolics tough to the same degree? To examine the possibilities, let us introduce another purported pain asymbolic into the experiment: Abby. Like Abe, Abby is a purported pain asymbolic. She undergoes experiences which she claims to be pain, but which she claims are not unpleasant, nor do they motivate her to avoid or alleviate herself of the experience. To determine if she responds to the same degree of intensity as Abe, like Abe and Norm before her, she places her hand along with a thermometer into the water of moderate temperature. Abby claims the water to be of moderate temperature and reports that it is neither pleasant nor unpleasant. As the temperature increases to 42°C, Abby claims, like Abe, that what she is experiencing is a pain experience but that it is not unpleasant nor does it motivate her to remove her hand from the water. However, as the temperature of the water continues to increase to 48°C, Abby, unlike Abe, continues to claim that she is experiencing pain but that it is not unpleasant, and as a result maintains her hand submerged in the water. When the water reaches 54°C Abby reports that the sensation has become excessively intense and that it has become unpleasant. Due to the unpleasantness of the pain experience Abby is then motivated to remove her hand from the water.

What then are the conclusions one is able to make about Abby's experience? Why does Abby claim that what she is undergoing at 42°C is a pain experience, but she reports that the experience is neither unpleasant nor motivational? Like Abe, it is argued that Abby is merely misattributing the concept of pain to an experience which is not. She has learned from her previous experiences, before her toughening, that experiences such as the one she was undergoing are what are considered pain; she is applying a learned concept to a mental state when, in fact, it no longer applies. Due to the vagueness of the location of the threshold between those experiences which are simply intense and those which are excessive, Abby, like Abe, incorrectly determines the experience she undergoes at 42°C to be pain. It is at 54°C, when the experience is reported to be unpleasant and further motivates her to remove her hand from the water that Abby is undergoing a pain experience. In short, not only is Abby tougher than Norm, she is also tougher than Abe.

It is admitted that one's minimum intensity threshold is a purely subjective matter due to the nature of phenomenal experience. That is, it is solely the individual who is able to judge when an experience arising from a stimulus has reached said threshold. Stated in another way, an outside observer is unable to measure the intensity of an experience arising from a stimulus and thereby determine when the individual who is being subjected to said stimulus will claim when the experience has become excessively intense. Furthermore, it may be the case that an experience arising from a stimulus that is considered excessively intense in one case may not be considered excessively intense in another. Again, it is the subjectivity of phenomenal experiences which makes claims about degrees of intensity problematic. It is therefore important to consider how one is able to measure pain intensity. Some have argued that pain intensity is able to be measured by a straightforward ratio scale and, as such, intensity is a cardinal function (Klein, 2015). It is claimed that such a scale enables pain intensity to be regarded as a single number. Furthermore, such a scale will also have a definite zero. For example, if one were to ask Norm to rate the intensity of his pain when his hand is in the water at 42°C on a scale from 0 to 10, he may respond that he would rate the intensity of the experience as a 7. Note that it was

at 42°C when Norm claimed to be undergoing a pain experience which was both unpleasant and motivational. Therefore, it can be claimed that when Norm experiences a stimulus intensity of 7, he is undergoing a pain experience.

Unlike Norm, if one were to ask Abe to rate the intensity of his experience when the water was at 42°C on a scale of 0 to 10, he may only rate it as a 5. Recall that while Abe claimed to be undergoing a pain experience at 42°C, he further claimed that the experience was not unpleasant, nor was he motivated to remove his hand from the water. However, if one were to ask Abe to rate the intensity of his experience when the water was 48°C, he may rate the experience as a 7. Therefore, it may be claimed that on such a scale, when a noxious physical stimuli reaches a 7 in intensity, one will find the experience to be painful, unpleasant, and motivating. In this way, it is claimed that by reference to a ratio scale, pain experiences are able to be compared: Norm's pain experience can be compared to Abe's.

However, some have suggested that intensities cannot be compared by reference to a cardinal number (Hall, 1981). For example, take the intensity one experiences when, say, looking at a bright light to the intensity one experiences when one is holding one's hand too near a flame. If one takes intensity to be scalable as a cardinal number, it ought to be the case that one is able to claim that the intensity one experiences from the flame is, say, twice as intense as that of the bright light. In short, one ought to be able to measure intensities of stimuli across modalities. This, however, seems implausible. Such implausibility has led others to argue that intensities cannot be measured using ratio scales but, rather, ordinal scales. While one cannot claim that the intensity of the experience brought about by the flame is twice as intense as that from the bright light, one is able to claim that the intensity of the experience brought about by the flame is *greater* than that brought about by the bright light or, conversely, that the intensity of the experience brought about by the bright light is *less* than that brought about by the flame. As such, pain intensities are better thought of as comparable rather than orderable. Therefore, when

making the distinction between Norm and Abe's experiences when their hands are in the water of 42°C, one is unable to say that Norm's experience was 2 units of intensity higher than Abe's; rather, one ought to only claim that Norm's pain experience was more intense than Abe's or, conversely, that Abe's pain experience was less intense than Norm's.

If one then considers the ordering of the intensities experienced by Norm, Abe, and Abby at 42°C, one is able to conclude that not only is Norm's experience more intense than Abe's, but also that the intensity of Norm's experience is greater than Abby's. Furthermore, one is able to conclude that at 42°C, the intensity of Abe's experience is greater than that of Abby's. In this way, while a ratio comparison cannot be determined, it is possible to rank the intensities of experiences.

One of the advantages that the intensive theory has over evaluativism is that the intensive theory is better able to account for the degrees of unpleasant stimuli. In contrast to evaluativism in which a noxious physical stimuli applied to the body is simply judged as bad, the intensive theory, as was demonstrated by the previous discussion, is able to discern between experiences which are mildly intense and those which are excessively intense. In addition, such an ordinal comparison can be used to determine the ranking of threats. For example, suppose one is being threatened with physical gestures and verbal threats. One may find the experience to be intense, but only mildly so. Alternatively, suppose one is being threatened not only with verbal threats, but also that one is being threatened with a weapon rather than mere physical gestures. The intensive theory is able to rank the latter scenario as more intense, and therefore more unpleasant, than the former; being threatened with a weapon is more intense than being threatened by mere physical gestures. Alternatively, evaluativism does not make a distinction between the two scenarios since, while both scenarios are evaluated as bad, there is no distinction between degrees of badness.

In addition to the distinction between those who feel pain in the normal sense and those who are purported to be pain asymbolic, there are some who claim that purported cases of pain asymbolia are really cases of congenital insensitivity to pain. To draw a distinction between purported cases of pain asymbolia, let us add a fourth individual to the previous thought experiment: Connie. Connie was born with congenital insensitivity to pain. She is middle-aged and has lived her entire life unable to feel noxious physical stimuli. Connie, due to the lack of a functioning nociceptive system is unable to undergo experiences arising from noxious physical stimuli. However, she is able to undergo experiences arising from both thermal and mechanical pressure stimuli to her body; if she holds her hand too near a flame she will experience the heat from the flame, but she will not experience the sensation to be one of pain. As such, she will neither report that the experience is unpleasant, nor will she be motivated to pull her hand away from the flame. Likewise, if she is subjected to deep pressure stimuli, she will experience the pressure from said stimuli but she, again, will not experience the sensation to be one of pain. While she is unable to perceive threats to her body by means of bodily sensations, she is adept at recognizing threats by other means. For example, if she were to suffer a laceration to her foot, while she lacks the ability to feel the pain at the location of her foot, she is able to visually perceive said injury and recognize it as a threat to her bodily integrity.

Connie, like Norm, Abe, and Abby, is curious about the difference between those who feel pain as typically felt, those who are purported to be pain asymbolics, and those with congenital pain insensitivity. As such, she is a willing participant in the experiment. Like Norm, Abe, and Abby, Connie places her hand, along with a thermometer, into the water of moderate temperature. While Connie is able to experience thermal differences, she claims that the water is neither hot nor cold, and that the sensation is neither pleasant nor unpleasant. As the temperature of the water increases, Connie is able to recognize that the temperature of the water is, indeed, increasing. In addition, she finds the experience of the increasing temperature to be neither pleasant nor unpleasant; her affective experience is neutral. As the temperature of the water



reaches 42°C, unlike Norm, Abe, and Abby, she claims that the experience she is undergoing is not intense and not one of pain and, as such, like Abe and Abby, she neither finds the experience unpleasant, nor is she motivated to remove her from the water. As the water continues to increase in temperature to 48°C (the point at which Abe claimed that he felt unpleasant pain and was thereby motivated to remove his hand from the water) Connie maintains that her experience is not intense and that she does not feel pain and, again, that the experience is neither unpleasant nor motivational. As the temperature of the water increases further to 70°C, she still maintains that the experience is not intense and that she is not undergoing a pain experience and that the experience is not unpleasant. However, while she is unable to perceive that her body is being injured by the hot water through a bodily sensation, she is able to recognize by visual means that the hot water is causing harm to her hand; she is able to *see* that injury is occurring to her hand. Due to this recognition of harm being done to her body, she is thereby motivated to remove her hand from the water to avoid further injury.

What Connie's experience demonstrates is that while she is undoubtedly not like Norm, she is also unlike Abe. While Connie and Abe failed to show responsiveness at the 42°C threshold, Abe claimed that what he was experiencing was, in fact, pain, whereas Connie failed to claim that she was undergoing a pain experience. While in both Connie and Abe's cases, the 42°C threshold did not elicit affective-motivational responses, Abe claimed that his experience was pain, whereas Connie did not. Furthermore, at the 48°C threshold Abe's pain experience was both unpleasant and motivational, whereas Connie continued to claim that she was not undergoing a pain experience and, as such, did not find the experience unpleasant, nor was she motivated to avoid the experience. In this way it is easy to see how purported cases of pain asymbolia may be mistaken for cases of congenital pain insensitivity but, in fact, they are very much different. Therefore, as was stated in the introduction, it should not be understood that purported cases of pain asymbolia are cases of congenital pain insensitivity.

If it is the case that the purported condition of pain asymbolia is a disconnect between the sensory and limbic systems, then when Abe is undergoing his pain experience at 48°C he would not report the experience to be unpleasant, nor would he be motivated to remove his hand from the water. Rather, if a complete disconnect was responsible for the suspected condition, there would be no temperature at which he would report his pain experience to be unpleasant and motivating but, *crucially*, he would report his experience as pain. Furthermore, unlike Connie, who is able to recognize threats by means other than pain perception, Abe due to this purported disconnect would not recognize damage being done to his hand as threatening. Whereas Connie was able to recognize that injury was being done to her hand at 70°C by visual means, if Abe's purported condition was due to a disconnect, then even at 70°C he would not take the experience to be threatening. In fact, there would be no temperature at which he would report his experience to be one of pain but which was unpleasant and motivating. Therefore, Abe can be distinguished from Connie in two ways. First, Connie is unable to experience pain, whereas Abe does experience pain but to some degree does not consider the experience to be unpleasant nor is he motivated by the experience. And Second, Connie is able to perceive that there is a threat to her body by visual means, whereas, if there was a disconnect between Abe's sensory and limbic systems, at no time could Abe be said to understand his experience as threatening.

Now that a distinction has been made between Norm and Abe and also between Abe and Connie, an additional question must be addressed. If Abe is simply tougher than Norm, why is it that Abe appears to have an indifference to threats in general, including aggressive physical gestures and verbal menaces? It ought to be noted that, in contrast to the evaluativist and pure imperativist theories of pain which postulate that Abe lacks care for his body while Norm cares for his, it is not the case that in all instances does Abe lack care for his body (Bain, 2014, Klein 2015). However, it is not the case that Abe lacks care for his body. Again, the patient studied by Schilder and Stengel (1928) asked to both eat and use the restroom. If it is the case that Abe lacks care for his body, then it ought to be the case that he would not care if he ate or used the restroom. How then is one able to make sense of the evidence that Abe is not threatened by

aggressive physical gestures and verbal menaces, but retains care for his body in instances of eating and using the restroom? While some have argued that a distinction ought to be made between immediate and distant threats (Klein, 2015), in light of the intensive theory's interpretation of purported cases of pain asymbolia, it is plausible to say that Abe does care for his body, but he is simply not intimidated by such threats due to his toughness. Due to Abe's now increased experiential intensity threshold he simply does not find such threats to be as intense as Norm. In short, Abe is tough and, as such, is not intimidated by aggressive physical gestures and verbal menaces, but even tough individuals need to eat and use the restroom.

Additionally, if Abe is simply tougher than Norm and, as a result, is not intimidated by aggressive physical gestures and verbal menaces, can such an explanation be accounted for by the intensive theory's claim of what it is to be in pain? Recall, the claim made by the intensive theory regarding unpleasant pain. Can sense be made of the threat indifference demonstrated by Abe if one recasts the intensive theory's claim in terms of threat rather than unpleasant pain? If one substitutes threats for unpleasant pains the claim can be made thus:

*Intensive Theory D (Threat Indifference)*

*S's being threatened consists in: S's undergoing an excessively intense experience which represents, veridically or non-veridically, a verbal menace or aggressive physical gesture to S. And, in addition, due to the excessive intensity of the experience, S is motivated to avoid or alleviate herself of the experience independent of further desires.*

By formulating the experience of being threatened thus, sense can be made of aggressive physical threats and verbal menaces, as well as requests to eat or use the restroom. Abe is not threatened by the aggressive physical threats and verbal menaces made by those conducting the clinical testing because the Abe's experience arising from the noxious stimuli was not excessively intense. Under such a reading of being threatened, if the experience arising from the stimuli produced by those who conducted the clinical testing was sufficiently intense, say, by brandishing weapons, Abe would feel threatened.

In sum, pain experience ought not to be considered as arising from a dedicated sensory modality, since it satisfies only one of the three conditions set out by Gray: that of common intentional content and common phenomenal character. It is the experience arising from the stimulation of nociceptor nerve fibres which, when excessively intense, is responsible for the phenomenal experience of pain. It has also been argued that only the intensive theory is able to account for transient, acute, and chronic pains. Furthermore, the intensive theory is able to claim that all pain experiences are necessarily unpleasant and, in addition, that all unpleasant pain experiences are motivational. By doing so, the intensive theory is able to counter the standard view that it is possible to have a dissociation between pain and unpleasantness. This dissociation has been argued for, in part, by claims made by those purported to be pain asymbolic. The intensive theory is able to demonstrate that such claims are inaccurate insofar as those purported to be pain asymbolic are mis-categorizing their pain experiences; they are claiming that they are experiencing pain when, in fact, what they are experiencing is similar to pain but which do not meet a minimum intensity threshold. Due to the vagueness of such thresholds it is reported by those who claim to have pain asymbolia that their experiences are pain but are not unpleasant nor are they motivational. Furthermore, the intensive theory is able to account for other types of threats: such as verbal threats and aggressive physical gestures. It has been claimed that it is the intensity with which a threat is delivered which determines if the threat is deemed unpleasant and further motivates one to avoid or alleviate the threat. In addition, the intensive theory is able to account for degrees of unpleasantness due to reference to the intensity of a given threat. In sum, not only is the intensive theory a comprehensive account of pain experiences, it is also able to account for the curious purported case of pain asymbolia.

### Conclusion

It has been shown that evaluativism is unsatisfactory as an account of phenomenal pain experience insofar as the intentional content as bodily damage, disorder, or a disturbance of a certain sort cannot accommodate all instances of pain experience. This has been shown by drawing on examples of pain experience which do not correspond to a bodily state of affairs. It has also been shown that there are also cases of bodily damage, disorder, or disturbances of a certain sort which do not give rise to phenomenal pain experiences. Furthermore, it has been shown that the testimony of those said to have the purported condition of pain asymbolia does not show that in all cases those purported to have the condition undergo pain experiences which are not unpleasant nor motivational. Testimony of those purported to be pain asymbolic indicates that there are instances where these individuals do, in fact, find pain experiences unpleasant and are also motivated to alleviate themselves of the experience. Such instances are problematic for the evaluative account insofar as the account argues that the additional element of bodily care, which evaluativism argues is the link between pain experience and the hedonistic element, is a standing condition rather than a transitory condition. This unsatisfactory condition leaves the evaluator with two options: either propose an additional or different condition which is able to link pain experience with unpleasantness and motivation, or abandon the bodily care condition altogether.

Like evaluativism, the pure imperativist theory is unsatisfactory as an account of phenomenal pain experience. Pure imperativism is problematic insofar as it has difficulty accounting for pain experiences which are motivational but are not unpleasant. Recall that the pure imperativist theory argues that pain experience, like verbally issued commands, is motivational. As such, pure imperativism argues that there is a tight correspondence between one undergoing pain experience and one being motivated to alleviate themselves of the experience. Recall that pure imperativism argues that the unpleasant element, often experienced by those undergoing pain experiences, is argued to be brought about by an attitude held toward the pain experience, such as anxiety, fear, or frustration. However, as was shown by cases of chronic pain, which last for a significantly prolonged period of time, it does not appear that such attitudes are that which is responsible for the unpleasantness of pain experience; rather, such instances indicate that it is the feeling of the pain experience itself which is unpleasant. Furthermore, the purported condition of pain asymbolia is problematic for pure imperativism insofar as pure imperativism is a motivational theory of pain. That is, pure imperativism argues that pain experience is necessarily motivational. However, due to the claims of those purported to be pain asymbolic, pain experience is neither necessarily unpleasant nor motivational. Since those purported to be pain asymbolic claim that their experience does not motivate them to alleviate themselves of the experience, it cannot be the case, under a pure imperativist interpretation of pain experience, that pain experience is necessarily motivational. Therefore, due to these challenges, pure imperativism is not only insufficient as a theory of pain experience, but also as an explanation of the testimony of those purported to be pain asymbolic.

Unlike evaluativism and pure imperativism, the intensive theory goes against the standard view of pain experience insofar as it claims that pain experience is necessarily unpleasant and motivational. The intensive theory argues that if a mechanical, chemical, or thermal experience is excessively intense, it will necessarily be deemed unpleasant and motivate the individual

undergoing the experience to alleviate themselves of the experience. In this way, it has been shown that pain experience is a second order experience arising from primary mechanical, chemical, and thermal bodily sensations. Furthermore, it has been demonstrated that, unlike, evaluativism and pure imperativism, the intensive theory is able to accommodate the various types of pains: transient, acute, and chronic. However, the claim that pain experience is necessarily unpleasant and motivational has been challenged, in part, by clinical evidence and the testimony of those purported to be pain asymbolic. As was shown, the intensive theory, as presented within, meets this challenge by claiming that when those purported to be pain asymbolic claim that they are undergoing experience of pain which are neither unpleasant nor motivational they are, in fact, not undergoing pain experiences. Rather, in such cases, these individuals are incorrectly identifying their intense mechanical, chemical, and thermal experiences as pain. While these experiences are undoubtedly intense, it is the excessive intensity of the experience which qualifies the said experience as pain. To account for such misidentification, it has been argued that those purported to be pain asymbolic have simply become tougher. This has been demonstrated, in part, by the fact that those purported to be pain asymbolic have developed the purported condition later in life. This is late development is also demonstrates that the purported condition of pain asymbolia is not congenital pain insensitivity. With regard to the purported condition of pain asymbolia and congenital pain insensitivity, it has also been demonstrated that these two conditions are unlike in another respect. Those purported to be pain asymbolic are, in fact, able to undergo pain experiences, whereas those with congenital pain insensitivity are unable to undergo said experiences.

Therefore, while both evaluativism and pure imperativism are theories of pain experience which hold the standard view, both face substantial challenges; one of the most prominent being how to account for the claims made by those purported to be pain asymbolic since they are unable to account for instances where these individuals find their pain experiences to be both unpleasant and motivational. In contrast, the intensive theory is not only able to account for all types of pain experiences but provide an explanation of the claims made by those purported to be

pain asymbolic where they claim they are undergoing pain experiences which are not unpleasant and are not motivational, as well as instances where they seemingly do find their experiences unpleasant and motivational. The intensive theory, therefore, is not only able to demonstrate that the purported condition of pain asymbolia is not a threat to theories of pain experience, but also that pain experience is necessarily both unpleasant and motivational.

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