Questioning the boundary between pain and suffering

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Pages: 21

Word count: 6029

ABSTRACT

Pain and suffering are important to patients and therefore their interaction is central to clinical care. It also encompasses issues at the forefront of pain neuroscience, evolution, epidemiology, and treatment development. While Medieval Europe understood pain as a religious problem and Enlightenment theorists framed pain as a social problem, over the past 200 years we have come to see pain as a medical problem. The medical problem of pain was originally addressed through the diagnosis and treatment of disease, but Pain Medicine has made the causation and treatment of pain a separate focus for research and clinical care. Palliative care reintroduced attention to suffering into the modern hospital. Eric Cassell argued that suffering arises from threats to the person that go beyond threats to the body. His theory of suffering has been criticized for being too focused on patients' narrative and too tied to a nociception-centered notion of pain. In general, modern medicine has promoted a unidirectional linear model of pain causing suffering in the individual patient. But this model is not consistent with the latest pain neuroscience and is no longer adequate to guide research or clinical care. If we are to finally overcome dualism in pain theory and practice, we must begin by seeing the relationship between pain and suffering as circular rather than linear. Understanding pain and suffering as a unitary construct can advance pain research and clinical practice by providing a new framework for integrating biological, psychological and social strategies for treating and preventing pain.

To live is to suffer, to survive is to find some meaning in the suffering.
-Friedrich Nietzsche

Thesis: We are accustomed to thinking of pain as the most important cause of suffering in medical settings. But this view was preceded for thousands of years by a unified view of pain and suffering as a religious or social problem. As medical institutions became focused on the diagnosis and treatment of objective disease after 1800, a linear model of disease causing pain and pain causing suffering became dominant. In the 1950s, John Bonica challenged this disease-centered model of pain control. In the 1980s, Eric Cassell and Cicely Saunders challenged the pain-centered model of suffering relief. Recent developments in pain epidemiology and neuroscience now challenge the very separation of chronic pain from suffering.

1) Introduction: a history of the separation of pain from suffering

Pain and suffering as a religious problem before 1500 Although pain has always been a problem for Western society, it has not been the same kind of problem. During the Ancient and Medieval periods, up until about 1500CE, pain was primarily understood as a religious threat. This is because pain and suffering challenged the truth of religious belief and the legitimacy of the Catholic Church: How could a merciful, just and all-powerful God allow so much suffering in the world? The presence of pain and suffering, especially among innocent and virtuous persons, was one of the most important threats to the theology and worldview promoted by the Church. Multiple "theodicies" were proposed to explain pain and suffering in the presence of a God that could prevent these. These proposed that suffering was important for soul making, or that it was punishment for sin, or that it was a product of free will, or that it prepared us for the afterlife. These

explanations focused on changing the meaning of pain to reduce suffering, not reducing pain through attention to pain mechanisms.[53]

Our era is now resolutely secular, so it is hard to imagine what it was like to live in a resolutely religious age. Philosopher Charles Taylor asks in *A Secular Age,* "Why was it virtually impossible to *not* believe in God in 1500 in our Western society, while in 2000 many of us find this not only easy, but even inescapable?"[57](p25) He answers that our presuppositions about why events occur, about what is to be expected, and even what can and cannot be explained are all different. He argues that before 1500 European Christians lived in an enchanted world of divine and malign forces where everything occurred for a reason. The order of the world was itself the product of God's will. Government did not exist separately from God and king. Nor was society divided into sacred vs. secular or public vs. private domains as it is now. Pain made sense because it was punishment for sin. It was not senseless suffering, nor was it innocent suffering. Through suffering in this life, it was possible to earn eternal salvation for your soul.

God was always an active agent in this enchanted world. There was no division between the natural and supernatural worlds. Storms, famines, and illnesses were all works of God. There was no clear division between personal agency and impersonal force. Reasons as the source of personal actions were not distinguished from causes as the source of impersonal events.[57] (p35) Moral forces were actually more pervasive and important than natural forces. Thus, correcting a moral transgression could cure an illness. Crucially, there was no room in this world for a causal account of pain separate from a moral account of pain. No description of pain's mechanisms was possible apart from a description of pain's meanings. The perspective from which these two accounts could be separated did not exist. All accounts of *how* pain arose included an account of *why* it arose.

Pain and suffering as a social problem 1500-1800 Toward the end of the Medieval period, there was a shift to a more personal and individualized faith, with less emphasis on Church-controlled rituals. A part of this shift, according to Taylor, is the rise of Deism, the notion of a world designed by God but not acted on by Him after its creation. God created the world (like a watch), and set it into motion, but did not continually intervene in worldly events. Taylor argues this was a transitional phase between a fully religious and a fully secular society, because now the world has its own order to which humans must conform or suffer the consequences. It now becomes possible to distinguish natural laws from supernatural forces. [57] (p221)

The most important feature of Deism for the problem of pain and suffering is that it made it legitimate for humans to strive to thrive on earth by living in accord with this order. The purpose of life was no longer solely earning a reward with God in heaven. With Deism, pain could have natural causes as well as supernatural reasons. It becomes possible to speak about the *causes* of pain as well as talking about the *reasons* for pain. Thus begins the shift from the medieval focus on "why" questions that seek pain's meaning to the modern focus on "how" questions that seek pain's causes.

Gradually, it became possible to think of human fulfillment on Earth. Evil was no longer a necessary part of the order of things. Some individuals and sects still saw pain and suffering as a reminder of our need for God and his forgiveness. But it now makes sense to strive for a general reduction in pain and suffering, whereas earlier this would have been seen as opposed to God's plan for our salvation. This made room for Utilitarianism, the most well-known and straightforward secular philosophy aiming for a general reduction of pain and suffering in society.[57] (p282) It framed pain as the primary form of evil in the world and aimed for its elimination. As Jeremy Bentham stated at the beginning of his *Principles of Morals and Legislation* in 1789: "Nature has

placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as determine what we shall do."[4]

Human flourishing in this natural life thus becomes an ideal for a newly urbanizing and secularizing Europe. Under the Utilitarians, pain was evil and pleasure was good. Bentham did not see physical pain and social pain as fundamentally different. He did not separate pain and suffering as different experiences with different causes or significance. In maximizing pleasure and minimizing pain, Bentham sought to maximize the "utility" of policy, but he was not concerned with medicine or pain care specifically.[21] In opposition to the Church's notion of Natural Law, Bentham saw no action as intrinsically or universally bad. Actions were good or bad only in the balance of pain vs pleasure that they produced. Pain served no educational or redemptive purpose. Utilitarianism saw all pain as inessential and escapable. The end of human pain and suffering could now become the aim of social reform, and eventually the aim of medical care.

Pain and suffering as a medical problem (1800-present) The public institutions that cared for the ill of 18th Century Europe, like the Hôpital General and the Hôtel Dieu in Paris, were not medical in purpose, structure, or staffing. These were charitable institutions focused on what we would now call "the homeless." After the French Revolution in 1789, a massive effort was made to change these "hospitals" from religious institutions aimed at charity to secular institutions aimed at health.[19] They began to aim for patients' physical recovery rather than their religious salvation. Entrance to these new hospitals was gradually limited to those with curable medical problems rather than intractable social problems like sloth, unemployment, and homelessness. Objective and verifiable disease, not suffering itself, now earned admission to the hospital. This disease becomes the target of medical treatment and becomes the most important and legitimate cause of pain and suffering.

To understand how the modern hospital began to understand and treat pain, we must reach back to a century before the French Revolution and the English Utilitarians to consider the mechanization of the human body initiated by the philosopher and scientist Rene Descartes. Descartes sought to establish a solid foundation for scientific knowledge using a method of doubt to wipe away all possibly mistaken belief.[15] He found this by turning radically inward to his own thinking, famously concluding: *Cogito ergo sum* (I think therefore I am). No matter how radical his doubt, Descartes could not doubt that he was thinking.

Through this introspective method, Descartes simultaneously made pain something extremely inward and extremely outward at the same time. The experience of pain became utterly private and incorrigible, immune to doubt. He asked: "Is there anything more intimate or internal than pain?" [15] While he made the *experience* of pain completely internal to the mind, he made the *causes* of pain completely external to the mind. This is Descartes's famous dualism of *res cogitans (things mental) and res externa* (things external) where pain is caused by the mechanisms of the public body, but experienced in the private mind. This provides the foundation for the modern medical view of pain as the product of mechanisms but not meanings.

Since 1800, the medical perspective on pain and suffering has become dominant and medicine has become the dominant remedy. As David Morris argued in his 1991 book, *The Culture of Pain*, medicine looks for the causes of pain internal to the body.[38] The cultural and spiritual contexts within which pain and suffering occur are no longer included among the primary causes or remedies for pain. *By the 20th Century, this unidirectional medical model becomes dominant: disease causes pain, which causes suffering. Pain has now been separated from suffering as its medical component and is seen as the most important cause of suffering in the hospital*.[12] Allopathic hospital medicine focuses on objective disease that can be verified through the autopsy or its imaging and physical examination surrogates.[46] Moreover, after 1980 and the publication of

the DSM-III diagnostic manual, this also comes to include mental disorders or psychiatric disease, which are now conceptualized as disorders internal to the body that cause suffering.[26]

2) The birth of pain medicine and palliative care, 1950s-1980s

John Bonica, anesthesiologist and father of pain medicine The medical dream of conquering pain predates the discipline of pain medicine by nearly a century. In October 1846, William Morton demonstrated the removal of a tumor under ether anesthesia. The popular press declared: *we have conquered pain!* This was certainly an overstatement, but the prospect of painless surgery was nevertheless a major achievement. The control of pain is likely second only to the prevention of premature death as an example of how medicine helps us control our fate on earth. This control of disease and pain is one of the enduring accomplishments of the Scientific Revolution and of the modern biomedicine that grew out of it.[47] It helped us overcome the fatalism of the Medieval period and gave us confidence that we could reduce the total amount of pain and suffering in society.[21] Most importantly, it shifted the boundary between pain we must accept and pain that can be relieved. In the Medieval period, pain had to be accepted as unavoidable and even necessary for our salvation. Modern medicine offers the possibility that much, if not all, of this pain may be avoidable through medical treatment.

Fast forward into the 1940s when John Bonica's wife suffered a near-fatal obstetric complication, compelling him to enter the field of anesthesia. Bonica began his career in obstetric anesthesia, improving techniques of epidural, spinal, and field anesthesia for childbirth. Bonica came to believe that the dominant medical approach of controlling pain by controlling disease was failing patients, not only in obstetric pain, but also post-operative pain, cancer pain, and chronic non-malignant pain. In his 1953 textbook, *The Management of Pain,* he argued that pain itself must

become a focus of medical care. This could be accomplished through anesthetic techniques like nerve blocks for focal pain problems. But it also included physical therapy and psychiatric techniques for more widespread and disabling pain.[6] Thus Bonica was the first advocate for multidisciplinary pain care and sought to bring the perspectives of multiple medical specialties, as well as those of non-physician health professionals, into pain care.

Bonica was also a forceful advocate for pain research, including investigation into pain causation, transmission, and perception. Defining these processes helped establish pain control as a separate scientific medical enterprise from controlling the disease or damage that was the original cause of the pain. Bonica is rightly credited with starting multidisciplinary pain clinics and beginning to frame pain as a biopsychosocial condition that has biological, psychological and social causes. He famously gathered 350 pain clinicians and researchers for a 1973 meeting in Issaquah, Washington that led to the founding of the International Association for the Study of Pain (IASP). From these roots, the discipline of pain medicine has grown with training, board examinations and research conferences. It has continued to have a multidisciplinary focus, but also to retain its identity as a branch of medicine focused on pain as the primary medical cause of suffering.[8]

Cicely Saunders, nurse, social worker, physician and mother of palliative care Like Bonica, Saunders suffered from chronic back pain. Her back pain forced her to abandon nursing and enter training to be a hospital social worker. In 1951, while a social work student, she began working at St Luke's Home for the Dying Poor, a facility reminiscent of pre-hospital institutions focused on suffering. But by 1952, she was persuaded that she would not be taken seriously unless she had a medical degree, so she entered medical school. Upon graduation, she worked with incurably ill patients at St. Mary's Hospital and at St. Joseph's Hospice for the dying poor. [44]

In 1967, she helped establish St. Christopher's Hospice, an institution that emphasized teaching and research as well as care. It thus went beyond hospices that had existed since the mid-1800s which offered spiritual comfort for the dying but had little role for medicine. St. Christopher's brought science into the care of the dying and gave birth to the medical discipline of palliative care. Saunders thought that medical pain relief was necessary to allow for patients to prepare spiritually for death. She sought to combine dignity and respect with scientifically-tested treatments. One of Saunders's most important innovations was the concept of "total pain" which included physical, emotional, social, and spiritual distress. In "total pain" she tried to capture what her patients meant when they told her 'all of me is wrong.' This concept of total pain radically expanded what was included in the medical notion of pain and questioned the primacy of pain over suffering in medical institutions. Saunders used the concept of total pain to reframe the relationship between medical professionals and dying patients. She used it to not only communicate the complexity of patients' pain, but to promote emotional engagement with the dying patient as a unique suffering individual. She frequently talked about how patients needed less morphine after they felt listened to. But the 'total pain' concept has been little applied outside of end of life care.[62]

3) Multidisciplinary pain care- Bill Fordyce and John Loeser 1970s-1990s

During World War II, while he was chief of Anesthesiology at Madigan Army Hospital, John Bonica became aware that the needs of patients with chronic pain were not being met. After the war, he organized the first multidisciplinary treatment group at Tacoma General Hospital. In 1960, he became Chair of Anesthesiology at the University of Washington School of Medicine where he established an academic Pain Clinic. In 1983, the Anesthesiology-based pain clinic was fused with the Behavioral Medicine Division of the Department of Rehabilitation Medicine to form the world's first Multidisciplinary Pain Center.[32]

This fusion brought Bill Fordyce, a behaviorally-oriented psychologist, into the Pain Center. Bill applied operant behavioral principles to the treatment of chronic pain. After physicians verified that further attention to disease and tissue damage was unlikely to be helpful, he sought to reinforce healthy behaviors while avoiding reinforcing illness behaviors. In the structured pain rehabilitation program designed by Fordyce and neurosurgeon John Loeser, controlled substances like opioids and sedatives were tapered, while physical activity was gradually increased according to quotas. This treatment effort was most directly focused on the suffering and disability associated with chronic pain, rather than on reducing pain itself. Importantly, Fordyce situated the patient with chronic pain within their environment, which was understood as a set of behavioral reinforcers. Suffering and disability were seen to be shaped by the social environment, as well as the pain experienced. Later in his career, Fordyce began talking about chronic pain itself as being "transdermal", meaning that it was determined by factors both inside and outside the patient's body.[55]

As they developed in mainstream psychology, cognitive techniques were grafted on to these behavioral methods to become cognitive behavioral therapy (CBT) for pain. CBT spread widely, though like the behavioral model, it did not aim at pain relief per se, but at reduction of suffering associated with pain, often formulated as distress and disability in evaluation. It targeted inaccurate and unhelpful beliefs and information processing biases that fostered an overcautious approach to physical demands and a pessimistic outlook on life. Patients were referred after all medical attempts to reduce pain had been exhausted, and practitioners accepted that patients would embark on rehabilitation despite pain, often with a sense of disappointment that their pain could not be abolished. There was little attempt to address or refute the medical model of an internal physical cause for pain, but the aim was to focus on the amplification of suffering arising in the beliefs and emotions that CBT targeted. Evaluations of CBT have shown reductions in

distress and disability and in use of health care. There were also often reductions in average pain ratings, but effect sizes were generally small to moderate and less than patients hoped for.[60]

Two other therapies for chronic pain became widespread and variably integrated with CBT. Contextual CBT [36] and Acceptance and Commitment Therapy (ACT)[34] focused on psychological flexibility and 'defusion' from an unhelpful internal narrative about pain. It prioritized engagement in valued activities rather than reducing dysfunctional cognition or coping. The other therapy arose from Buddhism and aimed to foster mindfulness through meditation and related exercises.[24] In Buddhism suffering is embraced as part of life, but in chronic pain clinical care mindfulness was often adapted to the CBT approach as: "Pain is inevitable, suffering is optional." [39] The goal was not pain reduction as much as changing one's relationship to pain.[13] Evaluation for these therapies has been thinner than for CBT, but outcomes are roughly comparable. Neither has challenged the primacy of biomedical causes of pain.

4) Bringing attention to suffering into the hospital- internist and bioethicist Eric Cassell (1980s-2000s)

Cassell's understanding of the relationship between pain and suffering In 1982, internist and bioethicist Eric Cassell published "The Nature of Suffering and the Goals of Medicine" in the *New England Journal of Medicine*.*[11]* This grew out of his years as a practicing internist in New York City caring for dying patients and reflected his theory of personalized doctoring for the individual patient. It has been credited with bringing concern for suffering back into the modern hospital. It has been cited over 5400 times in the medical literature and expanded into a book of the same title with two editions.[9] Cassell argued that patients believe that the relief of suffering should be one of the primary goals of medical care, even though modern medicine has considered it secondary to the diagnosis and cure of disease. This need to address suffering is especially

important in chronic illness where cure is not usually possible. Cassell considered the goal of relieving suffering relief as less distinct and difficult in the care of acute illness.

Cassell developed a distinctive view of suffering:

> "Suffering is experienced by persons, not merely by bodies, and has its source in challenges that threaten the intactness of the person as a complex social and psychological entity. Suffering can include physical pain but is by no means limited to it. The relief of suffering and the cure of disease must be seen as twin obligations of a medical profession that is truly dedicated to the care of the sick."[11]

He argued that neglect of suffering arises from modern medicine's focus on the objective body and its diseases: "so long as the mind-body dichotomy is accepted, suffering is either subjective and thus not truly "real", not within medicine's domain - or identified exclusively with bodily pain."[9] (p33)

Suffering is often related to pain, but is distinct in its origins and remedies:

> "Suffering can be relieved, in the presence of continued pain, by making the source of the pain known, changing its meaning, and demonstrating that it can be controlled and that an end is in sight.... The importance of things is always personal and individual, even though meaning in this sense may be shared by others or by society as a whole."[11]

While pain arises from threats to the body, suffering arises from threats to the person: "Suffering occurs when an impending destruction of the person is perceived; it continues until the threat of disintegration has passed or until the integrity of the person can be restored in some other manner."[11] Cassell was quite adamant that suffering arose from threats to the person and not the "self" or the "mind", which are primarily accessed by the individual person through introspection:

> In its contemporary usage, my self is one aspect of my person that may be known to me and may even be a condition of personhood. But there are parts of my person that can only be known to others just as there are parts of my self than can only be known to me. Self is that aspect of person concerned primarily with relations to oneself. Other parts of the person involve relations with others and with the surrounding world. Self is only one part of the person, included in but not synonymous with personhood.[9](p33)

Persons have many features not found in bodies, or in "selves." They have personality and character. They have a past and a cultural background. They have roles and cannot exist without others. They do things aimed at a perceived future and have a transcendent dimension or life of the spirit. While clinicians and researchers may find it useful to quantify pain and suffering with simple 0-10 scales, Cassell argued patients prefer stories: "The physician must understand that the patient's story is not an intrusion but a legitimate requirement for the clinician's effectiveness."[9](p157)

Cassell strongly distinguished pain from suffering. He makes pain separate and prior to suffering, though he sees pain as a product of both disease/damage and meaning. While persons can attribute meaning to pain through interpretation or "personalization", pain remained anchored in nociception for Cassell: "Although bodies may experience nociception, bodies do not suffer. Only persons suffer."[11] Thus he distinguished suffering from a notion of nociception-centered pain similar to that proposed in the original Gate Control Theory of Melzack and Wall.[37] Cassell did not limit pain to nociception because he acknowledges the role of meaning in pain perception, but he did not integrate pain with suffering as shaped by interpersonal relationships. As Charlotte Duffee has summarized:

> Pain, an interpretation of nociception on (Cassell's) view, involves the bodily transmission and modulation of noxious stimuli as well as the meaning a person assigns to this experience. 'Bodies have nociception and bodies may have neuroendocrine responses to emotional stimuli', but it is persons, says Cassell, who are the source of interpretive meaning, because 'bodies do not have a sense of the future and bodies do not know meanings, only persons do.'[16]

Cassell did go beyond the disease-focused approach to pain that he had been taught in medical school, arguing that personal knowledge of the patient was needed in addition to knowledge of their disease to properly treat the suffering patient. But he argued that assigning meaning to illness

experiences generally changed suffering rather than pain: “Assigning meaning to the injurious condition often reduces or even resolves the suffering associated with it.”[9](p43)

By linking pain with nociception, Cassell ties pain to the noxious stimulus in a way rejected by IASP since 1979 when it issued its definition of pain as associated with “actual or potential tissue damage, or described in terms of such damage.”[45] Cassell also tied pain to the present (“bodies do not have a sense of the future”), which prevented him from addressing how expectations of the future modify pain intensity in the present. For example, Cassell’s theory cannot accommodate Howard Fields’s Motivation-Decision Model of pain that folds anticipation of the future into pain mechanisms.[17] Between 1982 (when his article was published in the *New England Journal of Medicine)* and 2004 (when the second edition of his book was published), Cassell’s thinking on suffering evolved. He emphasized that meaning, including anticipation of the future, could influence the experience of pain.[9](p. 97, 267). Even in 1982, he noted that a patient’s belief that sciatic pain was due to cancer increased the dose of medication necessary to control it.[11] (p. 641) But these were minor modifications to his basically body-centered notion of pain mechanisms.

In general, Cassell both opposes the Cartesian dualism of mind and body and falls back into a dualism of person and body. He allows pain produced by the body to be affected by personal meanings, but this is never integrated into pain mechanisms. His sense of the body as a mechanism does not incorporate the neuroscience of the last 50 years. It specifically does not see pain as the product of a multisensory salience detection system that integrates signals of danger from outside the somatosensory system into the pain experience.[27; 29]

Perhaps the most clinically significant omission from Cassell’s theory of suffering is his focus on suffering as a *consequence* of pain and without discussion of suffering as a *cause* of pain. There is an extensive research literature documenting high rates of pain in patients with depressive

and anxiety disorders[3; 14], in patients with PTSD and/or adverse childhood experiences[25], and in patients with prolonged grief.[22] Analysis of data from the 2019 US National Health Interview Survey showed that 5% of the adult population have co-occurring chronic pain and anxiety/depression symptoms. Significant anxiety/depression symptoms were found in 24% of US adults with chronic pain, compared with 5% among those without chronic pain. Among those US adults with significant anxiety/depressive symptoms, chronic pain was present in a majority (56%), compared with a chronic pain prevalence of 17% among those without significant anxiety/depressive symptoms.[14]

Most of these research studies are cross-sectional and unable to address the causal priority of suffering, but there are many prospective studies that show that various forms of suffering precede the development of chronic pain.[1; 20] These links with suffering and trauma appear to be especially important for nociplastic pain.[18; 33] Multiple mechanisms have been investigated for suffering leading to pain, including disruptions in endogenous pain modulation[28], distorted reward processing[49], deficient oxytocin signaling[7], and altered interoception resulting in less differentiation of emotional feelings and bodily states.[31] If the relationship between pain and suffering is reciprocal rather than linear, we need to radically rethink our clinical approach to chronic pain. We will return to this below.

Cassell's theory of suffering focuses on the individual patient Cassell's definition of suffering focuses on threats to the person, including their integrity and goals for the future. For Cassell, suffering challenged the meaning that persons assigned to their lives, resulting in a self-conflicted, lonely state marked by fear of the future. Although the disruption of social bonds was central to Cassell's notion of suffering, he saw suffering as arising within the individual patients that he cared for in his clinical practice. Suffering was a personal and individual experience of separation and isolation.

This individualized approach to suffering minimizes the importance of cultural context in the relationship between pain and suffering. The importance of this context is demonstrated in those situations where pain does not lead to suffering as expected, such as redemptive pain in religious rituals or athletic competitions.[2; 50] This variation is also present in clinical settings. Nearly one fifth of emergency department patients who reported a high level of pain indicated they were not suffering.[5] In some clinical settings, the relationship between physical pain and suffering is inverted, such as in cases of non-suicidal self-injury (e.g., cutting) where physical pain is self-induced in order to relieve suffering.[23]

The importance of social context is also demonstrated in torture, where pain is intentionally used to maximize suffering and destroy social bonds.[61] It is profoundly distressing to be deliberately subjected to severe pain (and often serious injury) by persons who could stop at any time, but choose not to do so. Suffering also arises from the constant threat of torture, as well as witnessing others tortured. The aim is punishment and intimidation of victims and their wider community. Even torturers know that obtaining information is no more than an excuse. It is degrading and dehumanizing for those who are tortured. If victims survive and escape, they find trusting others very difficult, while others regard them with suspicion, so alongside very high rates of pain with varied meanings, they are often isolated from potential sources of support.[58]

Cassell's focus on narrative in suffering Cassell's definition of suffering has also been criticized as too focused on personal narratives that exclude preverbal infants and nonverbal adults. These persons may be less able to communicate suffering, but there is no evidence that they suffer less. This is also relevant to the consideration of pain and suffering in non-human animals, including those used for research and domesticated for food production.

Cassell's narrative-focused definition has also been criticized for failing to account for pain's immediate, non-reflective impact on one's sense of agency and body ownership.[51]

Stilwell, Wideman and colleagues argue that severe pain produces suffering that overwhelms not only the narrative self, but what they call the minimal (or pre-narrative) self. One of the most important arguments here is that suffering threatens personal agency in addition to well-being . Action requires that a person can reach beyond the present moment to a desired future. Suffering can disrupt this capacity in a way that does not appear to depend on narratives. Even before his work on suffering, Cassell talked about the restoration of patient autonomy as the goal of medical care, but he loses this thread when he talks of the relief of suffering.[10] Indeed, inhibition of purposive action may be one of the primary ways that pain produces suffering.[56]

7. Pain and suffering- what we feel and what we do

It is customary to focus on pain and suffering as experiences, but these experiences have survival value and shape evolution because they change what we do. Patrick Wall often criticized pain professionals for considering pain a purely sensory phenomenon and urged the integration of the motor system (as well as meaning and emotion) into pain theory and clinical practice.[35; 59] Pain has clear survival value in protection and recovery from injury. It is not clear what survival value suffering has. But it is hard to believe that suffering would play such a large role in human life (and perhaps the lives of primates and other mammals and birds) if it did not promote survival of individuals and species.[41]

We have recently argued that human pain is essentially social, because its survival value for humans cannot be understood apart from its social character.[54] One aspect of this social character is the suffering that usually accompanies pain. While pain occurs (mostly) in the present, suffering (generally) concerns our future. Through suffering, pain may alter our hopes and plans. We may abandon relationships or projects or aspects of our identity. This is a distressing process, but it may promote our survival by withdrawing investment in futile endeavors.[40] Through

suffering, the experience of pain ripples through our social networks, changing how we cooperate and compete for food, mates, and territory.[30]

In 2020, the IASP revised its definition of pain to reduce the importance of verbal report.[48] But it retained qualified reference to tissue damage within the definition and decided not to add any reference to pain's social nature in the definition. The above arguments raise some doubts about these decisions. Nociplastic pain (Chronic Primary Pain in ICD-11) is a common form of chronic pain that has no causal relationship with tissue damage or nociception.[18; 42] The definition mentions that pain is both a sensory and emotional experience, and the notes mention that pain is influenced by biological, psychological, and social factors. But suffering is not mentioned by name and it is not given a role in pain causation.

8) Conclusion: reintegrating pain and suffering beyond the biological individual

As we question the boundary between pain and suffering, we meet a series of challenges. Though the dualism of mind and body is rejected in modern science, banishing it in all its forms is difficult. We must move beyond conceiving pain as a product of the mechanical body and suffering as a product of the meaningful person. Experienced pain is shaped by anticipation of the future, and thus is not a simple mechanical product of the past. Since it is partially driven by our purposes, actions and meanings, pain includes elements of suffering. Suffering is an important cause of pain. Cassell may be correct is asserting that it is the person who suffers, but this person is not only a biological individual. The person mediates between body and society: discerning safety vs danger, negotiating identity and roles, confronting meaning and mortality. We need an anthropology of pain to investigate and describe the diversity of possible forms of pain and suffering across cultures.

Therein lies the possibility of a non-reductive science and treatment of suffering persons in their social context.

We modern medical professionals begin with pain as the medical cause of suffering. We too easily forget that suffering may also cause pain. This means that the relationship between pain and suffering is circular not linear. The boundary between pain and suffering and their interaction is shaped by a sociocultural context that reaches beyond the individual person. The modern medical approach to pain may be artificially creating the boundary between pain and suffering by focusing on pain in the present moment and the biological individual. This individual is where our attention is directed in the clinic exam rooms where we see our patients. Rather than return to dualistic notions of "medically unexplained pain" or "psychogenic pain" that disqualify pain originating in suffering beyond the boundary of the exam room, we need to integrate a reunified clinical notion of "pain and suffering" into its cultural and evolutionary context.

Pain, suffering and society are essential features of human survival and evolutionary success. Human life without these would be unrecognizable and likely impossible. Pain and suffering always occur in a social context. The counterexample of the isolated person on a desert island who feels normal pain forgets that this person must be an adult with internalized language and social norms. The goal of a pain-free or suffering-free life is a false ideal, both evolutionarily and psychologically.

Nevertheless, control of pain and suffering is one of the foremost accomplishments of human culture and science. Medieval Europe saw pain and suffering as a necessary part of God's plan for our redemption. Martin Luther began to break the bonds of that thinking when he divided pain and suffering into that which was essential and unavoidable and that which was inessential and treatable. Surgical anesthesia pushed this boundary and provided the false hope that all pain might be conquered.

As we look to the future, we must reunite pain and suffering as a clinical target. In providing relief, we must address both mechanisms and meanings. We must both seek to control pain and suffering and to make sense of it. We will always ask not only how pain is produced, but why we must suffer with it.

Acknowledgements

The authors have no relevant conflicts of interest. No outside funding was obtained for this work. The authors thank John Loeser for helpful comments on an earlier draft of this manuscript.

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