

Defining Suffering for experimental pain research

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How comes the world of pain research has already recognized three decades ago the importance of integrating the component of suffering in pain assessment but without establishing a clear system of ideas and protocols? Crawford Clarks' remarks on this question are by now considered classical (Clark, Carroll, Yang, & Janal, 1986). Drawing upon their concept of *multidimensional scaling in pain*, the interpretation of the sensory modality requires the additional information on the affective state to uncover the nature of pain. This view brought in the requirement to focus on two parameters for measuring the psychophysiological responses: the *intensity* (strength of the sensation) and the *unpleasantness* (emotional component) *of the pain*. With this first scientific approach, supporting the presence of more than one dimension in pain, the ground was set to fully designate the subjective experience and include the aspect of suffering but without pursuing it further, and definitely not in the global way required for qualifying the entire outset of the human experience in pain. It has since become clear that even if we do go beyond the primary sensory modality of pain to include a person's psychological reaction to a noxious stimulation, unpleasantness alone cannot encompass the entire scope loaded onto the emotional quality of such circumstances and when unbearable, excruciating pain occurs, it is inevitably associated with a strong negative affect that should rather be labeled as suffering.

Working by these causes, the concepts in the explanatory system must combine the two phenomena of pain and suffering without, however, reducing the latter (even when we clearly speak of *pain related suffering* in experimental and clinical settings) to simply represent a third, additional, dimension of pain. Hence, when introducing a three stage scaling in pain experiments (**I-U-S**), the subjects should be able to indicate the **I**ntensity of their pain (no pain-extreme pain), the **U**npleasantness of the pain (not unpleasant-extremely unpleasant) and their **S**uffering (no suffering-extreme suffering) in a way that

expresses the true value by nature of *each* term and the power to perceive their relations separately (figure 1). The problem is that our sole practicable way of extending the conceptual scheme, where the wholeness of each term is fully respected, is accountable by integrating it into a standardized assessment method of pain processing. Each notion is to be treated as a matter of *measurement* for acquiring experimental or clinical evidence. Yet from what has been observed in the field to date, such assessment tool normally relies on measuring the stimulus intensity and unpleasantness so when suffering is finally introduced into the equation, it is always regarded under the aura of pain. In this respect, while the two concepts of pain and suffering supplement each other to better interpret the severity arousing our sensibilities, the scope of suffering nevertheless remains delimited since it is ascribed to the suffering-producing part of pain. We encounter this critical point, of suffering taken as a dependent factor, in a second scientific approach introduced by Donald Price's theory on the psychological and neural mechanisms of pain (1988). Inquiring about the nature of the different terms, Price expands the two-dimensional approach when adding to the primary emotional component of unpleasantness, a *secondary affective dimension* named suffering:

«Pain is unpleasant and contains emotional feelings because of its unique sensory qualities and because the meaning of these sensory qualities are shaped by contextual factors and by a person's ongoing anticipations and attitudes. These contextual and cognitive factors are partly the result of the fact that pain often occurs within a situation that is threatening, such as during physical trauma or disease. Part of the affective dimension of pain is the moment-by-moment unpleasantness of pain, which consists of emotional feelings that pertain to the present or short-term future, such as annoyance, fear, or distress. Pain-unpleasantness is often, though not always, closely linked to both the intensity and unique qualities of the painful sensation. Another component of pain affect, "secondary pain affect", includes emotional feelings directed toward long-term implications of having pain (e.g., "suffering")»(October 2002, Issue 6m Price D. Molecular Interventions, p. 2; already 2000).

Here alone, suffering is not only viewed from the spectrum of pain, but is distinguished as an emotion associated with long terms effects, extended duration and future implications while in fact, as my phenomenological account will suggest, this difference simply translates the inherent double nature of suffering which reflects an ephemeral emotion (**surging suffering**) but also an on going condition (**lasting suffering**). Time, as Price suggests, clearly plays an important role since a person in a prolonged pain often goes into a stage of suffering, testifying to the fact that the level of the agony is directly proportional to its duration. The sensory message coming from a person's back can be hurting for a day or two, but when the acute sensations become persistent and interminable, the initial discomfort rapidly turns into self consuming suffering. The confusion, however, in defining these concepts by referring to the common denominator of time, consists in taking the 'difference in degree' between what is described as a short lasting versus a long lasting infliction for a 'difference in nature' between pain and suffering. Hence, putting both on the same linear path allows to smoothly explain the passage from a pain state to a suffering state, but it also presupposes that one necessarily grows out of the other.

In this respect, Price's view brings an element of concrete novelty in allowing to recognize the key role of suffering in chronic pain and disability. Following his foot steps, James Wade and his colleagues (1996, Wade, Dougherty, Archerd and Price; 2002) computed the suffering component in pain processing, using a four stage model consisting of pain intensity, unpleasantness, the rating of five negative emotions referred to as suffering (depression, anxiety, frustration, fear, anger) and detected pain behavior (illness beliefs). And yet, despite being impressively broad to grasp a large number of aspects for conducting a thorough investigation on experimentally induced but also pathological human pain, this conceptual contradiction of measuring suffering against pain, or even representing its subjective space through a confined list of aversive emotions displaying suffering, escapes the theoretical treatment altogether. Suffering is not simply a secondary emotional dimension or a third scaling dimension of pain. And even though these notions are related in a highly systematic manner, putting them on a range across a continuum when using the same measurement instrument, such as the

visual analogue scale (VAS), for detecting scores of the I-U-S in response to a painful stimuli, does not cancel out their independence of one another. Moreover, as this paper claims, in order to best *articulate the relation between pain and suffering* and correctly integrate the later into pain studies, we must reverse the order to look at “suffering and pain” rather than at “pain and suffering” because even under experimental set-up restrictions where one may not suffer tremendously of the hurt body, suffering still remains a superior concept.

What is suffering?

The main difficulty revolves around the questions *what is suffering* and *how to introduce it in an operationalized manner?* when looking at the way these concepts manifest themselves physiologically. The strategy of experimental procedures requires a definition that serves as a primary supposition with a single variant to be manipulated in various forms. In a way, cognitive science adopts a similar approach when stripping down a concept to reach a theoretical postulation of one element at a time. But the problem is that this quest for the single referential element of suffering, upon which we can operate for hypothesizing experimentally, is – by definition – unattainable. The reason is that suffering is a double-natured phenomenon of the hurt, which expresses itself either as an emotion or as a prolonged condition (Bustan, 2010, 2011). In this sense, a person may experience suffering as a passing feeling that will come to an end, but he may also experience a situation of endless affliction, such as the loss of a child or a chronic disease in the case of an incurable illness, making one’s torment the basis of an everlasting reality. Hence, it would be impossible to identify the one thing, or philosophically speaking *a thing-in-itself*, that could serve as the main substance of suffering. The lack of one universal essence that an individual can easily identify from diverse behavioral manifestations plays an important role in the puzzles this phenomenon raises. As a consequence, studying a double headed phenomenon may seem problematic for people from natural sciences and the humanities who seek to target the single referential element of suffering without valuating one part and rejecting the other. Instead, my phenomenological interpretation considers that its dual nature calls for creative forays into the arenas of this merged philosophical-psychobiological investigation, when aiming

at the most diversified display of such complex percept. I am convinced that dropping the single substance approach will not only prevent the trap of focusing on physical suffering for merely discovering physical suffering, but will also provide a point of departure for something deeper and finer allowing the emergence of a maximal range of markers of these *constructs*.

Another major point is that **suffering**, just like pain, is a complex percept. It does not have a single criterion since it is displayed in **four different dimensions** of experience: physical, emotional, mental-cognitive and existential. **Physical suffering** is a bodily experience of feeling hurt from what is taken to be too intense and no longer tolerable as in cases of pain, dying, or illness. **Emotional Suffering** is a negative affective reaction of the hurt to ‘the too much’ that must stop, the overwhelming that can no longer be endured or faced as in cases of distress, depression or even boredom. **Cognitive Suffering** is the mental response of the hurt to the over charge that is alarming, alerting or else saturating the mind as in cases of alexthymia, choc, weariness, or torment. **Existential Suffering** is the experience of the hurt as a threatening way of living which has become a second nature as in cases of loss, chronicity or trauma. These four dimensions or stairs of suffering (figure 2) involve both forms of surging suffering that erupts suddenly (emotion) and lasting suffering that dominates a person’s entire existence (condition). In this respect, the one-time puncturing event – as for instance, the announcement of having cancer – becomes a second nature in the form of permanent suffering (duller, yet not less torturous) accompanying the person daily, possibly for the rest of his life. This transformation shows that as the matter infiltrates human consciousness, the suffering evoked is no longer considered to be a painful episode but rather an existential condition, suggesting that “This is how it’s going to be from now on” whose tone is sometimes piercing and at other times bearable, while the message itself or even the actual pain is always there in the background, never letting go. Therefore, we need to bear in mind that the very possibility of a transient feeling turning into a way of life may sharpen the increasing sense of helplessness in the face of suffering, a fate which is very difficult to reconcile oneself to, even though it must still be borne. These two kinds of knowledge must be combined and brought into consideration when approaching a patient or even a

volunteer in a pain study because the open circulation between the two manifestations of what is simply called ‘suffering’, and even more so between the different suffering dimensions, can better explain the meanings of hurtful experiences.

We can find a very good reference to these matters in Arthur Kleinman book entitled *Suffering, healing and the Human Condition*, where he studies the case of Howard Harris, “The Vulnerable Police lieutenant” (p. 60-74). The man, in his late fifties, has been suffering from lower back pain for the past twenty years resulting from the lifting of a heavy piece of equipment in his first job on a construction site. He has been treated without success with every possible medication and has seen almost any possible variety of pain experts. Kleinman describes the police lieutenant’s posture and behavior as a walking testimony to his constant pain: “In one hand he carries everywhere with him a white cushion shaped for his lower spine. His other hand touches the back of each piece of solid furniture as if he wanted to be sure which could be relied on to support him in the event that his back were to give way and he were suddenly to fall” (p. 61). This account emphasizes the anticipatory nature of suffering associated with a long lasting threat experience, which specifically characterizes the existential dimension and is by no mean equivalent to the anticipations of a perceived stimuli by a subject during a pain experiment, sitting blocked on a chair, waiting for the plastic bullet inside the transparent tube of the Impact Stimulator device to heat again the middle phalanx of his finger. In both cases the suffering state is a direct outcome of the possible nociception of the expected pain. However, while we can argue that a comparison between the manifestations of all other three suffering dimensions can bring about some equivalence between the eruptive feeling of suffering during a pain experiment (emotion) and the suffering state of the chronically sick person undergoing another cycle of intense pain attack (emotion), the existential dimension of suffering (condition) bears an added metaphysical value. The menacing on going aspect of a vulnerable existentiality requires looking at the total sum of interactions to better understand what predetermines one’s reality in a way that risks amplifying any potential suffering occurrence. “Indeed”, Kleinmann writes, “Howie doesn’t respond so much as anticipate. He waits for the pain.

He seeks out its earliest sensation. He attempts to ‘catch it early’, ‘keep it from developing’, ‘prevent it from getting worst’ (p. 63). And in fact, when reading through this study case, it becomes clear that even though the pain pertains all day, every day, in a limited amount (3 out of 4 in a scale of 10) but still nagging the back, the await for the irruption of severe episodes that could last days or weeks is what shapes his entire personal, professional, marital and parental life (p. 63). Not only that he feels “vulnerable” in fear of losing his job and being misunderstood, but his disability makes him feel “spineless” and “self conscious” due to his doubting surrounding – his colleagues, his family and even the family physician – causing isolation and the minimizing of unnecessary interactions in order to avoid any physical burden or stress related spasms. “That’s the worst about pain. You can’t see it. You can’t know what it’s like unless, God helps you, you suffer from it. I feel like people don’t believe me at times, and it makes me mad, really mad. What the hell do they think I am, a malingerer?” (p. 68).

The existential dimension of suffering cannot be observed in the laboratory set up, albeit negatively when referring to the absence of real suffering. A participant in the first pain and suffering study, who decided to drop out after the first trial arguing that he finds it absurd to voluntarily subject himself to any such severity, explained the dissociation of ‘real suffering’ from the frightening discomfort which brought him to end his participation: “It didn’t damage my health so I cannot consider this as suffering. It was painful but still it was a short time event that happened, and I know that sooner or later it will end. Also it wasn’t the product of illness or disease, so I wasn’t afraid at all about my health or my life and that this is why I cannot tell that it was really suffering. It was painful for sure, but as it didn’t involve any risk for my life or for my health, I could stand it voluntarily” (part. n. 47, PASCON working package 1). I will not go here into the details of our study, which measured the induction of suffering using two pain methods (tonic and phasic). I would only say that our results support the idea that suffering, even when associated with an aversive stimulus and originated in a controlled experimental context, may be accounted for in all four levels: physical, emotional, mental and, by *reductio ad absurdum*, existential. But in order for the suffering observed in the

laboratory set up to be meaningful, we need to be able to adopt a methodological principle for measuring it while remaining truthful to its wholesome experience and to the ‘real’ brute reality of suffering in daily life. Ironically, one can rightly capture suffering in the lab, with all its fluid boundaries, only if no *exclusive* definition is expected. The fact is that the absolute uniformity of the experimental procedure, ruled by clear ethical and practical restrictions, can never give rise to all the acute suffering condition as observed in ordinary, daily, circumstances. At the same time, the scientific language of data sets should not go so far as to consider the closing of the canon, delimiting the interpretation to the explicit manifestation while excluding the nuances *implicitly* unfolded in the emergence of diverse suffering variations. In other words, it is not enough to say that the suffering defined may be observed during pain experiments, but for the sake of providing a global picture with the totality of its meanings, no *single* and *closed* definition can be implemented. The dilemma is then clear: if we indeed induce suffering in the lab, but cannot have an exclusive definition of it, what is it that we measure?

Distinguishing Pain from Suffering

In order to answer this question, we do not only need to follow the development of the philosophical research by deconstructing the intricacies of the pain-suffering relations through testing and understanding of all the identified components and dimensions of each phenomenon. In the mentioned study, we noted that the ratio of the extent of expressed suffering to pain intensity and, more importantly, to pain unpleasantness indeed remains lower in situations where we know people are in pain. If so, it enhances the idea that lower ratings of suffering to pain do not mean that one suffers less, but rather that suffering is a broader concept with a certain layer that cannot be captured in pain-related circumstances. This is precisely the layer discussed above when referring to the existential dimension and which is demonstrated in the Pain-Suffering Fan Model as a modality that may indeed result from the pain, but which also arises from itself and is defined as the ground zero of all the modes of suffering Being (L’Il y a). At the same time, this does not mean that the actual experience qua experience of suffering which is

observed in a pain experiment is to be disregarded as false. Quite on the contrary, having elaborated a methodology that specifically manipulates the component of suffering in painful situations, the astonishing manifestation of all 3 suffering levels in a controlled experimental context, are sufficiently rich to revealing its authentic significance and determining the mechanism separating pain from suffering. Our insight into their relation univocally rejects attributing pain to the physical property and suffering to the emotional property, arguing that pain itself has been clearly defined as “an unpleasant sensory and emotional experience” (Merskey & Bogduk, 1994; see also Melzack & Casey, 1968). Hence what precisely constitutes their difference? As said, several main properties of the overall suffering experience may never be observed in confined experimental settings. Yet, the idea of a three-dimensional experimental model for reporting subjective perceptions, deconstructs the self-experience of a person who is asked to rate the Intensity of the pain felt (how much it hurts), how Unpleasant is his pain sensation and how much he Suffers. When adopting this strategy of **I-U-S**, one could be misled to think that suffering is simply considered to be an additional dimension of pain, an extension of a higher degree of the emotional and mental discomfort felt. But since suffering in general does not depend on pain alone, pain becomes only a segment of suffering so that the hurting emotional and cognitive dimension where both interact and operate, extends beyond the area of pain unpleasantness’ to that of suffering. In other words, despite their proximity, especially under the circumstances of suffering related pain investigation where the boundaries are even blurrier, suffering still differs from pain by nature, not by degree. Hence, since the full body of the suffering phenomenon is never to be included in this context (“real life suffering”), its actual representation is always lesser than that of pain, even at higher intensities. This important point requires to examine the thread that runs through the phenomenological analyses of their subjective expressions, in order to verify whether the distinction between the two concepts still commits itself to the formula according to which: suffering as a whole is always more than what can be grasped in the most painful circumstances.

Defining suffering for pain research

1. Two dimensions, explain the need to introduce suffering
2. Explain the 2 problems
3. Suggest a definition: explain its double nature
4. Explain the multidimension
5. Show that it is a how, not a what and define the mechanism (5 phenomenological attributes for suffering, more extensive than the attributes of pain)