

Defending the IASP Definition of Pain

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Abstract. The official definition of ‘pain’ by the International Association for the Study of Pain (IASP) hasn’t seen much revision since its publication in 1979. There have been various criticisms of the definition in the literature from different quarters: that the definition implies a dubious metaphysical dualism, that it requires a strong form of consciousness as well as linguistic abilities, that it excludes many vulnerable groups that are otherwise perfectly capable of experiencing pain, that it has therefore unacceptable practical as well as ethical consequences, that it is unhelpful to the health-care professional as an operational definition, that it is too narrow, and many others. In my view, most of these criticisms depend on misunderstandings or on uncharitable interpretations. My aim is to go over the definition, clarify some potential ambiguities, and argue that these criticisms don’t cut much ice. At the end, I will present a few slightly reworded versions of the definition that I claim are more felicitous and capture the original intended meaning by the members of the taxonomic committee in a much better and transparent way that avoids all the major extant criticisms in the literature.

In 1979, a list of pain terms prepared by the Subcommittee on Taxonomy of the International Association for the Study of Pain (IASP) appeared in the Association’s official journal, *Pain* (6, 247–252). This list was expanded, revised and updated subsequently three times in 1986, 1994, and more recently, in 2011.¹ Despite various revisions and additions to the list, the definition of the term ‘pain’ itself hasn’t changed much since 1979.² In fact, the definition officially adapted in 1979 was a slightly revised version of a formulation first proposed by Harold Merskey and circulated in mid to late 1960’s among a small group of researchers that went like this: “An unpleasant experience that we primarily associate with tissue damage or describe in terms of tissue damage.”³ Despite various criticisms and challenges and the taxonomic committee’s own view of this definition as work in progress, this basic formulation, as revised and adopted in 1979 (see below), has remained the same, and in the

¹ See below—it is now available on the Internet: <<http://www.iasp-pain.org/Taxonomy>>

² The only substantive change was the addition of a sentence at the start of the **Note** in 2003—see below the sentence numbered [2].

³ See Merskey (1994; 2008) for a brief history.

eyes of many, “has proven very useful and is an appropriate one.”⁴ Indeed, more recently, Jensen and Gebhart write:

As the foremost and largest association of basic and clinical pain researchers and pain management specialists, the IASP has been looked to by other organizations for leadership in this area. . . For example, the definition of “pain” has been widely adopted throughout the world as authoritative . . . (2008, 399)

Given the importance accorded to the IASP definition of pain, we need to pay careful attention to what it says and what it doesn't.

In what follows, I will present the full definition along with the accompanying **Note**. I will explain what I take to be its most charitable and fair interpretation in a systematic way in its historical and intellectual context and show why I think it is basically correct. There have been various criticisms of the definition in the literature from different quarters: that the definition implies a dubious metaphysical dualism, that it requires a strong form of consciousness as well as linguistic abilities, that it excludes many vulnerable groups that are otherwise perfectly capable of experiencing pain, that it has therefore unacceptable practical as well as ethical consequences, that it is unhelpful to the health-care professional as an operational definition, that it is too narrow, and many others. In my view, most of these criticisms depend on misunderstandings or on uncharitable and to that extent unfair interpretations. My aim is to go over the definition (and the **Note**) almost sentence by sentence, clarify some potential ambiguities that it involves, and argue that these criticisms don't cut much ice. At the end, I will present a few slightly reworded versions of the definition that I claim are more felicitous and capture the original intended meaning by the members of the taxonomic committee in a much better and transparent way that avoids all the major extant criticisms in the literature. As I will explain, the choice among these versions will depend on our theoretical and practical priorities. But I claim *all* are slightly different rewordings of the ISAP definition. I will conclude by briefly discussing two points that may be potentially useful to keep in mind for future taxonomic research as the definition itself has been meant to be work in progress and open to further improvements.

Here is the IASP definition of ‘pain’ with its attending **Note** in full:⁵

Pain

[1] An unpleasant sensory and emotional experience [a] associated with actual or potential tissue damage, or [b] described in terms of such damage.

⁴ Loeser and Treede (2008, 473).

⁵ The numbering in square brackets is all mine, added for ease of referencing parts of the definition in what follows.

Note: [2] The inability to communicate verbally does not negate the possibility that an individual is experiencing pain and is in need of appropriate pain-relieving treatment. [3] Pain is always subjective. [4] Each individual learns the application of the word through experiences related to injury in early life. [5] Biologists recognize that those stimuli which cause pain are liable to damage tissue. [6] Accordingly, pain is that experience we associate with actual or potential tissue damage. [7] It is unquestionably a sensation in a part or parts of the body, [8] but it is also always unpleasant and therefore also an emotional experience. [9] Experiences which resemble pain but are not unpleasant, e.g., pricking, should not be called pain. [10] Unpleasant abnormal experiences (dysesthesias) may also be pain but are not necessarily so because, subjectively, they may not have the usual sensory qualities of pain. [11] Many people report pain in the absence of tissue damage or any likely pathophysiological cause; [12] usually this happens for psychological reasons. [13] There is usually no way to distinguish their experience from that due to tissue damage if we take the subjective report. [14] If they regard their experience as pain and [15] if they report it in the same ways as pain caused by tissue damage, [16] it should be accepted as pain. [17] This definition avoids tying pain to the stimulus. [18] Activity induced in the nociceptor and nociceptive pathways by a noxious stimulus is not pain, [19] which is always a psychological state, [20] even though we may well appreciate that pain most often has a proximate physical cause. (IASP Committee on Taxonomy, 2011)

1. The Main Definition

According to the IASP definition, pains are *experiences*—subjective psychological states. More precisely, they are qualitative *mental episodes*. There are all sorts of mental episodes, so we may ask: what kind? The IASP definition adds to Merskey's original suggestions that they are sensory and emotional. Why sensory? Because they are normally the products of specialized sensory systems in the sense psychophysicists generally intend: nociception is a species of relatively specialized sensory processing in the service of discriminating physical stimuli impinging on the sensory nerve endings (receptors, including nociceptors) registering their various variable features such as their onset, intensity, duration, location, forms of energy, etc.

The definition adds that the resulting sensory mental episodes are also *unpleasant* and emotional. Let me comment on the unpleasantness first. A lot of sensory experiences are hedonically neutral, but some are pleasant some unpleasant, to varying degrees and duration. If we want to express this truism in the language of hedonic valence and accept that all sensory experiences may be valenced, we may say that some sensory experiences have neutral, some have positive, and some have negative valence. Thus, pain experiences are not only sensory but also have *hedonic valence*—therefore they are *affective* experiences. Pain

experiences have a negative valence that we may call their ‘unpleasantness’ and use this term as an umbrella term to refer to the negative affective aspect of pain experiences.⁶ This is in line with the distinction made by Melzack and Casey in their 1968 paper between the *sensory-discriminative* and *affective-motivational* aspects of pain experiences.

The IASP definition also says that pain experiences are *emotional*. Indeed, they typically involve emotional states such as anxiety, concern, fear, etc. For the purposes of what follows, I will put the emotional aspect of pain experiences aside—at least tentatively. Part of the reason for this is that most scientists and clinicians (not to mention the plain folk) seem to use the term ‘emotional’ (in the context of pain) just to mean affective or valenced. Support for this is the sentence [8] in the **Note** saying that pain experiences are emotional *because* they are unpleasant. However, if something more than this was meant in the definition such as involving fear, anxiety, concern, distress, etc., it is worth pointing out that although such emotions are typically involved in pain experiences,⁷ they may not be *necessary constituents* of pain experiences, so they need not be included in their *definition*. For instance, in my hurry to the kitchen to check the casserole on the stove, I hit my elbow on the frame of the kitchen door. I suddenly feel a jabbing pain there, utter a mental expletive, and without stopping, move on to check the casserole. The pain is gone and forgotten after a few seconds. There was certainly an *unpleasant* sensory experience there, a pain in my elbow, but it seems implausible to say that I was in an emotional state during the few seconds—what emotion was it exactly? Irritation, distress, discomfort? I am not sure these are worth calling emotions (lasting just a few seconds). But even if we choose to call them emotions, note that it was *because* it hurt, or *because* the episode was painful/unpleasant, that I became irritated, distressed, and so forth. In other words, my *pain caused* the irritation and distress, etc., on my part. If so, these, as *effects* of pain, cannot be *essential constituents* of pains. I don’t deny that pain experiences involve emotions most of the times (perhaps, always), but I leave its discussion aside here since it involves controversies about what should go into a *definition* and what shouldn’t. However, nothing hangs on this in what follows. I am happy to leave ‘emotional’ in the definition if it is insisted on—my claim is that it doesn’t really contribute much to the definition beyond the contribution ‘unpleasant’ makes.⁸

⁶ Given the prevalence of acute or chronic *severe* pains, it seems an understatement to call this often awful, excruciatingly hurtful, abhorrent affective quality that is the source of so much suffering merely ‘unpleasant’. But we need a short umbrella term to capture this negative hedonic quality in an adequate definition. It is nevertheless important to keep in mind that it is the negative hedonic valence (primary, moment-to-moment affect) and the suffering (secondary, higher-order) it causes in chronic conditions that makes pain the focus of medical practitioners, and therefore, clinically relevant.

⁷ Indeed, they are typically a *big* part of suffering caused by pains.

⁸ Price (2000, 1769) distinguishes the moment-to-moment unpleasantness of pain experiences from their secondary affect which involves emotions caused by the pain experiences such as distress, anxiety, fear, concern, panic, depression (or even elation) as the perceptual context and the doxastic background of the patients vary. See also Fields (1999) for a similar distinction between the primary

For the moment, we can simply note that the definition says that pains are unpleasant sensory mental episodes. But there are still a lot of sensory unpleasant episodes that are not pains such as the experience of smelling a rotten fish or suddenly hearing a very loud noise, or feeling a sudden intense itch, etc. What distinguishes pains? It is at this point one needs to pay attention to the phrase [1a] “associated with actual or potential tissue damage.”

1.1. Main definition: “. . . associated with actual or potential tissue damage”

To properly understand the way [1a] functions in the IASP definition, we need to keep in mind, as the **Note** makes clear, that pain experiences come with a typical phenomenology, the set of “usual sensory qualities of pain.” We may add to this set the *affective qualities* as well, such as their unpleasantness or hurting qualities. In other words, there is typically a complex set of sensory and affective phenomenal qualities distinctive of pain experiences that one is subjectively acquainted with when one is experiencing pain—this is how one generally comes to recognize that one is in pain. Indeed, the very notion of an experience as a mental episode requires subjective phenomenology—how else to understand this notion if we are dealing with common mental terms?⁹ So pains have a distinctive (almost certainly complex) experiential phenomenology. Given that this phenomenology is directly accessible through first-person acquaintance only, the question arises about how to secure reference to this phenomenology for purposes of providing an adequate definition. We need proper descriptors to further narrow down the class of unpleasant sensory experiences to *all* and *only* pains. The IASP definition insightfully opts for the descriptor “associated with actual or potential tissue damage.”

Let me say what I take to be the main idea behind this choice. Given that pain phenomenology is first-person access only, we need a reliable way of fixing reference to it in such a way that a general definition employing this descriptor shall succeed delineating what this phenomenology is. This is done on the basis of *canonical occasions* where there is no doubt that certain objective stimuli that are indeed causing or likely to cause tissue damage if sustained, *actually* result in certain kinds of unpleasant sensory experiences that we label as pains. In other words, we start with pain experiences that indeed result from actually or potentially tissue damaging stimuli (call these *canonical stimuli*) and fix on the phenomenology of pain experiences by saying something like this: it is the common phenomenology of those experiences that are the result of such and such canonical stimuli.

and secondary affect involved in pain experiences. For a discussion of this distinction within the affective dimension of pain, see Aydede and Güzeldere (2002). This includes critical commentary on a debate between Don Price and Howard Fields just on this distinction.

⁹ I will come back to this matter later, when I take up the issue of consciousness and how it interacts with the notion of experience. So far, I am going along with the natural and plausible assumption the IASP definition makes, namely, that the mental episodes that *are* pains are conscious experiential episodes.

The procedure is similar to saying that the phenomenology of visually experiencing red is the same as the phenomenology of seeing the Chinese national flag (under normal circumstances)—if you are just recovering from congenital color blindness and wondering what it is like to see red, this identification or reference fixing procedure would actually be of some help: all you need to do is to look at the flag in good light and attend to your visual experience (and compare it, perhaps, to others). We don't have a separate word in English for visual experiences distinctive of seeing red. But we do have a separate word for experiences distinctive of undergoing tissue damaging stimuli in canonical situations. Hence the question of its definition arises. But phenomenology seems ineffable. So, we help ourselves to its *canonical* causes to get a fix on the phenomenology. The experiences with *that* kind of phenomenology, we say, are pains! Once we fix the reference on the basis of canonical situations, the means by which we do so become (have been, we realize) somewhat inessential for the purposes of defining the nature of the kind of thing we refer to—as (1b) makes immediately clear, see below. At best, they enter into the definition as merely ways of reliably fixing the reference to the right kind of phenomenon.

I submit that the interpretation just given is the most charitable reading of [1a]. That this is the intended reading is supported by what is said in the **Note**. Notice the progression in [3] through [6]:

[3] Pain is always subjective. [4] Each individual learns the application of the word through experiences related to injury in early life. [5] Biologists recognize that those stimuli which cause pain are liable to damage tissue. [6] Accordingly, pain is that experience we associate with actual or potential tissue damage.

[3] reminds us the first-person access only nature of pain phenomenology. The point of [4] is to elaborate the consequence of [3] for a normally developing individual: one gets to learn how to use the word 'pain' through observing associations between canonical stimuli and one's subsequent phenomenology in the presence of others' telling one what to call these experiences. In effect, [4] encapsulates a little idealized empirical theory about how words that refer to experiences are normally acquired, which is eminently plausible. [5] is redundant but nevertheless adds epistemic/scientific authority (in case needed) to the claim that those physical stimuli that typically end up causing pain experiences are indeed canonical (i.e., tend to be actually or potentially tissue damaging stimuli). [6] then makes explicit the reference fixing nature of the proposal: "pain is *that* experience we associate with . . . tissue damage" (italics mine).

The use of 'associate' here or 'associated' in the main definition is a bit unfortunate and has caused needless confusion and generated criticism that could have been easily avoided. It is too general and vague and raises questions about who does the association or

whether one's pain needs to be actually associated with damage, etc. For instance, Donald Price writes in his influential book.¹⁰

The definition postulates an association between an experience of unpleasantness, a sensation, and actual and potential tissue damage, but it is not at all clear from whose point of view such an association exists: is it based on the judgment of an outside observer or the experience of the person in pain? (1999, 1)

He goes on to claim that the act of such association “may be neither necessary nor sufficient for the experience of pain” (*ibid*). Price then offers his own definition that avoids the use of this term in this way. In his original formulation, Merskey had used ‘we’: “An unpleasant experience that we primarily associate with tissue damage. . .” It is clear that the authors of the IASP definition didn't intend to require any *actual act* of association either from the perspective of an outside observer or the subject of pain, and the association was meant to be “general”—done by the folk or the scientists in general.

The term ‘association’ is also too broad to serve its intended purpose: all sorts of things that are not causally related, or causally related but not in the right way, may come to be associated with one another for all sorts of reasons. Association, if we follow the tradition of the British empiricists, is simply an idea of something coming to regularly follow the idea of something else. Such a vague and broad notion is clearly ill-suited to serve the reference fixing function of the phrase expressed in [1a]. If we take the word literally, it is not very difficult to find counterexamples to the IASP definition. Consider, for instance, the experiences of a former soldier suffering from PTSD who regularly undergoes distressing visual experiences with bright flashes accompanied with nausea and dizziness upon seeing open wounds of a certain kind under circumstances reminiscent of his battlefield experiences—a clear case of *association* with tissue damage. But I take it that these unpleasant *visual* experiences are not pains of the kind that concerns IASP.¹¹ We may leave the language of the definition as it is but clearly elaborate the intended meaning separately, as I have been doing, or else replace it with a better phrasing that makes this intention clear and obviates such an extra elaboration, as I will suggest below. Let me now turn to the need for [1b].

¹⁰ See also Price and Barrell (2012, Chapter 7) for a more detailed critical discussion of the IASP definition of pain. Although I don't agree with some of their criticism of the IASP definition, I am in general quite in sympathy with the main thrust of the main part of their own definition of pain as an experience “comprised of (1) unique sensory qualities that are like those which occur during tissue damaging stimulation . . .” (2012, 166).

¹¹ This is also a counterexample to the definition of pain that Amanda Williams and Ken Craig propose in their (2017). For a critical assessment of their proposal, see Wright and Aydede (2017).

1.2. Main definition: “. . . or described in terms of such damage”

As is very well known, unlike visual experiences of red things, pain experiences have a notorious tendency to show up very frequently in the absence of their canonical stimuli. When they do, they are still the genuine item—they *are* pain experiences. These experiences are of the same phenomenal type as those pain experiences caused by canonical stimuli—or at least they are sufficiently similar (in terms of their sensory and affective qualities) so they may be correctly labeled as pain. So of course, as genuine pains, they will be as equally the source of genuine suffering and misery as those pain experiences caused by their canonical stimuli. So, it is an adequacy condition on the definition of pain that it should cover these experiences in its scope. It is the job of [1b] to do this: “. . . or described in terms of such damage.”

[1a] gives us a fix on the type-individuation of the phenomenology of pain experiences by using the contingent but regular causal connections to tissue damage and their connection to nociceptive stimuli. In my view, the intended function of [1b] is to use this fix on the characteristic pain phenomenology to *generalize* the definition to all the unpleasant sensory experiences of the same or sufficiently similar kind—to cover all and only pain experiences irrespective of their actual causal histories. Note that the phenomenological sameness or sufficient similarity between the pain experiences caused by canonical stimuli and those not so caused will enable the correct *describability* of the latter in terms of the former. But here we need to be careful.

Suppose I feel a certain burning pain on my right thigh *not* due to any canonical stimuli but due to some pressure on the relevant nerves in my lower spine. Let’s further suppose (under idealization for the purposes of making my point) that this pain is very much like a pain I would have had if my thigh had been subject to actual physical stimuli of an appropriate sort. Given that my present pain is not due to such a stimulus (thus not due to any sort of actual or potential tissue damage in my thigh), it would be incorrect to *describe* it as one due to such a stimulus—since it is not. What is meant by ‘correctly describable’, of course, is that my current pain is *like* a pain that is due to an actual canonical stimulus. What is required minimally is that the relevant experience (not satisfying [1a]) be capable of being correctly described in the vocabulary of tissue damage—using terms that generally refer to actual or potential tissue damage. This doesn’t necessitate that this exact experience is correctly describable *as if* caused by a certain sort of canonical stimulus (or, *as if* occurring as a result of such and such actual or potential tissue damage—although they *may* be so describable). All that is required is the general describability by using a certain sort of vocabulary to capture the right phenomenology. This vocabulary need not consist entirely and exclusively of terms that refer to tissue damage. What is important is that the vocabulary includes terms that refer to the sensible (physical) features (e.g., hot, warm, etc.) and non-mental causal effects (e.g., pricking, tugging, cutting, pinching, etc.) of canonical stimuli

widely available to and used by the general public. In this regard, most of the descriptors used in the McGill Pain Questionnaire would naturally be included in this vocabulary.¹²

Note also that the definition uses the sentential connective ‘or’ which usually expresses the inclusive disjunction in English so there is no need to add ‘or both’.¹³ A disjunction of the form ‘ p or q ’ is true just in case at least one of the disjuncts is true—false otherwise. So, the form of the definition is *inclusive disjunction*: “an unpleasant sensory experience that satisfies [1a] or [1b].” Many times, when an experience counts as pain, it will satisfy both disjuncts. But the point—which was the most progressive and significant aspect of the definition—is that an experience can genuinely be a pain when it satisfies only [1b], at least when [1b] is read in the way I’ve just explained.

The interpretation just offered is the most charitable reading of [1b] that I claim the authors of the IASP definition had originally in mind. It is meant to generalize the requisite phenomenology fixed by [1a] to all and only those experiences that are genuine pains (even in the absence of any actual or potential tissue damage). The actual wording of [1b] is a little unhappy, however, since it invites irrelevant questions about whether anybody needs to actually describe any putative pain in terms of damage for it to count as genuine pain in the absence of any actual or potential damage, and if so, who ought to do the describing, the outside observer or the individual in pain, or both, or some other authority? Clearly, no act of actual description by anybody or even the subject’s own capability of linguistic description is required.¹⁴ What is crucial is *not* that the experience should actually be described by somebody, but rather that it be *describable* correctly using a certain sort of vocabulary (or a set of concepts) to capture its phenomenological similarity to canonical pains.

There is good support in the **Note** for my reading of [1b]. As said, [1b] functions as a generalization device: [1a] fixes a certain type of phenomenology on the basis of canonical occasions where canonical stimuli cause pains, and then [1b] tells us that any experience with the same or sufficiently similar phenomenology is a genuine pain—by telling us it is correctly describable as pain in the same language used to describe pains that satisfy [1a]. So, the sentences [9] through [16] in the **Note** emphasize that there are genuine pains in the absence of any actual or potential tissue damage or “any likely pathophysiological cause.” [9] reiterates that the *affective* character of pain experiences (their unpleasantness) is essential for pain phenomenology so that if there are experiences that are otherwise similar to pains but lacking unpleasantness, they are not pains.¹⁵ Conversely, [10] is intended to tell us that if there are experiences that are unpleasant but lacking “the usual sensory qualities” essential for pain

¹² See Melzack (1993; 2005), and Melzack and Torgerson (1971).

¹³ This was apparently a point debated between H. Merskey, P. Clark, and E. Stengel—see the recount in Merskey (1994, S75).

¹⁴ As the clause [2] makes it perfectly clear, which was added in 2003 probably as a result of the kind of criticisms initiated by Anand and Craig’s influential paper (1996)—see below.

¹⁵ See the concluding section below for more discussion of this point.

phenomenology, they are not pains either. The phrasing “may also be pains. . . but not necessarily so” is likely to generate some ambiguities by inviting a reading according to which a given unpleasant sensory experience may sometimes be pain, sometimes not. This is confusing. There is no need for such a phrasing.¹⁶ The point of [10], as I read it, is that an unpleasant sensory experience is a genuine pain if, and only if, it has enough of “the usual sensory qualities” of canonical pains as fixed by [1a].

Before commenting on the remaining portion of the **Note** and responding to some criticisms of the IASP definition, let me state what I take to be a more precise and felicitous way to express the intended IASP definition of pain:¹⁷

Pain (1)

An unpleasant sensory [and emotional] experience that [canonically] results from actual or impending tissue damage, or is correctly describable in terms of such damage.

The addition of ‘emotional’ in my opinion is redundant, so optional at best—that is why I enclosed it in brackets to indicate that I am not fond of including it, but would not mind if someone who likes my formulation wants to retain it. Similarly, with the word ‘canonically’—not necessary if the definition is read with the explanation offered above. Its addition may nevertheless be technically advised in order to exclude some counterexamples such as nausea due to noxious intake, itches caused by bites, etc. In other words, there may be unpleasant sensory experiences caused by actual or potential tissue damage that are nevertheless not pains. The suggestion for adding ‘canonically’ is meant to exclude these cases by telling us that these cases aren’t in the class of *canonical reference fixing occasions*, where certain tissue damaging stimuli (canonical stimuli) actually cause unpleasant sensory experiences that we naturally label as pain on the basis of their phenomenology. Canonical occasions are meant to guarantee that we pick out the right phenomenology.¹⁸

¹⁶ However, I suspect that this phrasing may have been prompted by worries of the kind I will raise at the very end of this paper.

¹⁷ I prefer ‘impending’ to ‘potential’ for reasons partly discussed in Wright (2011).

¹⁸ This is not circular. We find out what unpleasant sensory experiences people call ‘pain’ on the basis of what canonical stimuli prompt them. This is empirical. Once we delineate the class, we say any experience with the same or sufficiently similar phenomenology is pain. There is nothing circular about this. Phenomenology is the essential element in understanding the definition—we get to it in an empirically contingent way. It is natural to wonder, at this point, whether we can fix on the right phenomenology by requiring that the canonical stimuli engage the *nociceptive* system (cf. Loeser and Treede 2008). This would make the definition too theory-laden. Moreover, I doubt whether this would rule out some cases like itches that seem to partly rely on the nociceptive system.

I became aware of Smith et al. (2011) after completing the first draft of this paper—thanks to Werner Ceusters. They are using a similar strategy of defining ‘pain’ on the basis of “canonical pain

To recap: the first disjunct functions to fix on or to pick out the correct pain phenomenology on the basis of those canonical pains that actually result from actual or impending tissue damage (or canonical stimuli). The second disjunct then functions to guarantee that any unpleasant sensory experience of the same or similar phenomenal kind is genuine pain in virtue of being describable in the same language used to describe pains due to tissue damage—irrespective of whether these experiences are actually the result of tissue damage. This definition doesn't require anybody's actually describing, or even having the ability to describe, one's experience for the experience to count as genuine pain. Note that any experience that satisfies the first disjunct will *ipso facto* satisfy the second disjunct, but the converse is not true: an experience can satisfy the second disjunct without necessarily satisfying the first—and that was the main insight and significance of the original IASP definition that is retained here in a more precise and unobjectionable way.¹⁹

2. Objections to the IASP Definition and Their Rebuttals

Let me now turn to my commentary on the remaining bit of the **Note** and respond to two major criticisms aired in the literature. The first criticism is that the IASP definition commits us to a pernicious metaphysical dualism. The second objection is that the definition itself doesn't apply to individuals incapable of self-report.

2.1. Dualist metaphysics?

The first part of [11] states a very commonly observed fact that [1b] attempts to accommodate in the main definition. The second part adds the existence of correct pain reports in the absence of “any likely pathophysiological cause.” When combined with what is claimed in [18–20], it may become tempting to claim that the IASP definition is committed to a position according to which pain experiences are existences ontologically quite distinct from any underlying neurophysiological, or indeed any physical, events or processes in the brain. This

as an evolutionary basic mechanisms” that involve responding to threats of tissue damage. They then extend the definition to other experiences that are phenomenologically similar to canonical pains. However, they include “activation of the nociceptive system and associated emotion generating brain components of [organism] S” in the definition. This turns their attempt into something more than a definition. Also, they seem to agree with the critics that the IASP definition suffers from an inability to cover animals and small children—see below. Nevertheless, the intuitions they are tapping into in developing a definition of pain are clearly similar to the ones I claim that actually guided the IASP definition itself, as well as my own rewording of it.

¹⁹ There is, however, an inherent weakness of this definition that is also to be found in the original IASP definition to which I will come back below in the concluding section and propose some tentative (and minimally invasive) strategy to deal with it.

is the charge that the IASP definition implies metaphysical dualism. For instance, Hardcastle writes:²⁰

I hold that, however intuitive, the IASP definition of pain is unworkable because it forces one to divide the mental from the physical in unnatural ways. To be more precise: it implies that the pain sensations correspond to no particular underlying neurological activity. Materialists must reject this position outright. (1999, 203)

If the IASP definition (in particular [11] and [18–20]) had implied this, then it would indeed have been committed to a kind of metaphysical mind-body dualism that is *even more troubling* than the Cartesian substance dualism or the more modern but still problematic property-dualisms. More troubling, because even the Cartesian or modern property dualisms hold that pains have physical causes or “correspond” to physical events. On almost all these dualisms, pains are just numerically distinct events not metaphysically identical with or reducible to any physical events, or have features (qualities) that are not reducible to any physical features. Nevertheless, according to almost all of these dualist positions, although pains are themselves non-physical events, they are nevertheless regularly caused by (or correlated with or “correspond” to) physical (e.g., neurological) events in the brain given the laws of our actual world.²¹ This is why a pain scientist could be a metaphysical dualist believing that pain experiences are mental episodes of a metaphysical type essentially different from anything physical, while also being perfectly capable of *scientifically* studying the neural *correlates* of pain experiences. Such a pain scientist may even believe that these neural correlates are not only mere neural *correlates* but are actually *causally responsible* in a regular way for pain experiences and their qualities.

Nevertheless, the IASP definition and the **Note** have no dualist implications—even of the one-way causal connection sort. The expressions ‘pathophysiological cause’ in [11] and ‘proximal physical cause’ in [18–20] are obviously meant to refer to only the actual or potential tissue damage detectable by nociceptors, or to the peripheral or spinal nerve injuries or pathologies capable of producing pain experiences, and not to centrally occurring brain events. Clearly, [11] and [18–20] don’t imply the possibility that there may be two physically type-identical healthy brains each planted in a normally functioning individual where one experiences pain and the other doesn’t.

Evidently, there are “centrally caused” pains. The **Note** wisely leaves open whether these pains (indeed, any otherwise caused pains, including “psychologically” caused pains) are identical with or somehow metaphysically reducible to the neurophysiological events happening in the brain. The IASP definition and the accompanying **Note** are, therefore,

²⁰ For similar criticisms, see also Shapiro (1999). For an interesting discussion, see Duncan (2000).

²¹ See, for instance, Robinson (2004) for a sophisticated epiphenomenalist version of this claim. For general discussion of property dualism, see Chalmers (1996; 1998).

neutral about the ultimate metaphysical view of the nature of pain experiences. And this is as it should be—a definition of pain that is meant to fix the subject matter of pain research and the operational focus of clinicians cannot and should not take a position about the correct metaphysics of pain experiences. So, when [12] says that some of these pains occurring in the absence of any pathophysiological cause are due to psychological factors, this is not to be interpreted as these pains having no physical causes at all, or as denying that they can be reduced to neurophysiological events in the brain—as said, nor does it affirm this last point.²²

2.2. Self-report required?

Let me now turn to the second historically more influential and clinically more important objection to the IASP definition. As far as I am aware, the objection was first articulated explicitly in print by K.J.S. Anand and K.D. Craig (1996) that played an essential role in the subsequent often multi-faceted debate:

In its present form, however, the definition of pain challenges our understanding of pain because it does not apply to living organisms that are incapable of self-report. This includes newborn and older infants, small children, mentally retarded, comatose, demented, or verbally handicapped individuals, and all primate and non-primate animals. For the purposes of this editorial, we will assume that the operational consequences of this definition are most evident in the clinical care given to neonates and small children. (Anand and Craig 1996, 3)²³

Nance Cunningham (1999) even goes so far as to suggest that according to the IASP definition “only effective communication of pain brings pain into existence” (1999, 94). These are surprising claims since a careful analysis of the IASP definition reveals that it doesn’t have any such consequences. Given its disjunctive character, [1] implies that an

²² In my career, I have interacted with many pain scientists and clinicians, some of them are indeed dualists, some are not, but most don’t have any firm opinion. As far as I can tell, most don’t fault the IASP definition because it has dualist or materialist implications. The authors of the IASP definition were wise enough to recognize this and wrote the definition and the **Note** leaving the metaphysical implications wide open—as pointed out, the actual phrasing doesn’t support a dualist interpretation anyway.

²³ As Anand et al. (2000, 159) put it: “The prevalent denial of neonatal pain was partially attributed to the current definition of pain promulgated by the [IASP]. . . The exclusive reliance on linguistic reports of pain, as imposed by this definition, has been challenged recently . . . and is considered a matter of moral urgency. . .” For a more recent statement, see Craig (2006, 9), who writes: “Complicating the challenge of understanding pain that does not have a clear basis in injury or disease is the increased likelihood that people with developmental disabilities may not have the verbal capability to describe their pain, as the phrase ‘or described in terms of such damage’ implies would be necessary.”

unpleasant sensory experience that satisfies only [1a] is a genuine pain, whether or not the individual who is thus in genuine pain is (ever) capable of reporting his/her/its experience—let alone whether has actually produced a verbal report.²⁴ This alone establishes that the IASP definition doesn't *constitutively* tie pains to their verbal *effects*, or indeed to any particular expressive behavior.²⁵ So, according to the IASP definition, verbal reports are *not necessary* for the presence of pains.

As we have seen, the definition and the **Note** (especially [17–19]) also warn, emphatically, against constitutively tying pains to their peripheral *causes* (e.g., actual or potential tissue damage or activity in the nociceptors or nociceptive pathways [17–18]). It follows that pains are one thing, their causes and effects another, according to the IASP definition. Of course, pains' typical causes and effects can and typically do provide *evidence* for the presence of pains. Some of these may be more or less reliable evidence than others—indeed sincere verbal reports may be the “gold standard” for the evidence they provide for the presence of pains. This is all consistent with, indeed implied by, the IASP definition and the **Note**. But *evidence* for the presence of pain is not itself pain or is *constitutively* tied to the presence of pain. Losing sight of this point would be to confuse epistemological/operational matters with ontological/definitional matters—a fallacy often committed by the early logical positivists and behaviorists.

I suspect that the phrasing of [11–16] might be partially responsible for why Anand and Craig (and the literature that followed suit) thought that the IASP definition discriminates against pain capable non-verbal organisms. The sentence [13–16], in particular, seems to offer an operational procedure whereby the presence of pain can be established in certain situations on the basis of verbal reports. The phrasing of what I take to be the main ideas behind [13] through [16] is, however, a bit unfortunate. So let me clarify it. [13] is sort of enthymemic. When fully expressed, [13–16] should say something like this:

[*] If we take the sincere subjective report of a patient who claims to be in pain despite no actual or potential tissue damage or despite the lack of any pathophysiological cause, and if the patient is not conceptually confused or somehow

²⁴ This point is elegantly made by Andrew Wright in his chapter on the IASP definition on pain in his (2017). This chapter contains a much more detailed and generally quite helpful analysis of the IASP definition of pain and the accompanying **Note**, but it is substantially critical of it. I believe my reading of the definition avoids Wright's major criticisms.

²⁵ Indeed, Harold Merskey in his response to Anand and Craig makes this clear: “The very words ‘Pain behaviour’ are often employed as a means to distinguish between external responses and the subjective condition. I am in sympathy with Anand and Craig in their wish to recognize that such types of behaviour are likely to indicate the presence of a subjective experience, but the behavior cannot be incorporated sensibly in the definition of a subjective event” (Merskey 1996, 209). However, in the very same response, Merskey himself seems to have been sidetracked about the issue of whether “apparent probable pain” is real pain—apparently confusing epistemology with ontology.

cognitively compromised or linguistically incompetent, the report would *indicate* the presence of an experience that is not distinguishable from an experience due to tissue damage (in the sense that their experience is of the same or sufficiently similar phenomenal type as that of an experience paradigmatically due to tissue damage) and this is evidentially sufficient to establish that the patient's experience is genuine pain.

This is, of course, a mouthful but it unambiguously states what appears to be an attempt to state an operational procedure that provides a *sufficient* (but not necessary) condition for the presence of pain that could be used in a clinical setting and be helpful to the medical practitioners in general. Briefly, then, under certain circumstances, sincere verbal reports, even in the absence of any pathophysiological cause, are sufficient (although not necessary) to establish the presence of pain. Note, however, that nothing follows about whether the IASP definition applies to organisms incapable of self-report, even if we take the operational procedure to be quite reliable in clinical settings. It may be that Anand and Craig (and the ensuing literature) mistook a conversational implicature for genuine implication. Compare someone who, having heard that if it rains the outdoor party will be cancelled, infers mistakenly that the party is not cancelled simply because it's not raining—the party may have been cancelled for other reasons. Analogously, it may be true that if a patient sincerely reports she is in pain, she is in pain. It doesn't follow that if she doesn't (or can't) report, she is not in pain.²⁶ The IASP definition and the **Note**, wisely, avoid any such mistaken implication.²⁷

So, it is simply not true that the IASP definition of pain “does not apply to living organisms that are incapable of self-report” as Anand and Craig claim. Anand and Craig are not the only ones who think that the IASP definition is defective in this way.²⁸ In fact, even

²⁶ Note that the addition of [2] later to the **Note** without any revision of the main definition is a paradigm example of how to test whether a statement is logically implied rather than merely conversationally implicated. If the main definition really implied that a verbal self-report is required, the addition of [2] would generate a contradiction. Clearly there is no such contradiction. See Grice (1975) for the so-called cancellability test.

²⁷ It is interesting, and somewhat sad, that the lack of verbal self-report is made *sufficient* for withholding the word ‘pain’ by Marshall Devor in a passage quoted on the introductory webpage of the European Pain Federation (EFIC): “. . . there are circumstances in which the presence of pain is ambiguous, such as when the individual is unable to report on his/her conscious percept, or with reference to animals. In these situations, the word ‘nociception’ is used instead of the word ‘pain’ to express that the nervous system has detected the noxious stimulus without necessarily implying that a pain percept was evoked” <<http://www.efic.org/index.asp?sub=OEIX4QVHa073B4>>. It is ironic that this quotation from Devor is posted at the start of a reposting of the IASP's definitions of pain terms where the first entry is ‘pain’ itself as in the original list. As we have seen, the IASP definition itself makes no such claim. EFIC is the federation of European chapters of the IASP. It is a curious question as to whether Devor's opening on the EFIC webpage, which has been online since the early 2000's, might have contributed to the misinterpretation of the IASP definition itself.

²⁸ Among others, for a sampling of those who seem to think that the IASP definition has or may have

some of the responses to Anand and Craig's criticism in the literature don't challenge the claim that the IASP definition doesn't apply to organisms incapable of self-report. For instance, Stuart Derbyshire defends the IASP definition against the criticisms by Anand and Craig (and others) by claiming that most organisms incapable of self-report (such as fetuses, neonates, very young infants, perhaps most animals) are not capable of having a *conscious* experience anyway. *A fortiori*, the IASP definition doesn't apply to them, because they don't experience pain even though they can be stimulated and behave as if they do. The IASP definition has no implication about self-report of the sort that bothers Anand and Craig and others, nor does it have the consequence that Derbyshire thinks it does excluding neonates, etc., because it requires consciousness. So, let me briefly discuss the issue of whether the IASP definition requires consciousness.

3. Does Pain Require Consciousness?

Derbyshire (1996; 1999b) in his response to Anand and Craig (1996) and to Cunningham (1999) claims that the IASP definition correctly requires that pain experiences be conscious states and alleges that there is enough scientific evidence to think that the capability of having such conscious states develops hand in hand with the development of linguistic and cognitive capabilities. Consequently, he claims, there is good reason to think that the IASP definition indeed doesn't apply to fetuses, neonates and very young infants who lack such capabilities—he thinks that this is as it should be.²⁹

Consciousness and its role in perception is a large and controversial topic that I cannot usefully discuss within the confines of this paper.³⁰ Various distinctions need to be made, subtle phenomena in the explanandum ought to be observed, etc. Let me say this much, however. To the extent that our commonsense conception of pain is the conception of a conscious experience, and to the extent that the IASP definition incurs this understanding, I agree that the conception of pain as a subjective psychological experience with a certain phenomenology is the conception of a conscious state. So, to this extent, the IASP definition of pain requires that only creatures capable of having conscious states can experience pain. But nothing very substantial follows from this, unless it is independently established that

this implication, see Anand (1996), Anand et al. (2000), Derbyshire (1996; 1998), Cunningham (1998; 1999a, b), Price (1999), Rollin (1999), Varner (1999), Shapiro (1999), Craig (2006), Bodfish et al. (2006), Morris & Wilson (2008), Smith et al. (2011). Even Merskey (1996) at times seems ambivalent about what to say. (Cf. Fields 1999; Wright 2011, 2017).

²⁹ On independent but similar grounds about the nature of consciousness, Peter Carruthers (1989) argues directly against the claim that animals have phenomenal consciousness. He thinks that they cannot therefore experience pain.

³⁰ See, however, Aydede and Güzeldere (2002; 2009), Price and Aydede (2006), Aydede and Price (2006).

members of these groups are incapable of having any psychological states worthy of labeling as conscious. But this is a very tall order. Both commonsense and an increasing body of scientific research support the claim that these groups are capable of having at least a rudimentary form of “present oriented” conscious states.³¹

However, suppose there is some doubt about to what extent neonates and young infants (as well as some animals) can be in conscious states when compared to normally developed mature humans. Would this doubt be relevant to a definition like the IASP’s? To answer this question let’s have a look at a parallel case.

Consider a visual scientist trying to understand visual experience. To the extent that the notion of a perceptual (visual) experience is the notion of a conscious experience, the same problems confronting the pain scientists will confront this visual scientist. If neonates or young infants (not to say anything about many animals) are capable of *seeing* their environment, and consequently of learning from it and reacting to it—and there should be no doubt that they are so capable—they are capable of undergoing visual experiences in the relevant sense. Parents (and medical practitioners for that matter) are quite capable of detecting whether their babies can or cannot *see*. There may be legitimate doubts about whether these babies are capable of having conscious visual experiences *in the way in which normal grownups can*. But these doubts will not (and should not) affect the medical procedures required as a result of a proper diagnosis of visual impairments, or of blindness in the limiting case, in babies. The question of whether visual experiences of babies are of the same kind with (or similar to) the visual experiences of adults is an important theoretical as well as empirical question about which there has been much ongoing research and progress. But in whatever sense they are similar or different, there is no doubt that normal babies *can see*,³² thus *can undergo psychological states that support facts that constitute their seeing*. If, for whatever reason, we are uncomfortable to label their visual experiences as conscious understood in reference to the adults’ visual experiences, we may simply call them ‘proto-conscious’ states or ‘proto-experiences’ instead, and proceed treating them in the usual ways in which medical science and good commonsense requires.

We can and should adopt the same attitude regarding the pain experiences of neonates and young infants (and even the relevant range of animals). These experiences are psychological states that typically arise out of sensory stimulation that is the result of impinging noxious stimuli, and typically give rise to certain range of behavioral or bodily expressions about which we started to learn increasingly more. We may similarly call these states ‘proto-conscious’ in the context of the question of whether they are conscious in the

³¹ See, for a sample, the articles in Anand et al. (2007). See also Anand et al. (1999). The review article by Lagercrantz and Changeux (2009) is especially insightful. Mellor et al. (2005) review the literature that seem to show that there is a discontinuity between the fetus and the new born in terms of awareness.

³² In the sense of “simple seeing”—see Dretske (1979). Cf. Zelazo (1996).

same or different ways that adults experience pain, and proceed treating them in the usual ways in which medical science and good commonsense requires.

On my part, I don't see the necessity of switching from the vocabulary of 'experience' to 'proto-conscious experience', but it's a path available to those who feel uncomfortable, for whatever reason, about talking about the adult-like conscious pain experiences in babies. Nothing very substantial hangs on this, as I say. The IASP definition of pain (as well as my own rewording of it) has no implications about whether neonates and young infants as well as relevant group of animals can experience pain, simply because the reference of the term 'experience' requires some sort of a conscious state and because there is a question whether these groups can be in conscious states in the way in which adults can. At worse, the definition leaves this issue wide open, but I believe, it in fact follows commonsense in not excluding these groups.

At any rate, we have an easy and eminently plausible remedy if it is insisted that the IASP definition is defective in this way: simply read the term 'experience' in the definition as *not* requiring full-blown conscious states: we may say that they are "proto-conscious" experiences in the same way in which the states supporting babies' *seeing* their environment are experiences, which may or may not be different from the way in which adults' analogous experiences typically are conscious. And, with this move, we can then leave this issue open—just as the IASP definition itself does.

4. Concluding Remarks

Let me conclude this essay with two critical questions that may turn out to be important for future revisions of the IASP definition—although, I believe, they can be accommodated, if necessary, by my formulation as I will suggest below.

4.1. Unpleasantness necessary?

The first question is this. To what extent negative affect—unpleasantness—is necessary for an experience to *be* a pain experience? (Note that the IASP definition and the **Note** [8–9] insist emphatically that unpleasantness is necessary for any experience to count as pain.) This *prima facie* odd question arises because there seem to be some empirical evidence and some theoretical support for the claim that there are certain pain syndromes, the best example of which is presumably the so-called pain asymbolia, where the subjects genuinely and sincerely claim to be in pain in the presence of noxious stimuli but report no unpleasantness, indeed their behavior is completely devoid of any indication of unpleasantness. There may be reasons to think that these subjects are somehow cognitively or otherwise compromised due to the nature of the cause of their syndrome effecting the parts of their brain involved in cognitive, linguistic, or conceptual tasks. But it's hard to believe that their own identification of their own experiences as pain, despite the complete lack of negative affect, can be off this much.

Apart from the existence of such apparent empirical evidence, there is theoretical support for this possibility that comes from existing models of pain mechanisms: all the models that I know of postulate different (albeit overlapping) streams and mechanisms for the sensory-discriminative and the affective-motivational processing of nociceptive stimuli. We also know that the sensory and affective dimensions of normal pain experiences can be manipulated independently.³³ This quite naturally suggests that these two dimensions can come apart under certain conditions.³⁴ Here I have no place to elaborate and substantiate this possibility. I will therefore simply make a conditional claim: *if* it turns out that unpleasantness can be decoupled from the sensory aspect of pain without disturbing the identity of the experience as a pain, *then* we can accommodate this by inserting a ‘normally’ clause in front of ‘unpleasant’ in the definition.³⁵

4.2 Are all pains describable using the vocabulary of tissue damage?

The second question is more pressing. Recall the disjunctive clauses in the definition saying that an experience needs to satisfy [1a] or [1b] to *be* pain. On the formulation I prefer, as explained before, a pain is an unpleasant sensory experience that [1a] results from actual or impending tissue damage, or [1b] is correctly describable in terms of such damage. What if there are pains that don’t satisfy [1b]? Given that any experience that actually satisfies [1a] *ipso facto* satisfies [1b], the focus is on the second disjunct’s unique role. More intuitively, how confident are we to commit ourselves to there being no pains that cannot be correctly described in the vocabulary of actual or impending tissue damage? If there are such pains, the IASP definition will leave them out, and so, will end up being too narrow.³⁶ For instance, some centrally caused pains in clinically depressed people or some neuropathological nerve pains, even when they are localized in body parts, may not lend themselves to any

³³ See, for instance, Rainville et al. (1997; 1999) and Price (2000).

³⁴ Ploner and his colleagues in their (1999) claim to show, on the basis of careful examination of a patient “with a selective ischemic lesion of the right SI and SII cortices,” that pain affect can exist without pain sensation. Curiously, however, the patient, despite various invitations, insisted that what he was experiencing was not pain. When combined with the standard diagnosis of pain asymbolics (pain sensations identified as such by patients without negative affect), this seems to suggest that patients’ own categorization of their own experiences follows the presence or absence of *sensory* phenomenology rather than *affect*. Fields (1999) calls the sensory aspect of pain experiences, *algoty*.

³⁵ I am aware that this suggestion would be strongly opposed by any clinicians who worry about definitional matters. Indeed, it is likely to be opposed by pain researchers too, given that most of them have a clinical experience or practice. Clinicians’ job is to control pain or eliminate it when it no longer serves the well-being of the patient. What makes pain important for them is its unpleasantness, or its hedonic valence and the suffering and emotional trauma consequent upon this and the perceived meaning of the pain.

³⁶ See Fields (1999) and Wright (2011; 2017) for insightful discussions of this possibility. See also Price (1999).

straightforward description in terms of actual or impending tissue damage. One can claim that they are, for that very reason, *not* pains. Indeed, to the extent to which they are unpleasant and in some sense sensory but lacking the usual sensory qualities of pain, they might be classified under dysesthesia. For *some* such experiences, this may be true. But what rules out the possibility that there are nevertheless some *pains* that don't satisfy [1b]?

Remember that [1b] is meant to function to collect *all* and *only* those unpleasant sensory experiences that are of the same or sufficiently similar phenomenal kind to those that are caused by actual or impending tissue damage in canonical situations. It does this *via* their correct describability in terms of such damage whatever their actual etiology is. This assumes that all and only those experiences that are intuitively pain in virtue of being sufficiently similar to the phenomenology of those canonical pains are linguistically describable in terms of tissue damage. This may be problematic even when there is no requirement of an act of description by anybody. The problem is that even though any non-canonical pain is pain in virtue of sufficient similarity to the canonical pains, the phenomenological variation *may* have no corresponding correct description in terms of tissue damage. In other words, sufficient phenomenological similarity may come apart from describability in terms of tissue damage. Establishing whether they actually come apart in this way is partly an empirical issue. But *if* this a serious problem, it is an artifact of the original definition that opted to use describability (under my interpretation) as a proxy for phenomenological similarity, and thus for correct taxonomy of pain. So, *if this is a problem*, we can fix it by directly stating what the second disjunct was meant to express all along:

Pain (2)

A [normally] unpleasant sensory [and emotional] experience that [canonically] results from actual or impending tissue damage, or is sufficiently similar to one such.

The relevant sort of similarity here is phenomenological similarity (“having the usual sensory [and affective] qualities”), where the phenomenological sameness is the limiting case.³⁷

This formulation has the additional advantage to leave some wiggle room for indeterminacy. It is safe to assume that all token pains are localized (even if vaguely or diffusely) in or on one's body or in represented body schema. To the extent an experience is

³⁷ There is still a lingering worry as to whether this definition will accurately collect all persistent or chronic pain cases, especially due to neuropathy. When clinicians and medical professionals talk about pain, they have in mind chronic pain, or more generally, pain as a health *problem*, as something that needs to be controlled, dealt with. Viewed from this perspective, anchoring the understanding of problematic pain in terms of similarity to acute pain due to tissue damage seems to get things the wrong way around. Nevertheless, if pain is a natural kind such that acute, persistent, and chronic pains are subspecies, the question arises as to what makes them unified as pain. Phenomenological similarity of a certain sort seems like the right answer to this question—hence the definition, despite my lingering worries. See Corns (2012) for a sustained challenge to the claim that pain is a natural kind.

unpleasant and sensory, the question to be settled is: how much does it need to *resemble (be similar)*, in terms of its relevant phenomenology, to the canonical pains captured by the first disjunct so as to count as genuine pain? In rare occasions, there may be no fact of the matter whether the resemblance is good enough and of the right kind for an experience to count as pain—possibly further complicated by lack of relevant descriptors. Even the patient may not be able to tell. If this is correct, it means that there is a certain amount of indeterminacy in the very nature of pain itself. But if this correct, we cannot capture the phenomenon with an on-and-off definition that will treat pain as an on-and-off phenomenon. A certain amount of indeterminacy in our definition, in other words, may be the correct thing to incorporate, and **Pain (2)** does that.

If, on the other hand, phenomenological similarity and describability in terms of tissue damage don't come apart or don't come apart significantly, we can keep my original rewording with a 'more or less' clause inserted into the second disjunct:

Pain (3)

A [normally] unpleasant sensory [and emotional] experience that [canonically] results from actual or impending tissue damage, or is [more or less] correctly describable in terms of such damage.

The square brackets are meant to signal that their addition to the definition is optional, or better, conditional upon what truths further empirical research and discussion will reveal about pains and their connections to their causes and effects. This formulation will take care of indeterminate cases of pain (if there are any). So, if we remove from **Pain (3)** the first, third and fourth square brackets but retain the term enclosed in the second, then we have the least manipulated rewording of the IASP definition:

Pain

An unpleasant sensory and emotional experience that results from actual or impending tissue damage, or is correctly describable in terms of such damage.

I claim this is the cleanest, most charitable, and therefore the least objectionable, reformulation of the IASP definition—barring the few concerns I've just discussed whose resolutions are mostly empirical. The suggestions made within the square brackets are all contingent upon to what degrees the concerns that prompted them are real and justified—thus, they can wait for further research and discussion.

In conclusion, I don't claim to have come up with a new definition, rather, I claim to have re-stated the IASP definition itself more precisely and cleanly in a way that reveals the original intention of the authors. I have explained why I think this is the case by a detailed discussion of the original definition and the **Note**, and showed how it escapes all the extant

major criticisms and misunderstandings of the IASP definition. I have also suggested possible ways in which it can be supplemented and improved *if there is warrant for such supplementation*. The definition, as is argued in the Appendix below, is *not* an operational definition in the service of providing a decision procedure for the health-care professionals. Rather, by stating what the nature of pain in fact is (while steering clear of metaphysical issues), the definition is (has always been) an invitation to vigorously develop research programs designed to help the health-care professionals to bridge the epistemic gap between the *pain* itself and the *means* with which they can detect or assess its presence or absence.³⁸

APPENDIX: Is the IASP Definition Merely an Operational Definition?

The concern about non-verbal pain-capable individuals that I believe prompted Anand and Craig's criticism is real and very legitimate. A lot of doctors, clinicians, and other medical practitioners may have looked to the IASP definition for practical guidance as if it were meant to provide the necessary and sufficient criteria for proper diagnosis (and prognosis for that matter) of the presence or absence of pain, and therefore for starting or maintaining appropriate treatment procedures or preventative measures. In other words, there may be ground for thinking that the IASP definition is offered as a merely *crieterial* or *operational* definition. Indeed, in the "Introduction to the 1984 List" Harold Merskey explicitly states that

It is important to emphasize something that was implicit in the previous definitions but was not specifically stated: that the terms have been developed for use in clinical practice rather than for experimental work, physiology, or anatomical purposes. (IASP, Introduction to the 1986 List)

As Andrew Wright points out in his (2017), it is not clear whether this remark was actually intended to apply to the definition of pain as well as to the more specific and often more

³⁸ Don Price complains that the IASP definition is "not experiential enough." I hope that my reading of the definition will convince him that it can't be any more experiential than it already is. I would like to express my deep gratitude to him for his patient tutelage and support during the years we shared the same campus at the University of Florida. I learned a lot of from him and especially why there is still need to discuss the IASP definition more. I would also like to thank Andrew Wright for his comments on earlier drafts and for many hours of very helpful discussion that made a real impact on my development of the ideas here. I am grateful to Werner Ceusters who kindly invited me to contribute to this special issue of *the Monist* on pain and for his helpful editorial feedback. Also, many thanks to Linda Davies, Shawn Hochman, and Matthew Fulkerson for their help and suggestions. Finally, special thanks to Ken Craig who patiently went through an earlier draft with me and gracefully pointed out various weaknesses and made me realize how much of a difference there is between a clinically oriented approach and a philosophically oriented one to definitional matters when it comes to pain and pain related terms. Philosophers ignore clinicians' legitimate worries at their own peril.

technical terms in the List which have immediate clinical relevance. From other remarks made in the same Introduction, and from Bonica's own notes in the original 1979 introduction of the List, I am inclined to think that the above quotation was meant for the pain terms other than the term 'pain'. Nevertheless, the worry that the clinicians look to the IASP definition of pain for practical guidance in establishing the presence or absence of pain is real, and often expressed in such terms as these:

The definition proposed by the IASP suggests that pain is a subjective experience, with the understanding of the word's meaning learned through early life experiences with injury. This definition emphasizes the role of self-report as the primary means for relating pain or gaining assistance to deal with pain. Thus, based on this IASP definition, self-report of pain has come to be considered the "gold standard" for relating to pain. Consequently, the vast majority of pain assessment tools rely heavily on language and cognitive skills. This is problematic when considering people with developmental disabilities, who have limited cognitive and language skills. (Bodfish et al. 2006, 174)

So, the possibility that the IASP definition may have been intended as an operational definition should be taken seriously. Nevertheless, I think we can show that the definition clearly wasn't meant as merely an operational definition.

If taken as operational, the IASP definition of pain, like pretty much all other operational definitions, has clear limitations so much so that once they are made clear in the context in which the definitions were proposed, it becomes extremely unreasonable to insist that the IASP Taxonomy Committee really intended it to be a merely operational definition. An operational definition gives a reliable and empirically applicable *decision procedure* to determine whether the thing defined is present or not. This may take the form of providing an observable sufficient condition, or merely a necessary condition, but typically such definitions provide both sufficient and necessary test conditions.

So, let us interpret the IASP definition as stating an operational (criterial) definition intended to give the medical practitioner an empirically suitable decision procedure about whether or not pain is present in any given individual (presumably in a clinical setting).³⁹

[1] The unpleasant sensory and emotional experience, *e*, of an individual is pain **if, and only if**, *e* is either [1a] associated with actual or potential tissue damage or [1b] described in terms of such damage.

³⁹ For ease of focus and clarity, I'll put the other necessary features (unpleasant, sensory, emotional) on the left-hand side of the biconditional as they are not relevant to the operational procedure itself.

This provides both a necessary and a sufficient condition. Remember, the disjunctive form on the right-hand side is inclusive—so, no need to add ‘or both’.

Interpreted this way (merely as an operational decision procedure), it *still* doesn’t follow that the IASP definition “does not apply to living organisms that are incapable of self-report.” Clearly in the plurality of cases where there is an actual or potential tissue damage or some kind of pathophysiological condition but no linguistic description of any kind by anybody, the definition dictates that there is pain in the relevant individual (provided whatever other conditions deemed relevant like consciousness etc. are satisfied). Similarly, in those cases where [1a] is not satisfied but the individual sincerely reports pain ([1b] is satisfied), the definition dictates the diagnosis of pain. Indeed, it is these latter cases that bothered the IASP Committee and happily led to the definition’s current form.

But what if neither [1a] nor [1b] is satisfied? Then the proposed decision procedure dictates there is no pain that the individual undergoes. This is very bothersome. These individuals are indeed typically “newborn and older infants, small children, mentally retarded, comatose, demented, or verbally handicapped individuals, and all primate and non-primate animals.” (Anand & Craig, *ibid.*) We can add more: developmentally disabled, momentarily unable to speak for whatever reason, or even the seriously distracted. When these individuals don’t satisfy [1a] but there are nevertheless non-verbal signs for pain that reasonably indicate the presence of pain, then the definition as a decision procedure fails—and it fails miserably!

At this point, it should become clear that insisting on the operational reading of the IASP definition is unreasonable and unfair to its authors. In other words, that the operational reading of the IASP definition has this consequence *is* a very good reason to think that operationalizing the definition in the above way has never been the intention of the IASP. That this is so can be further supported by the following fact.

The definition needs to be taken quite literally if it is intended as an operational decision procedure. If so, [1b] requires that in order for it to be satisfied, an actual act of description or report is required by the patient—clearly an act of description by the medical practitioner won’t do for operational purposes. But evidently this is quite an unreasonable demand, when [1a] is not satisfied—for the obvious fact that, even by their own standards explained in the **Note**, the IASP authors point out that the satisfaction of [1a] is not necessary for the presence of pain experiences in an individual in need of pain treatment. The **Note** insists that there *are* very many cases like that—in other words, this is not a mere theoretical possibility. Indeed, as mentioned before, it was this fact that prompted the addition of [1b], which influenced the pain science and expanded the clinical practice significantly in the right way. In other words, the *intention* was precisely to emphasize the subjective experiential nature of pain that cannot be constitutively tied to pain’s paradigmatic *causes*, and therefore, *free* the medical and clinical practice from this narrow focus on nociceptive input and tissue damage. If so, it is clearly unreasonable to insist that, in the absence of paradigmatic causes of pain, the IASP definition operationally dictates that a verbal description or self-report—a typical *effect* of pain for the verbally capable—is actually required for diagnosis of pain in a

clinical setting.⁴⁰ This would clearly contradict the spirit and the operational aim of the definition in the proper and timely diagnosis and treatment of the individual in pain in a clinical setting. Indeed, that's why the first sentence [2] was later added to the **Note** to make it clear that the definition should not be taken *as an operational definition* providing a bullet-proof or even a very reliable decision procedure tied to self-report—just as commonsense requires.⁴¹

I conclude that the IASP definition of pain is not an operational definition intended for a decision procedure in clinical settings. It is instead a definition intended to say *what pain in fact is* in a way that doesn't rely on controversial assumptions and theories but takes its commonsense understanding to heart as essential and provides as such a neutral start and guidance in scientific research and a reasonable focus in clinical settings.⁴²

Note that the rewording of the definition I proposed above is explicitly not an operational definition—it doesn't provide a decision procedure. It nevertheless makes it quite clear what needs to be done to determine whether or not pain is present in any given individual: find out (if you can) whether there is any *experience* of the appropriate phenomenological kind. Finding this out is an epistemological affair. We have various more or less reliable procedures that use various indicators that help us make decisions about whether pain, so understood, is or is not present in an individual in a clinical setting. In other words, we have various observable parameters to practically establish whether pain (as defined) is present or not. Some of these test parameters include the presence of actual or potential tissue damage, detected activity in the nociceptors or nociceptive pathways (on the input side), verbal reports, various non-verbal behavior patterns, facial expressions, various changes in skin temperature or conductance, hormonal changes, variations in heartbeat, and so on and on (on the output side). Indeed, once pain is defined in the way the IASP intended as my rewording attempts to clarify, we open the way for fruitful and clinically indispensable scientific research about increasingly more reliable ways of detecting pain in impaired or otherwise compromised individuals that are nevertheless capable of experiencing pain. In a way, that's precisely what has happened after the original critique of Anand and Craig and the ensuing debate. After this debate, research for understanding pain (hence ways of detecting it) in animals,⁴³ in neonates and young children, and in the non-verbal or otherwise cognitively

⁴⁰ Again, I would like to remind the reader that [13–16] provides only a sufficient (not necessary) condition for the presence of pain that cannot be used as a criterion for the absence of pain.

⁴¹ See fn. 26 above.

⁴² It is worth emphasizing, again, that the IASP definition is neutral on whether pain as experiences with a characteristic phenomenology is ontologically reducible without remainder to brain events and processes. If it turns out that they are so reducible, then we'll have discovered that the nature of pain is neurophysiological with all the right causal connections in place for its evolutionary development, etc. The IASP definition and the following **Note** leave this matter completely open. For the claim that the IASP follows the commonsense understanding of pain, see Aydede (2006; 2009; 2017).

⁴³ See, for instance, Bateson (1991) and Allen et al. (2006).

or developmentally disabled individuals, boomed significantly.⁴⁴ As we develop and enrich our understanding of pain in these groups, we have more efficient and reliable ways of determining the presence or absence of pain in clinical setting, not only for the individuals in these groups but in general in any individual capable of experiencing pain. With good health policies, this will help the world to become a better place by reducing or preventing unnecessary pain. However, as I have been arguing, this research and its results cannot and should not be taken as a refutation of the IASP definition of pain: on the contrary, the flourishing of this research is one of the most important consequences of the definition properly understood—since it is the result of acknowledging that suffering from pain is inevitably an experiential life condition that cannot be *constitutively* tied to actual or potential tissue damage *or* to verbal self-reports.

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⁴⁴ Indeed, partially thanks to the efforts and research done by Ken Craig and K.J.S. Anand (and many others, for sure). For a sense of the depth and scope of this research, see the essays collected in Anand et al. (2007), and Oberlander and Symons (2006).

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