Intersubjective Properties by Which We Specify Pain, Pleasure, and Other Kinds of Mental States

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English and other languages have names for kinds of sensations. 'Backache,' 'twinge,' and other sensation names enable a person to identify and individuate sensations in a language other people understand. A person's knowledge of sensation names is not innate. He learns these words, and so learns what sensations these words name, from other people. *How* people learn sensation names is not self-evident. Words that name *public* objects—objects two or more people might observe—people can learn ostensively. A person might learn the words through hearing them used in the presence of what they name. 'Lightning' names a public event. Hearing his mother use the word when he and his mother see lightning might help Jim learn what event 'lightning' names. Sensation names cannot be learned the same way. Sensations are not public. Jim and his mother cannot directly see a single sensation—his mother's backache. Jim's mother cannot show Jim a backache and tell him it is a 'backache.' Yet, sensation names have determinate, intersubjective meaning. When I use the word 'backache,' you know what private event I mean. How do we learn sensation names? How do we learn other psychological words? What is it about the way we identify and individuate mental states that enables words for them to be intersubjective?

Wittgenstein identifies two ways people might name sensations. 1. *Direct, introspective acquaintance*: A person feels a sensation, notes its intrinsic character, and sets about to use the word thereafter for the same kind of sensation. 2. *Outward signs*: A person pins his use of the word to the sensation's outward signs. Wittgenstein identifies the signs with unlearned, pre-verbal behaviour that expresses the sensation. The explanation of a sensation name's intersubjectivity extends to other psychological words, people assume.

Wittgenstein rejects 1. He thinks there can be no direct acquaintance words—no words a person can learn only through acquaintance with his own sensations. The argument is well-known. Suppose 'S' were a direct acquaintance word. Joe feels a sensation

and decides to use 'S' thereafter to name sensations the same as this. In these circumstances, Wittgenstein says, he 'couldn't make himself understood when he used the word.' Other people could not know what sensation Joe intends with 'S.' Further, 'S' would lack determinate meaning even to Joe. The sensation Joe had when he first used 'S' is irretrievable. Joe has 'no criterion of correctness' for using 'S' later, Wittgenstein thinks. 'One would like to say: whatever is going to seem right to me is right. And that only means that here we can't talk about "right"' (*Philosophical Investigations* (hereafter *PI*), paragraphs #257–8).

Wittgenstein endorses 2. He thinks a word must be intersubjective and so learnable to be meaningful. A sensation name can be learnable, he thinks, only if 1. the sensation has outward signs, and 2. people pin their use of the word to the outward signs. 'An "inward process" stands in need of outward criteria' (*PI* #580). That people express pain with groans, grimaces, or other behaviour is a condition of having the word 'toothache' (*PI* #258). When people connect a word to the sensation it names through expressive behaviour, they specify the sensation by events 1. *concurrent* with the sensation and, Wittgenstein assumes, 2. wholly *public*.

People who address the topic of how people learn sensation names, and so of how we learn what private events particular sensation names signify, follow Wittgenstein in identifying two possibilities—direct acquaintance and outward signs. Most follow Wittgenstein in rejecting the first and endorsing the second. Today, many people portray outward signs 'functionally.' They say we specify sensations by public *causes* and behavioural consequences.[1] With the emergence of the Kripke-Putnam view of language people began to say we use a sensation's outward signs to 'fix the reference' of sensation names. People regard the *intersubjectivity=outward signs* postulate as obvious—an innocent truism. They think it obvious sensation names can have intersubjective meaning only if 1. sensations have outward signs and 2. we use the outward signs to fix the reference of those words. They see no other way an intersubjective word could name a sensation.[2]

[1] 'We can learn to use expressions for pain because it has certain known causes and results in specific behaviour that allows adults to know that a child is in pain. ... Publicly observable causes and effects allow the development of language—which is also something public—that refers to private events,' Rene Marres writes *In Defense of Mentalism* (Amsterdam: Rodopi, 1989), 49.

[2] 'Surely pain behaviours—groans, winces, screams, writhings, attempts to get away ... (are) important to ... our notion of pain. How else could we learn, and teach ... the word "pain"?,' Jaegwon Kim writes *Philosophy of Mind* (Boulder: Westview Press, 1996), 39–40.

Intersubjective Properties—Pain, Pleasure and Mental States

The intersubjectivity=outward signs postulate has a central role in one of the most influential works in twentieth century philosophy —Wittgenstein's private language discussion. People rest a breathtaking array of strong claims on the postulate. These extend over philosophy of mind, metaphysics, epistemology, and even philosophy of religion. First, with the postulate as a premise people attack forms of *immaterialism*—the view that the mind is or might be immaterial. Thus, people reject a. *idealism* and *phenomenalism* (there is no material world; only immaterial minds exist), b. *external world scepticism* (possibly the self is immaterial and no material world external to one's self exists), c. *substance dualism* (a person is a compound of body and immaterial mind), and d. *non-bodily survivalism* (a person might survive his body's death and persist immaterially in a non-physical realm or on Earth in another person's or even an animal's body).[3] Second, with the postulate as a premise some people

[3] Using the intersubjectivity=outward signs postulate, people assail immaterialism as follows. Were minds immaterial, minds could, in principle, exist without bodies or other physical things existing. For the idea of minds existing without bodies to be coherent, mental states must be identifiable in a way that does not presuppose anything material exists. 'Pain' must be learnable in a way that does not require the existence of material objects. However, to fix the reference of 'pain' in a way that enables the word to be learnable, people must express pain in behaviour. What people express in *behaviour* they express with *bodies*. Bodies are material objects. Hence, physical objects must exist for us to name and identify mental states. We cannot coherently suppose we might identify mental states if no material objects existed. Minds cannot exist without bodies. Minds are not immaterial.

Bernard Gert presents this anti-immaterialist argument as a refutation of *phenomenalism* ('Psychological Terms and Their Criteria,' *Synthesis* **80** (1989), 201–22).

Anthony Kenny presents the anti-immaterialist argument as a refutation of both Descartes' external world scepticism and the substance dualism Descartes grounds in this scepticism. First, the argument that allows a person to prove he is not immaterial allows him to conclude it is not the case that he is immaterial and no material world external to him exists. Second, if substance dualism is true, minds are immaterial. Were minds immaterial, we could conceive of them existing without bodies existing. We could name and identify mental states without connecting the mental states to behaviour. However, we cannot identify mental states so. Hence, mental states are not immaterial, and dualism is false. Kenny reasons so in 'Cartesian Privacy,' in George Pitcher, (ed.) *Wittgenstein: The Philosophical Investigations* (London: Macmillan, 1966), 352–70, especially, 362.

Peter Geach directs the anti-immaterialist argument at non-bodily survivalism. Life after death requires *bodily* resurrection, Geach concludes. See 'Immortality,' in Baruch Brody (ed.), *Readings in the Philosophy of Religion* (Englewood Cliffs: Prentice-Hall, 1974), 662.

attack other minds scepticism; a person *knows* minds other than his exist. Third, some people conclude we cannot, and so do not, specify mental states by intrinsic qualities.[4] Fourth, some people conclude 'pain' and other psychological words do not name sensations or other introspectable events.[5] Fifth, in some places Wittgenstein concludes psychological words do not name anything.[6]

In this paper I identify a *third* method by which we may name sensations and other mental states. Sensations have *formal*

[4] Don Locke writes, '"Pain" means "a sensation of a certain sort" where the sort in question is determined not by how (the sensation) feels, but by its causes and effects and the behaviour which characteristically accompanies it' (*Myself and Others* (Oxford University Press, 1968), 100–1).

[5] Alan Donagan concludes wishes and intentions are not 'items in one's flow of private consciousness', *Choice* (London: Routledge, 1988), 54. Daniel Farrell concludes jealousy is not a feeling, 'Jealousy,' *The Philosophical Review* **89** (1980), 540–1. Anthony Kenny draws similar conclusions about emotions in general, *Action, Emotion and Will*, London: Routledge & Kegan Paul, 1963), 13. Norman Malcolm concludes 'dreaming' does not name some 'inward state or process', *Dreaming* (New York: The Humanities Press, 1959), 54.

In at least one place Wittgenstein seems to conclude 'pain' does not name a sensation. He seems to say if a person uses 'pain' when his behaviour and environment are appropriate, he uses the word correctly and so *is* in pain even if he has no sensation. 'Imagine a person whose memory could not retain *what* the word "pain" meant—so that he constantly called different things by that name—but nevertheless used the word in a way fitting in with the usual symptoms and presuppositions of pain—in short he uses it as we all do. Here I should like to say: A wheel that can be turned though nothing else moves with it is not part of the mechanism,' Wittgenstein writes (*PI* #271). This remark directly follows a passage in which Wittgenstein says when appropriate external signs are present, 'it does not matter in the least' if I regularly identify the *sensation* incorrectly. The passage placement suggests Wittgenstein is proposing people are in pain when their behaviour and environment are appropriate regardless of what sensation, if any, they feel. Outward signs give conditions necessary and sufficient for the correct use of psychological words. The sensation is 'not part of the mechanism.'

[6] '"'Joy' surely designates an inward thing." No. "Joy" designates nothing,' writes Wittgenstein. 'Neither any inward nor any outward thing' *Zettel* (Oxford: Basil Blackwell, 1967), #487. Wittgenstein also draws this conclusion in the boxed beetle passage. 'The thing in the box has no place in the language-game.' 'If we construe the grammar of the expression of sensation on the model of "object and designation" the object drops out of consideration as irrelevant' *(PI* #293). We ought not construe sensation words as naming ('designating') objects. Sensation words do not name anything. See also *PI* #272 and #293.

properties. When we name sensations by these properties, we name them neither through direct acquaintance nor outward signs. Words that name sensations so are intersubjective. However, their intersubjectivity does not require our using outward signs as reference-fixers. Words that specify sensations by formal properties are learnable non-ostensively.[7]

That we name many mental states by formal properties will appear obvious once formal properties and mental states we specify by them are identified and explained. However, as routinely occurs in philosophy, points that seem obvious once mentioned, explained, and used in the right context, go unnoticed and unappreciated for long times. People have been unaware of the formal properties position.

The thesis that we name mental states by formal properties differs from, and supersedes, the causal-role functionalist thesis that we name mental states (solely) by their causes and effects. We identify and individuate mental states by several kinds of properties besides their causes and effects.

Scores of people address the problem of how we learn sensation names. Commentator after commentator leads readers down a path where, people assume, a person must endorse either the direct acquaintance model or the outward signs model. Commentator after commentator recites the familiar Wittgensteinian reasons for rejecting the first and endorsing the second. Not one of the authors has identified the method of naming sensations by their formal properties. Not one has seen this third method undercuts the outward signs postulate and the strong conclusions people rest on it. In this paper I identify an exit from the closed, stagnant pattern of thinking in which philosophers have been mired.

[7] We do not need 'reference fixers'—outward signs or otherwise—to determine what psychological words specify. Psychological words are 'nominal kind terms' not Kripkean natural kind terms. A nominal kind term has a sense that determines what it names. See 'Identifying Mental States: A Celebrated Hypothesis Refuted,' *Australasian Journal of Philosophy* **72** (1994), 56.

When we learn a word's meaning non-ostensively, our knowledge does not depend on the presence of, and direct perceptual contact with, samples of the kind of thing the word names. When we learn a sensation name non-ostensively, our learning does not require experiencing samples of the sensation or being in the presence of someone else experiencing such samples. Non-ostensive ways of learning words I describe in 'Mental Events and Communication,' *American Philosophical Quarterly* **22** (1985), 331–8.

I. Some formal properties by which we name mental states

a. Sensations

Spatiotemporal properties

We do not name sensations and other mental states exclusively by outward signs (public causes, expressive behaviour).

Sensations and other private events have *formal* properties. We name many mental states by these properties.

One kind of formal property mental states have is a *temporal* character. We name sensations in part by temporal properties.

Both 'sensation' and names for kinds of sensations ('twinge,' 'itch') name *events*. Sensations and other events have a specific temporal character—a beginning, end, and continuous presence throughout some period. Most words—e.g., most non-psychological words in this essay—do not name events.

We distinguish 'aches' from 'twinges' and 'pangs' in part by the sensation's duration. An ache is prolonged; it cannot exist for a moment then disappear forever. A twinge is brief; it cannot persist for days.

A second formal property many sensations have is a felt *location*. We feel pains at various bodily sites. When we call a persistent pain a 'backache,' 'headache,' 'toothache,' or 'earache,' we assign it a location.

Some people say sensations are not where they seem to be. Backaches are in the brain not the back, some think. This opinion need not be disputed. Everyone must admit we *experience* pains as being at many locations in addition to our heads. This admission suffices for my purpose here. As our visual experience presents objects as being spatially distributed outside ourselves, we experience bodily sensations as being spatially distributed throughout our bodies—within elbows, backs, toes, etc. That we experience sensations as having locations underlies our practice of assigning pains and some other sensations locations and so of labelling some sensations 'backaches' and others 'earaches.'

People may think we use location talk in a secondary sense when we assign sensations locations. A backache is not 'in the back' in the sense a backbone is, they may say.[3] Suppose I locate a *bruise* by pointing to a spot on my leg. Then I locate a *pain* by pointing to this area. In the second case I do not *point* in some derivative sense. When I *say* my pain is in my knee, I do with words what I might do by pointing.

[3] 'Sensations *qua* mental states, cannot literally be in one's foot, back, or tooth,' Sidney Shoemaker writes *First Person Perspective and Other Essays* (New York: Cambridge University Press, 1996), 101.

The temptation to view sensation location talk as non-literal is born in the ontological puzzle of understanding what sensations are. People who think sensations are brain events must accept backaches are not where they seem. Still, people can accept a sensation's location is illusory and admit we use location talk literally when we locate sensations. Location talk used literally is perfectly suited for describing where we experience sensations as being and so where sensations seem to be.

Causes and effects

Mental states have *causes and effects*. This is a third kind of formal property mental states have.

Some mental states we name by a cause external to sentient beings. When people 'feel cold,' they feel a sensation usually caused by an environment with a particular temperature. 'Feeling cold' has an intersubjective character that resembles one some outward sign theorists mistakenly assign all psychological words.

A 'cramp' is pain caused by muscular contraction. We identify a sensation by a cause with the word 'cramp.'

Causes and effects are only *one* of several kinds of formal properties by which we name mental states.[9]

Good and bad

People will quickly admit we name twinges and aches in part by duration, backaches and earaches in part by location, and cramps in part by causes. Some people will be less easily persuaded by what I say about properties by which we name pleasure and pain. My confidence in this analysis rests in part on defenses given elsewhere. Readers may view the analysis in this spirit.

A localized sensation has some qualitative character—some 'quale.' Some mental states other than localized sensations also have a quale. When a person feels miserable, his experience has an unpleasant qualitative character. The unpleasantness is not intrinsic to some localized sensation but is a property of his experience as a whole.

Qualitative features of experiences have formal properties. Some qualia have *intrinsic value*. This is a fourth kind of formal property elements in experience may have.

Though opinions differ over what pleasure is, most philosophers assume pleasure is good and pain bad. In these formal properties—pleasure's *good* and pain's *bad*—I find properties by which we specify the pleasant and unpleasant and so distinguish one from the other.

[9] This anti-functionalist thesis I defend further in 'Identifying Mental States...,' op. cit., note 7, 49–52.

That pain is bad and pleasure good, intrinsically, structures our psychological and ethical thinking about pain and pleasure. We avoid pain and object to what causes it because pain is bad; we seek pleasure and commend what causes it because it is good. References to pain and pleasure are conspicuous in ethical theory because pain and pleasure have determinate intrinsic value.

Some experiences are more pleasant than others. The more pleasant is qualitatively better. When a person 'feels good,' his experience is qualitatively good. The (intrinsic) bad we assign pain lies in pain's quale—its feeling as it does.

Intrinsically, the qualitative character of an experience is good, bad, or neutral (neither good nor bad). When a person experiences pleasure, his experience has an intrinsically good quale. A quale is good *intrinsically* when good in itself and independently of any good effects it may have.

It is a mistake to suppose what makes a mental state's quale pleasure is one thing and the quale's intrinsic goodness another. We do not pick out a quale as pleasure by some as yet unspecified, and perhaps unspecifiable, pleasure-making property *p* and then notice, independently, that qualia with property *p* have the *additional* property of being (intrinsically) good. (G. E. Moore thinks both goodness and pleasure are unanalysable. Pleasure's being good consists in a sensation's having both some unanalysable pleasure-making property *p* and some second, unanalysable property *g*.) A quale's pleasure-making property *p* is not distinguishable from the quale's goodness.[10] An experience is pleasure by having a particular quale. This quale's intrinsic goodness is property *p*—the property that makes a quale pleasure.[11] Elsewhere I distinguish two types of goodness and specify with more precision than here the type of (intrinsic) good that makes a quale pleasure. There I argue *every* pleasure is good in this way.[12]

'Dad has a hat on' need not imply an evaluation of dad's attire. 'Dad is in pain' implies dad feels something bad. 'Pleasure' and

[10] We cannot 'draw a line within a given experience of pleasure between the pleasure and its goodness,' Brand Blanshard writes in *Reason and Goodness* (New York: Macmillan, 1961), 269.

[11] Henry Sidgwick defines 'pleasure' as a feeling *judged* good ('desirable'). The judgement springs from pleasure's goodness. People judge pleasure good because it is. The good attends all pleasure; the judgment does not (animals may experience pleasure and not judge it good). The good, not the judgment, is the defining property. See *The Methods of Ethics*, 4th edn, (London: Macmillan, 1890), 127.

[12] 'Pleasure and Pain: Unconditional, Intrinsic Values,' *Philosophy and Phenomenological Research* **50** (1989), 255–76. See also 'Identifying Mental State...' op.cit., note 7.

'pain,' and words that name kinds of pleasure and pain ('satisfaction,' 'misery,' 'terror,' 'twinge,' 'itch,' and many others), are not value-neutral. Like 'heaven' and 'hell,' the words 'pleasure' and 'pain' name opposites by naming events opposite in value.

What makes a quale *good*? The answer lies in a connection between something's being good and its having a character that gives us reason to seek the object. When a quale is good, the quale gives reason to seek it. That walking will please is reason to walk, that it will hurt reason not to walk.[13]

Much pleasure in sexual activities and massages is intrinsic to *localized* pleasurable sensations. The (good) quale is an introspectable feature intrinsic to the sensations.

Most pleasure—the pleasure in enjoying and so gaining pleasure from reading, for instance—does not lie in localized pleasant sensations. Nonetheless, when Rachel enjoys reading, her experience is pleasant and so has a 'positive hedonic tone'—a good quale. Qualitatively, her experience differs from and is better (intrinsically) than when not enjoying reading.

'Pain' in one sense names a *localized* unpleasant sensation. In a second sense 'pain' encompasses all unpleasant mental states—localized and not. It encompasses non-localized, emotional pain along with localized pain. (When people say war causes pain and destruction, they use 'pain' in this broad sense.) Pain in this second sense is an opposite to pleasure. Every pain in this sense is an unpleasant, qualitatively bad experience, every pleasure a pleasant, qualitatively good experience.

To call pleasure a good quale is not to call it a good quale *people enjoy*. A person who enjoys a quality in experience gains pleasure from the quality. I do not propose we analyse pleasure, circularly, as a quale that gives us pleasure. A person who enjoys music gains pleasure from music. His pleasure *is* a good quale present while he enjoys the music.

Contrary to Moore, pleasure and goodness are analysable and the words 'pleasure' and 'pain' definable. We cite goodness in pleasure's analysis.

b. Cognitive states

So far I have focused on *sensations* and a mental state's *qualitative* character. I suspect we also name *cognitive states* by formal properties.

Cognitive states *represent* the world, and *representing* something seems formally analysable.

[13] The analysis of goodness sketched here I develop and defend in 'Pleasure and Pain...,' ibid., especially 262, and 'Why People Prefer Pleasure to Pain,' *Philosophy* **55** (1980), 349–62.

Some cognitive events we name in part by their duration. No one 'ruminates' for a split second; what a person 'ruminates' or 'mulls' over he thinks about for a prolonged period. A person does not 'glance' at his watch for ninety minutes, though he may repeatedly do so during this time.

Formal properties other than those cited have a role in identifying and individuating mental states.

Mental states besides those I have mentioned are analysable by reference to formal properties. Most if not all mental states we name with familiar psychological words we specify by formal properties.

II. A person who never felt pain could understand 'pain'

Many people think a person who had never felt pain could not know what pain is or what 'pain' means. Many have called pain, pleasure, and other kinds of mental states we name by qualia 'unanalysable' and 'ineffable.' Victor Kraft contrasts form with qualia and so rules out the possibility that qualia might themselves have formal properties. Kraft thinks *all* qualia are unspecifiable and incommunicable.[14] For centuries people have been calling 'pain' indefinable.

Pain and pleasure have specifiable properties. A quale would be literally 'unanalysable' if it had no specifiable properties. Nothing people speak of has *no* specifiable properties. Qualia have formal properties. Pain's intrinsically bad quale and pleasure's intrinsically good quale are specifiable.

When people say a person must feel pain to understand the word 'pain,' they think of 'pain' in the narrow sense. However, a person need not feel pain to know *this*: 'Pain' in this sense names a localized, unpleasant, and so qualitatively bad, sensation.

A person need not rely on acquaintance with his own pain and pleasure to know 'pain' and 'pleasure' name opposites because what 'pain' names is qualitatively bad and 'pleasure' qualitatively good.

Some localized unpleasant sensations seem not to be 'pains,' e.g., itches, feelings of nausea. I have not said how pain differs from these other sensations. I give *necessary* conditions but taken together these do not comprise a *sufficient* condition for a sensation's being pain. People might think some unspecifiable ('unanalysable') quale distinguishes pain from other localized unpleasant, and so qualitatively

[14] 'Words (signs) acquire on the one hand a *subjective* meaning, designating a qualitative content, on the other hand an *intersubjective* meaning, capable of being communicated in that they designate but the structure of the given' *The Vienna Circle* (New York: Philosophical Library, 1953), 84; see also 42.

bad, sensations. They might say people must feel pain to know how it differs. To name pain intersubjectively, and so intersubjectively distinguish pain from other unpleasant sensations, Wittgenstein's condition must be met. Sensations with pain's distinctive quale must have distinctive outward signs. We must fix the (qualitative) reference of 'pain' through pain's groans, grimaces, and other outward signs, as Wittgenstein says.

Groaning, grimacing, and pain's intrinsic badness

The behaviour Wittgenstein ties 'pain' words to is not a mere brute, a-rational effect of some unique unanalysable pain quale. Pain's intrinsic badness provokes the behaviour. What is a *groan*? Groaning is more than emitting a sound with a specific pitch and duration. A vocalisation must express a particular emotional evaluation to be a groan. When people groan they express anguish over what they regard as bad in some way. (In this respect groans differ from coughs and hiccups, which lack built-in emotional evaluation.) When pain stimulates groaning, the vocalization hinges on anguish the pain prompts. The emotion links the pain to the vocalization. A youth may groan when he dents his car or fails logic. Pain stimulates anguish and groaning by being bad. Grimaces are similarly connected to emotion. People *grimace* over what they regard as bad. Being bad, pain gives us a reason to grimace and groan in a way pleasure does not.[15]

Some groaning and grimacing is related to *another person's pain* in a way that parallels the way this behaviour may be related one's own pain. Injured in a car wreck, Sally may groan to express both anguish over her own pain and anguish over seeing her son in pain. Her son's pain, like her own, is bad; both pains give her reason to groan. The groaning that expresses her pain is not a brute a-rational effect of some unanalysable quality in her pain.

When Norman Malcolm identifies behaviour he thinks people rely on to learn the word 'pain,' he picks behaviour that is a reaction to what is bad. For learning the word 'pain,' Malcolm says, 'Some (bodily) expressions are more important than others, e.g., withdrawal

[15] Since a public physiological occurrence is a groan or grimace by the anguish or other unpleasant emotion it expresses, some of the defining properties of grimaces and groans are not public. Explaining how people can have intersubjective words for grimaces and groans requires addressing the same issues people address when they explain how people can have intersubjective words for pain and other unpleasant mental states. *My* account of how we name unpleasantness encompasses the unpleasantness of the mental element in grimacing and groaning.

is more important than contortion of the face.'[16] Our tendency to withdraw from pain manifests a general disposition to withdraw from what is bad. People act for reasons. When we are aware of what is bad in an event, we have reason to withdraw from the event. This is why we withdraw from pain. Pain's badness underlies and prompts our tendency to withdraw from pain.

First-order and second-order properties of pain

Every unpleasant sensation has a specific qualitative character that *has* the abstract, formal property of being intrinsically bad.

A sensation's being bad, intrinsically, is a second-order property that 'supervenes' on the sensation's first-order property of having a particular qualitative character.

No unspecifiable quality seems to distinguish pains from other unpleasant sensations. I doubt all pains share a single unspecifiable quality. A convulsive, diffuse, moderately intense stomachache seems not to share some unspecifiable quality with a dull, faint ache and a sharp pinprick pain. I suspect some formal property distinguishes pain from other unpleasant sensations.

A particular car has properties we do not specify in calling it a 'car,' and a taste has qualities we do not identify in calling it 'bad.' Similarly, a particular pain has properties we do not specify when referring to it as a 'pain.'

Particular pains have first-order properties that are knowable only through feeling those pains. Sunburn pain differs qualitatively from drilled tooth pain. A person may need to feel drilled tooth pain to know this pain's specific quale. However, first-order properties of particular pains that are knowable only through feeling those pains are not defining properties of 'pain.' A localized sensation is 'pain' because of its second-order, intrinsically bad quality.[17]

[16] *Wittgenstein's Lectures on Philosophical Psychology*, 1946–7, Peter Geach (ed.) (Chicago: University of Chicago Press, 1989), 37.

[17] Like pain, pleasure requires a two strata analysis.

People who think pleasure is unanalysable assume a first-order property makes a quale pleasure. Anthony Kenny rejects this view of pleasure when he writes (*Action, Emotion and Will* (London: Routledge, 1963), 134 footnote):

> Refutations of Utilitarianism, which accuse it of committing the naturalistic fallacy by treating 'good' as being the same sort of predicate as 'yellow,' frequently commit the same fallacy by treating 'pleasant' as if it was the same sort of predicate as 'yellow.'

A distinctive, unspecifiable first-order quality characterizes the sensory experience of seeing yellow. No distinctive first-order, unspecifiable quality characterizes pleasure, Kenny says. Kenny seems to think pleasantness is more abstract than this. In my terminology pleasantness is a 'second order' property.

The difference between knowing what pain is and knowing what the word 'pain' means

Knowing *what pain is* and *how pain feels* are not exactly the same as knowing *what the word 'pain' means.*

Consider 'car' again. A particular shape and material composition (e.g., steel) might seem basic to what a car is. When we visualize a car, we assign it a colour. Yet, many of a car's properties, including many that seem basic to what a car is, are not defining properties of the word 'car.' An object is a car, roughly, by being appropriately designed to serve a particular purpose in transportation. Borrowing from Moritz Schlick, we might say 'car' specifies by 'form not content.' No particular material composition, shape, or colour is a defining property. Knowing *what a car is* and *what the word 'car' means* are not the same.

'Pain' is similar. In knowing what 'pain' means a person knows something about what pain is and so something about how pain feels, i.e., that the sensation has the second-order property of being bad, intrinsically. However, some properties basic to particular pains are not defining properties of the word 'pain.' Knowing specific first-order properties of particular pains is not part of knowing what 'pain' means though may be part of knowing what pain is.

Using words that name sensations by formal properties we *refer* to events that have first-order properties whose character can be known only through direct acquaintance. When we refer to these events so, we do not directly specify any first-order properties knowable only through acquaintance. With the expression 'the man in the corner' I can refer to a man in the corner. The man has many properties I do not specify in referring to him with these words.

A person who has never tasted buffalo meat can understand the expression 'the taste of buffalo.' He would not know some intrinsic features of the taste we might refer to with this expression.

A person who has not experienced pain could understand the *sense* of the word 'pain'—that 'pain' names a kind of unpleasant, and so qualitatively bad, localized sensation. Individual *referents* of the word have specific properties he would not know.[18]

[18] Gordon McMurray studies a Canadian woman congenitally insensitive to pain. I suspect the woman understands 'pain.' However, McMurray describes her as puzzled over 'what feeling could produce the pronounced pain reaction she has observed in others.' I suspect she knows (intrinsically)

Goodness is not a first-order property though it may supervene on one. Like goodness, pleasantness is a function of a second-order, supervening property. Indeed, since an experience is pleasant by having a good quale, pleasure's second-order character is a direct function of the good's second-order character.

III. How method three differs from methods one and two

Wittgenstein's objections to direct acquaintance names do not threaten formal property names. Formal properties give a 'criterion of correctness' both for different people using a word for the same sensation and for a single person doing so at different times. When I speak of a 'backache' the first time and later, I speak of a *back* ache—a protracted, qualitatively bad sensation in the back.

People need not see a chair in the corner to know what it means for a chair to be 'in the corner.' They can know what it means for an earache to be 'in the ear' without feeling an earache. To know what it means to assign a sensation this location, a person need not be able to know through outward signs when other people feel sensations at this location. Sensations so located need not even have outward signs.

Talk of a sensation's other formal properties is epistemically similar. To know what it is to assign a sensation a particular formal property a person need not experience a sensation with that property. Nor need he associate sensations with that property with outward signs. To know what it is for 'earache' to name an unpleasant, and so qualitatively bad, sensation a person need not experience an earache or other unpleasant sensation.[19] Nor must he be able to know through outward signs when other people do. A person could know what it is for words to name qualitatively bad sensations even if people never reacted to bad sensations with grimaces, groans, or other behaviour.

An 'inward process' does not stand in need of outward criteria.

[19] Thus, as I have supposed, 'earache' might name an event 'private' in that only someone experiencing the event can be directly aware of it. Mental states might have a *Cartesian* epistemological status and inhabit, in Kim's words, 'an inner private theater at which only a single subject can take a peak.' Psychological words might still be intersubjective. Cartesians need not suppose a person can learn 'earache' only through acquaintance with some earache *he* feels. Suppose we concede Wittgenstein has shown there can be no direct acquaintance words. We need not conclude, what Kim and other people conclude, that Wittgenstein has shown mental states are not private in the way Cartesians think. Kim uses this anti-Cartesian reasoning in *Philosophy of Mind*, op.cit., note 2, 27.

bad, localized sensations produce the reaction. What puzzles her, what she does not know, is the specific first-order qualitative character of particular pains by which those localized sensations are bad ('Experimental Study of A Case of Insensitivity to Pain,' *Archives of Neurology and Psychiatry* 64 (1950)).

IV. Formal properties: what they are and why they are intersubjectively specifiable

Formal properties by which we analyse some mental state *m* are not other mental states more basic than *m* that are components of *m*.

A formal property is not an event or a substance. Events and substances *have* formal properties—e.g., positions in space.

In having a particular duration, location, cause, effect, or intrinsic value, a sensation has an *abstract* property.

A sensation's formal properties depend on the sensation. When a headache ceases, its intrinsic badness ceases. A sensation's four second duration or its being in the back cannot be peeled off the sensation as a sticker might be peeled off an apple. We might say of all an event's formal properties, as we say of pain's intrinsic badness, that the properties supervene on that event.

Given their abstractness, formal properties appear in public and private events. Lightning flashes and twinges can have a one second duration. A bone and a pain might be in my back. Public and private events can be good or bad. Both have causes and effects.

People can learn words for formal properties through public objects that have these properties. People learn names for body parts as they learn names for peaches, clocks and other public objects. Once a girl understands 'tooth' and 'back,' she can know what location 'toothaches' and 'backaches' have.

We associate the word 'toothache' with *something* public when we learn what location a 'toothache' has. Teeth are public. However, we need not associate the word with outward signs of toothaches. Intersubjective talk of a sensation's duration and other formal properties is similar. We can found our talk in something public but need not use outward signs.

What explains a formal property's intersubjectivity explains how names for sensations we specify by formal properties are definable in a public language.

V. Formal properties also structure our talk of public, material events and objects

When we say a person 'blinked' or 'winked,' we specify an event in part by its short duration. When we call a dry spell a 'drought,' we assign it prolonged duration. A 'blink' cannot last all week; a 'drought' must last more than an hour.

'Shadows,' 'bruises,' 'dents,' 'sunstroke,' and 'whiplash,' we specify by their causes. 'Poisons,' 'tranquilizers,' 'batteries,' 'medicine,'

and 'printers' we specify by effects. We specify water by a cause when we call it a 'raindrop.' A liquid with a raindrop's look and constitution would not be a 'raindrop' were its origin an airplane lavatory or a sneeze rather than atmospheric condensation.

'Cure,' 'reward,' 'advantage,' and 'improvement' name what is good in some respect; 'danger,' 'sickness,' 'damage,' and 'punishment' name what is bad in some respect.

That formal properties structure our conception of the physical underlies Bertrand Russell's remark (*The Analysis of Matter*) that 'a blind man can know the whole of physics.' That our conception of the physical is structured so also underlies Thomas Nagel's claim that our knowledge of the *physical* operations of a bat or other organism, in contrast to our knowledge of its mental operations, is 'a domain of objective facts *par excellence*—the kind that can be observed and understood from many points of view.'[20]

John Foster says people can 'offer no positive specification of physical objects beyond a description of their structural, causal, and dispositional properties.' When describing atoms and the particles that compose them, scientists can specify only their 'spatiotemporal arrangement,' their 'shape and size (if they have any) and their causal powers and sensitivities.' Such descriptions do not specify a physical object's intrinsic character, Foster thinks. 'This is not merely a limitation on the scope of empirical knowledge,' Foster adds. 'It is also a limitation on the descriptive resources of our physical language and system of physical concepts: beyond our conception of it as a voluminous substance, we cannot so much as envisage, in physical terms, what matter might be like in itself.'[21]

Scientists specify basic physical constituents of the universe by the spatial and temporal properties, and causal interrelations, they assign these structures. Scientists use terms like 'proton' and 'electromagnetic wave' to name entities they specify by their spatiotemporal properties and causal interconnections.

Formal properties structure our talk of the public and (overtly) physical along with the private and mental.[22]

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[20] 'What Is It Like to Be a Bat?,' *The Philosophical Review* 4 (1974).

[21] These quotes are from 'Berkeley on the Physical World,' in John Foster and Howard Robinson (eds), *Essays on Berkeley* (Oxford: Clarendon Press, 1985), 85 and Foster's *The Case for Idealism* (London: Routledge & Kegan Paul, 1982), 93, 64, and 73.

[22] Errol Bedford, Ben Bradley, Michael Levin, Ed Minar, Dawn Ogden, and Theodore Redpath contributed to this paper's evolution.