Pains and Places

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1. I want to defend an unpopular doctrine, namely, that itches, aches, pains, tickles and so on—sensations of all sorts—are generally in the places where we say they are. So, for example, if I say that I have an itch in the big toe on my left foot, then, by and large, that is the very place where the itch is. I think it would seem incredible to most people that philosophers deny this. But of course they do. In fact there are probably few doctrines in philosophy on which so many philosophers with conflicting views about the mind are in agreement.

Scanning the literature from the last century or so, the consensus is impressive. James denied it in the 1890s; Russell and Broad denied it in the 1920s; Wittgenstein and Ryle denied it in the 1940s; Lewis and Armstrong denied it in the 1960s.[1] More recently, materialists of various sorts—such as eliminativists, functionalists and reductive materialists—have also denied it. I cannot document all of their arguments and conclusions, but I shall document some of them. I want to focus on the twentieth century, but the seminal figure is Descartes, and I shall begin by commenting briefly on his views.

Descartes is perfectly explicit on this point. In article 68 of the first part of the *Principles of Philosophy*, he explains that 'pain and colour and so on are clearly and distinctly perceived when they are regarded merely as sensations or thoughts.'[2] In article 71 he says that our tendency to think that pain and colour are in bodies is the result of confusions which begin in childhood. And in the sixth meditation, he claims that hunger, thirst and pain 'are nothing but confused modes of thinking which arise from the union and as it were intermingling of the mind with the body.'[3]

[1] W. James, *The Principles of Psychology* (New York: Dover, 1950), vol. 2, ch. 20; B. A. W. Russell, *The Analysis of Mind* (London: Allen & Unwin, 1921), lecture viii; C. D. Broad, *The Mind and its Place in Nature* (London: Kegan Paul, 1925), ch. 6. For references to Ryle, Wittgenstein, Lewis and Armstrong, see below.

[2] *The Philosophical Writings of Descartes I*, trans. J. Cottingham, R. Stoothoff & D. Murdoch (Cambridge: CUP, 1984), pp. 217ff.

[3] *The Philosophical Writings of Descartes II*, p. 56.

doi:10.1017/S0031819103000019 ©2003 The Royal Institute of Philosophy

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

So it is clear that as far as pain is concerned, Descartes held what John Mackie—writing about values—calls an error theory. He held that sensations are modes of thinking. And since minds—the things that do the thinking—have no location, neither do sensations. We speak as if sensations were located in our bodies, and we generally believe they are, because we tend not to think about them carefully enough. We tend to think that thirst is located in the throat, and hunger in the stomach, and that pain is located in the part of the body that is damaged. But if we philosophize with care, we shall see clearly that these beliefs are mistaken.[4]

Descartes' position is simple to explain. There is nothing uncertain or elusive about it. But his reasons are more difficult to identify. His view about sensations is obviously in harmony with his general view about matter, viz. that the essence of matter is extension, and that all the properties of bodies are modes of extension. But this does not appear to be the ground on which he argues that sensations do not exist outside the mind, and scholars are divided on what his grounds are. I shall not join this debate, but I want to mention one other reason Descartes does *not* give for denying that sensations are located in our bodies.

This is the fact that it is possible to have a sensation which seems to be located in a limb that has been amputated. Descartes mentions this phenomenon several times. For example, in the *Principles of Philosophy* he mentions the case of a girl who seemed to feel pain in her fingers, although unknown to her, her gangrenous arm had been amputated at the elbow.[5] Descartes uses this example to support the claim that the soul does not interact directly with each limb, but only with the brain. (I shall come back to this point later.) But he never appeals to it to weaken the conviction that sensations are located in our bodies.

2. Descartes was quite comfortable with the thought that until we philosophize, we are likely to be mistaken about the location of our sensations. But with some notable exceptions, philosophers in the twentieth century were more chary of this disrespect for common sense, and so they generally preferred to reinterpret the things we

[4] This interpretation of Descartes' position is orthodox, but it is not uncontroversial. It is contested in G. P. Baker and K. Morris, *Descartes's Dualism* (London: Routledge, 1996); but cf. M. Rozemond, *Descartes's Dualism* (Cambridge, Mass.: Harvard Univ. Press, 1998), ch.6 and A. Kenny, 'Aristotle versus Descartes on Sensation', in *Essays on the Aristotelian Tradition* (Oxford: OUP, 2001).

[5] *The Philosophical Writings of Descartes I*, p. 283.

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say when we locate sensations, instead of declaring that they are false.

So, when twentieth-century philosophers deny that my itch is really located in my toe, they also tend to deny that the statement 'The itch is in my toe' should be taken at face value. Either they claim that the phrase 'in my toe' is being used to say something about an itch, but not about its location. Or they claim that it is being used to locate something, but not an itch. But whichever option is preferred, the reinterpretation makes it possible to hold that when I say I have an itch in my toe, what I say is true despite the fact that the itch isn't really, or literally, or strictly speaking, in my toe. So common sense is in the clear.

The first example of this sort of position that I want to document is in *The Concept of Mind*. Ryle broaches the issue with the following question:

> ... by what criteria do we come to locate or mis-locate sensations as being, in some sense of 'in', in the right knee or the pit of the stomach?[6]

If, as seems likely, the point of the parenthetical phrase 'in some sense of "in"' is to prescind from the assumption that 'in the right knee' is being used as a straightforward spatial adjunct, this is a sign that Ryle is a reinterpreter. But he never says what sense of 'in' he has in mind, and so it is difficult to be sure. (But the 'in' deserves attention, and I shall return to it later.)

In any event, Ryle certainly is a reinterpreter, as his answer to his question shows:

> The answer [he writes] is that we learn both to locate sensations and to give their crude physiological diagnoses from a rule-of-thumb experimental process, reinforced, normally, by lessons taught by others. The pain is in the finger in which I see the needle; it is in that finger by the sucking of which alone the pain is alleviated. ... Phrases like 'twinge of toothache' already embody causal hypotheses, and the embodied hypotheses are sometimes wrong. A wounded soldier may say that he feels a twinge of rheumatism in his right leg, when he has no right leg, and when 'rheumatism' is the wrong diagnosis of the pain he feels.[7]

I want to draw attention to one thing Ryle is not saying in this passage, and to two things that he is saying.

Ryle is not saying that each time I have a pain, I find out where

[6] G. Ryle, *The Concept of Mind* (London: Hutchinson, 1949), p. 105.
[7] Ibid., p. 105.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

it is by examining my body for a possible cause, or by finding out where in my body rubbing or sucking or some other anodyne procedure is effective. And it is just as well that he is not saying this, because it is obviously false. If it were true, then when I felt an itch or an ache, I would on average have to examine fifty per cent of my body before discovering where it was, unless I knew from experience where my itches and aches tend to occur. And even if I knew that there were (say) twelve likely places, I would still expect to have to poke and prod in a number of them before finding the sensation. But this is contrary to experience. The fact is that when one has an itch, a tickle or a pain, one can generally say where it is without engaging in a 'rule-of-thumb experimental process'.

So what are the two things Ryle *is* saying? Evidently, one is that the way in which we learn to locate sensations—presumably as little children—involves locating their causes or the places where rubbing or sucking will alleviate them, sometimes with the help of others. But this is not all, because Ryle proceeds from a comment about how we learn to locate sensations to one about the correct interpretation of our talk about the location of sensations, viz. that 'phrases like "twinge of toothache" already embody causal hypotheses'. The idea here is not one about learning. It seems to be that 'twinge of toothache' means roughly the same as the phrase 'twinge which was caused by something in a tooth'. Hence, the second thing that Ryle is saying seems to be this: that when we locate sensations 'as being, in some sense of "in", in the right knee or the pit of the stomach', what we are actually identifying are the places where their causes are to be found, or the places where we need to rub or suck. This gloss is corroborated by a remark Ryle made in an article he published a couple of years after *The Concept of Mind*:

> I have elsewhere argued for the idea that a tickle just *is* a thwarted impulse to scratch, and that it is localised in my cheek, say, only in the sense that that is where I have an impulse to scratch myself.[8]

This differs from the idea that a twinge is located in the tooth only in the sense that that is where its cause is located, because it involves an intentional location, a place towards which an impulse is directed; but it resembles it inasmuch it is explicitly about the interpretation of our localizing talk, and not about a procedure for locating tickles, or about the way that children learn.

So Ryle's view (at the time he wrote *The Concept of Mind*) seems

[8] G. Ryle, 'Feelings', in *Collected Papers II* (London: Unwin Hyman, 1971), p. 279.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

to be this. Unlike Descartes, he holds that if I say that I have an itch in my toe, what I say may well be true. But that is not because the itch is in the place where I appear to say it is. It is because, despite appearances, the prepositional phrase I use really locates the cause of the itch, or the part of the body where it can be alleviated, or the place where I have an impulse to scratch myself. Ryle therefore seems to drop the idea that the word 'in' has a peculiar sense here. He seems to switch from the idea that I use the phrase 'in my toe' to say something about an itch, but not about its spatial location, to the idea that I use the phrase to locate something, but not an itch.

Where does Ryle think my itch is located, if it is located in my toe 'only in the sense that that is where I have an impulse to scratch myself'? He doesn't answer this question explicitly, but there seem to be two possibilities that are consistent with his views. The first is that an itch, unlike the cause of an itch, is not the sort of thing that has a location. The second is that the location of an itch is the location of whoever or whatever has the itch. So the itch I have in my toe is wherever I am, which of course is not in my toe. There is too little evidence to decide which of these views Ryle preferred, if he gave the matter any thought. But it may be worth noting that both of them are consistent with Descartes' position.

3. Ryle's claim that the prepositional phrase sometimes locates the cause of the pain, and not the pain itself, still has supporters. Jaegwon Kim, for example, writes as follows:

> a pain can be located at the site of the tissue damage or other physiological cause in the body, and that is the sense in which I locate a pain in my bleeding thumb.[9]

This, Kim says, is one of the 'various senses in which we can speak of a pain's location'.

Kim appears to be suggesting that if I say that the pain is in my bleeding thumb, this is an abbreviated way of saying that the cause of the pain is in my bleeding thumb. But this is difficult to believe. 'The pain is in my bleeding thumb' does not look like an ellipsis: it is not grammatically incomplete, unlike, say, 'Peter is tired but James is not [tired]', 'I'm happy if you are [happy]' and '[It is] lovely to see you'. And besides, it is obvious that it does not mean the same as 'The cause of the pain is in my bleeding thumb', since either one of these two statements may be true while the other is false. Think of hypnotically induced pain or referred pain. For

[9] J. Kim, *Philosophy of Mind* (Boulder, Colorado: Westview, 1996), p. 63.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

example, if the cause of referred pain in the knee is a herniated disc in the back or arthritis in the hip, the statement that the pain is in the knee is true, but the statement that the cause of the pain is in the knee is false. Hence, the first statement cannot be an abbreviation of the second. It may be worth adding that as far as I am aware there are no other cases in which we locate a thing by means of a sentence which appears to locate another thing which it has caused. If this convention were followed generally the statement that the smoke is in the grate would be true if, and only if, the fire is in the grate; and the statement that Alexei is in Moscow would be true if, and only if, Alexei's parents are in Moscow.

The same objection can be made against the claim that the prepositional phrase locates the place where the sensation can be alleviated. The two statements, that the pain is in my bleeding thumb and that the pain can be alleviated by sucking my bleeding thumb, cannot have the same meaning, because one of them can be true while the other is false. Thus, sucking my thumb may fail to alleviate the pain there; and it could conceivably alleviate a pain in my toe instead. Admittedly, this does not often happen. But acupuncturists commonly alleviate pain in one part of the body by sticking needles in another part.

4. I shall now turn to the functionalist theory of mental states proposed by Lewis and Armstrong. The basic doctrines they advance are well known. Lewis argues that 'the concept of pain, or indeed of any other experience or mental state, is the concept of a state that occupies a certain causal role, a state with certain typical causes and effects.'[10] Armstrong argues that the concept of a mental state, including the concept of an itch, a pain, or any other kind of sensation, is 'primarily the concept of a state of the person apt for bringing about a certain sort of behaviour.' But he adds that in some cases, 'they are also states of the person apt for being brought about by a certain sort of stimulus.'[11] And they both hold that as a matter of scientific fact, these states are physical states of the brain or central nervous system.

It follows from these doctrines that headaches are the only sensations which actually are located in the places where we say they are. Headaches are where we say they are, because every sensation is

[10] D. Lewis, 'Mad Pain and Martian Pain', in *Philosophical Papers I*, (Oxford: OUP, 1983), p. 218.

[11] D. Armstrong, *A Materialist Theory of the Mind* (London: Routledge & Kegan Paul, 1968), p. 82.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

located in the head. But cramps are never in the stomach; arthritic pains are never in the joints; itches are never in the toes; and so on.

Lewis and Armstrong therefore face a choice between accepting the error theory and reinterpreting the things we say about the location of sensations. Lewis does not express a preference. In an early article, he defends the claim that mental states are brain states against the objection that mental states have no location;[12] but he does not attempt to explain why we apparently locate sensations in our toes or in our stomachs, if they are really located in our brains. Armstrong, by contrast, expresses a clear preference for reinterpreting the things we say about sensations:

> statements like 'I have a pain in my hand' [he claims] may be translated without loss of meaning in such a way as to show that the statement as a whole is a perceptual statement. 'I have a pain in my hand' may be rendered somewhat as follows: 'It feels to me that a certain sort of disturbance is occurring in my hand, a perception that evokes in me the peremptory desire that the perception should cease.'[13]

So according to Armstrong, 'I have a pain in my hand' does not say where a pain is located. The paraphrase reveals that what it actually says is where I seem to be perceiving a disturbance. He adds that the experience of pain does not reveal what this disturbance is, but scientific studies have identified it as the stimulation of certain nerve-endings, which physiologists call 'pain-receptors'.

How does Armstrong defend this baroque paraphrase? He acknowledges that the statement 'The pain is in my hand' seems to be saying where the pain is located. But he argues that we cannot take the statement at face value if we want to accept that it is true. Why not? Because we have to accept that the statement 'The pain is in my mind' is true. But the two statements will conflict with one another, if we take the first one at face value. He writes as follows:

> This account of the location of pain enables us to resolve a troublesome dilemma. Consider the following two statements: 'The pain is in my hand' and 'The pain is in my mind'. Ordinary usage makes us want to assent to the first, while a moment's philosophical reflection makes us want to assent to the second. Yet they seem to be in conflict with each other. But once we see that the location of the pain in the hand is an intentional location, that is, that it is

[12] D. Lewis, 'An Argument for the Identity Theory', *Journal of Philosophy* **63** (1966), pp. 17–25.

[13] *A Materialist Theory of the Mind*, p. 314.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

simply the place where a disturbance feels to be, but need not actually be, it is clear that the two statements are perfectly compatible.[14]

This argument is unconvincing, for two reasons. First, psychosomatic pains are sometimes described as being 'in the mind', but pains in the hand which have a local cause are not. Armstrong seems to think that every pain is in the mind, and that a moment's reflection will confirm this, but he doesn't mention any reasons. Secondly, the statements 'The pain is in my hand' and 'The pain is in my mind' will not seem conflict unless both 'in my hand' and 'in my mind' seem to be spatial adjuncts. But 'in my mind' does not seem to be a spatial adjunct, any more than 'on my mind' does. And so the statements 'The pain is in my hand' and 'The pain is in my mind' do not seem to conflict, any more than the statements 'My brother is on a mountain in the Himalayas' and 'My brother is on my mind' do.

So the reason Armstrong gives for reinterpreting 'The pain is in my hand' is unconvincing. But if pains are mental states, and mental states are brain states, and the error theory is unpalatable, some kind of reinterpretation is inevitable.

Before I move on, I shall add a few sentences about the view that pains are perceptions of the stimulation of receptors. The main objection to this view is that it confuses a cause of an experience with its object. When my hand hurts, the stimulation of receptors in my hand is (typically) a cause of the sensation. But these are minute changes in my body. They are not too small to affect my senses, which indeed they do; but they are much too small to be perceptible. The confusion is partly hidden by the fact that since pains are not perceptions, there is *no* object of perception in this case. It becomes more obvious if we introduce one. So, for example, if Armstrong's claim were true, then by parity of reasoning, when I smelt coffee I would perceive the excitation of the chemoreceptors in my nose, and when I heard music I would perceive the excitation of the stereocilia in my ears. But it should be obvious that these are parts of my sensory mechanisms, and not things I smell, or hear, or feel.

5. The last view that I want to document is Wittgenstein's. The most extensive discussion of the location of sensations in his writings is in *The Blue Book*, but there are scattered remarks in some other places, notably in the MSS published under the title *Remarks on the Philosophy of Psychology*, which were written in 1947–48.

The main passage on this topic in *The Blue Book* is not easy to

[14] Ibid., p. 316.

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interpret, but there are a couple of landmarks in the discussion we should not lose sight of. First, Wittgenstein says that 'the word "where" can refer to localities in many different senses.'[15] This echoes a remark that occurs earlier in *The Blue Book*, and which reads as follows:

> We easily forget that the word 'locality' is used in many different senses and that there are many different kinds of statements about a thing which in a particular case, in accordance with general usage, we may call specifications of the locality of the thing.[16]

This is surely right. A place is invariably *where a thing can be*, but there are different kinds of places. For example, if the jam is on the table, under the chair or in the cupboard, these places are spatial locations. But if the place where a character first appears is in the third act of a play, or if the place where a chord occurs is in the first movement of a sonata, these places are positions in an order, or a sequence, and not spatial locations. Wittgenstein does not say explicitly in what way or ways the locality of a pain differs from localities of other kinds, but I shall shortly explain what he appears to have in mind.

The second remark we need to be aware of is the following one:

> What I wish to say is that the act of pointing *determines* a place of pain.[17]

This is a surprising thing to say. It is natural to suppose that if I am asked where I have a pain, and I answer by pointing at a part of my body—say, my hand—I point at my hand because that is where the pain is. But on the face of it, Wittgenstein suggests here that this is the reverse of the truth. He appears to suggest that the pain is in my hand because I point there. So this is one puzzle about Wittgenstein's view: why does he wish to say this?

Here is another puzzle. The most striking remark in Wittgenstein's later writings on this topic is one which first appears in a manuscript in 1947, and which he copied into a clean typescript which was made in October 1948. In this remark, he explicitly denies that bodily pain is located in the body. He writes as follows:

> Regret is called a pain of the soul because the signs of pain are similar to those of regret.

[15] L. Wittgenstein, *The Blue and Brown Books* (Oxford: Basil Blackwell, 1972), p. 50.

[16] Ibid., p. 8.

[17] Ibid., p. 50. The emphasis is Wittgenstein's.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

> But if one wanted to find an analogy to the place of pain, it would of course not be in the mind (as, of course, the place of bodily pain is not the body), but the *object* of regret.[18]

The second puzzle is that this remark appears to contradict the last remark I quoted from *The Blue Book*. For if I am asked to point to where my pain is, I will normally point to part of my body. Hence, if the place of pain is determined by the act of pointing, it seems that part of my body *can* be the place where my pain is. And Wittgenstein seems to deny this in the later passage. It is true that part of my body is not the same thing as my body as a whole. But the point that Wittgenstein is making in the later passage cannot be that the place of bodily pain is not the body but a part of it, because if that had been his point, there would not be an analogy between the place of pain and the object of regret.

So these two remarks appear to contradict each other. It is of course possible that Wittgenstein changed his mind at some point between 1932 and 1947. But I think it can be shown that he did not, and indeed that these remarks reflect precisely the same view about the location of sensations. The key to seeing this is the idea that there are different kinds of places, or, as Wittgenstein puts it, that the word 'locality' is used in different senses. Wittgenstein (I suggest) has one kind of place in mind when he says that the act of pointing determines the place of pain, and another when he says that the place of bodily pain is not the body. His view is that a pain *can* be located in my hand, if that is where I point to, but that this is an *intentional* location. It is like a place which is an object of a thought, and not a place in which the thinking happens.

To see why this is probably what Wittgenstein has in mind, think of regret. Suppose I regret saying or doing something. What Wittgenstein calls the 'object' of my regret is *what* I regret: saying this or doing that. And *what* I regret—he proposes—is analogous to *where* I feel a pain. Hence the question, 'What makes it true that my pain is *there*?' is like the question, 'What makes it true that my regret is about *that* action or *that* utterance?' And we know what Wittgenstein's answer to this question would have been, because he tells us his answer to a very similar question, namely, 'What makes the remark I made into a remark about *him*?' Wittgenstein's answer to this question is as follows:

[18] L. Wittgenstein, *Remarks on the Philosophy of Psychology II*, ed. G. H. von Wright & H. Nyman (Oxford: Basil Blackwell, 1980), §307. The emphasis is Wittgenstein's.

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> What can be said about that?
> Nothing inherent in or simultaneous with it. If you want to know whom he meant, ask him![19]

Thus Wittgenstein seems to hold, like Armstrong, that the location of a pain is an *intentional* location. If this is correct, both puzzles can be solved. First, it is not at all surprising that Wittgenstein wishes to say that 'the act of pointing *determines* a place of pain', given his views about the relationship between a thought or an emotion and its object. Secondly, the remark in *The Blue Book* and the remark in the *Remarks on the Philosophy of Psychology* are therefore perfectly harmonious.

However, like Ryle and unlike Armstrong, Wittgenstein would surely have denied that the pain in my hand has a non-intentional location elsewhere in my body. My guess is that he thought that bodily pain, like grief, is a state or a condition of a whole person or animal, and hence that the only non intentional location that can be assigned to it is the location of the person or animal. But we cannot be sure.

6. In the remainder of this paper I want to consider the hypothesis that sensations are not states of thinking substances, or brains, or persons, but of the parts of bodies in which we normally locate them. In Armstrong's terminology they are *states*, in Descartes' terminology, they are *modes*. But they are states or modes of the sensitive parts of the bodies of sentient animals—and not of minds or souls or brains, or of whole animals or persons.

(A parenthetical comment about modes. A mode is a particular instance of something's doing, being or undergoing something. For example, smiles are modes, which begin and cease when a person changes his or her facial expression in a certain way; pains are modes, which begin when the affected part begins to hurt and cease when it stops hurting; and the roundness and redness of a particular red balloon are modes. Philosophers are divided on whether to accept that all modes are actual entities, distinct from the objects that possess them. But I shall not address this question here.[20])

[19] L. Wittgenstein, *Last Writings on the Philosophy of Psychology* (Oxford: Basil Blackwell, 1982). §313. (Part of this remark recurs in *Zettel*, second edition (Oxford: Basil Blackwell, 1981), §511.)

[20] There is a useful outline of the problem in P. Geach, *God and the Soul* (London: Routledge & Kegan Paul, 1969), pp. 68ff. A case for granting existence to all modes is made in J. Lowe, *The Possibility of Metaphysics* (Oxford: OUP, 1998), pp. 78ff.

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If sensations are modes of sensitive parts of bodies, when there is an itch in my toe, the itch is strictly and literally and non-intentionally in my toe—just as a crease is in a shirt-sleeve, or a vibration is in a steering column, or a chill is in the air. In all of these cases, the locative phrase is literal, like the phrases 'in the kitchen' and 'in London', and unlike 'in deep water' (in one common sense of the phrase) or 'in a tight spot'. And it is spatial, like the phrase 'in the kitchen', and unlike 'in the twelfth century' or 'in the final chapter'. But the location of a mode is in the thing affected, and so the 'in' can equally be said to have an attributive meaning. For example, the itch in my toe is the itching of my toe; the vibration in the steering column is the vibrating of the steering column; and so on.

This hypothesis allows us to accept that the things we say when we locate sensations are generally true, without being forced to claim that the sentences we use are elliptical, or that their meaning is complicated and unobvious. So the great advantage that it has over its rivals is that it combines simplicity and accord with common sense. Neither of these qualities is indispensable in philosophy. But there is (I think) a presumption in favour of a doctrine which combines them.

In particular, it allows us to explain in a simple and familiar way how the various kinds of sentences we use to locate sensations are related to each other. Consider the following three sentences:

(1) I have an itch in my toe.
(2) 1 have a headache.
(3) My leg is hurting.

The main grammatical dissimilarities between these sentences are as follows. First, (1) contains a prepositional phrase, whereas (2) and (3) do not. Secondly, the sensation-word is a noun in (1) and (2), but a verb in (3). Thirdly, the subject is 'I' in (1) and (2), and 'my leg' in (3). But despite the differences between them, we can use sentences with these various forms to convey exactly the same information, e.g. by saying 'I have an itch in my toe' or 'My toe is itching'; and by saying 'I have a headache' or 'My head is aching'. Why is this so?

If sensations are modes of sensitive parts of bodies, the answer is straightforward. The grammatically transparent form is (3). (3) wears its semantic structure on its sleeve. And (2) and (1) have what grammarians call (for obvious reasons) eventive objects. The main verb in this kind of sentence is often one of a limited number of common verbs, such as 'have', 'give', 'make' or 'take': e.g. 'I had a chat', 'I took a bath', etc. These verbs can be used to express rela-

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tions: for example, 'I had (i.e. owned) a bicycle' and 'I took (i.e. captured) a pawn'. But in sentences with eventive objects they do not express relations, and there is generally an obvious paraphrase which makes this clear. For example, 'I had a chat' can be paraphrased as 'I chatted', 'I took a bath' can be paraphrased as 'I bathed', and so on.[21]

'I have a headache' and 'I have an itch in my toe' are more elaborate, because of the composite noun in the first sentence, and the prepositional phrase in the second. But there are other familiar examples of these constructions, whose meaning is not contested by philosophers. Thus, 'I have a headache' is similar to 'I have a nosebleed', and invites exactly the same form of paraphrase: 'My head is aching' and 'My nose is bleeding'. Equally, 'I have an itch in my toe' invites a similar paraphrase to 'I have a twitch in my calf', viz. 'My toe is itching' and 'My calf is twitching'.

In short, if sensations are modes of the sensitive parts of bodies, (3) is grammatically transparent, and (1) and (2) have elaborated forms in which deverbal nouns are used in perfectly familiar ways. On the face of it, this offers a more plausible account of the semantic structure of these sentences than the elaborate ellipses, translations and interpretations proposed by the twentieth century philosophers who refused to believe that sensations are located in the places where we say they are, but could not bring themselves to call the things we say about sensations false.

7. If sensations are modes of the sensitive parts of bodies, then pains can occur in painful joints and limbs, itches can be in toes, and aches can occur in backs as well as heads. Hence, it is possible to acknowledge that the things we say when we locate sensations are generally true, without invoking the far-fetched ellipses and subtle interpretations that philosophers have invited us to accept. But what objections does this view about the location of sensations face, and are there plausible replies to the objections?

The most popular objection appeals to the phantom limb case. Jonathan Lowe, for example, writes as follows:

> We speak as if pains were located 'in' various parts of our bodies, such as our backs or our toes. And yet it is difficult to interpret this manner of speaking literally, especially when we consider the so-called 'phantom limb' phenomena experienced by some amputees. Sometimes, a person who has had a leg amputated con-

[21] I discuss this construction in more detail in J. Hyman, '-ings and '-ers', in *Meaning and Representation*, ed. E. Borg (Cambridge: CUP, 2002).

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

> tinues feeling pains and other sensations 'in' the amputated leg, but it is difficult to suppose that what such a person is aware of is anything literally *located* where his leg would have been, since that part of space may apparently contain nothing but thin air.[22]

The reply to this objection is that from the fact that a sensation cannot be located in an amputated leg or in thin air, it does not follow that it cannot be located in an unamputated leg, or in another sensitive part of an animal's body. The phantom limb case shows that if it feels to me as if my leg is hurting, it does not follow that my leg is hurting, since my leg may have been amputated, and no longer exist. But this does not imply that when my leg *is* hurting, the pain is not located in my leg.

But doesn't this reply to the objection imply that pains in phantom limbs are fictions? And isn't the pain suffered by an amputee, on the contrary, as real as any pain could be? The reply to these questions is that if it feels to an amputee as if his leg is hurting, it *is* a fiction (or a falsehood) that his leg is hurting. Non-existent legs cannot hurt, any more than they can throb or swell. But of course it does not follow that the amputee is not really suffering, or in pain. Whether or not he is really suffering depends on whether or not he is pretending (fantasizing, hysterical, etc.). And if it really feels to him as if his leg is hurting, then his suffering will not be fictional, but real.

Perhaps Lowe's objection is meant to resemble one version of the argument from illusion. Thus, suppose an amputee and a non-amputee both suffer pains. The amputee's pain cannot be located in his leg, because he has no leg; but (by hypothesis) the non-amputee's pain and the amputee's pain are exactly alike; hence, the non-amputee's pain cannot be located in his leg either.

The pedigree is inauspicious, and the argument itself is unconvincing. For it does not follow from the fact that two sensations are exactly alike that if one is located in a leg, the other is too—unless it is stipulated that being exactly alike includes having the same location. And if this is stipulated, then the second premise is evidently question-begging.

[22] E. J. Lowe, *An Introduction to the Philosophy of Mind* (Cambridge: CUP, 2000), p. 116. See also B. B. Rundle, *Perception, Sensation and Verification* (Oxford: OUP, 1972), pp. 185f.; B. O'Shaughnessy, *The Will: A Dual Aspect Theory I* (Cambridge: CUP, 1980), p. 176; J. Kim, *Philosophy of Mind*, p. 63.

[23] F. Jackson, *Perception* (Cambridge: CUP, 1977), p. 54.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

8. I want to consider four more objections; but first I shall comment on another view about pain in a phantom limb. Frank Jackson holds that pains are 'mental objects', and—exceptionally—that they are generally in the places where we feel them. Pains in phantom limbs, he claims, are no exception: they are located 'where they feel to be, that is, where a limb used to be.'[23] Hence, in one important respect, Jackson's view resembles mine. For we both hold that sensations are generally where we say they are. But we differ about the kind of entities sensations are; and we also differ about pains in phantom limbs. Both differences, I suggest, count in favour of the view defended here.

In the first place, it does not assign sensations to a novel class of entities.[24] Jackson does not attempt to define the class of mental objects; but he says that it includes bodily sensations and visual hallucinations: 'such things as pains, itches and throbs ... [and] such things as after-images and mirages'.[25] Mental objects are not 'physical objects' or 'material things'; and they are neither (Aristotelian) substances nor modes. They depend on their 'owners' for existence, but presumably not in the same way as modes do. After-images are said to have shapes and sizes; and pains are said to have locations. But it is unclear whether all mental objects have all of these properties; or whether some have some of them but not others, or none at all. The view I defend involves a less innovative and more parsimonious ontology, which makes it more plausible, to say the least.

Secondly, Lowe is (I believe) right to deny that a pain can be located in thin air. But Jackson's view has a more puzzling implication about the location of pain in a phantom limb than this. For according to Jackson's view, if an amputee positioned himself with care, a pain in the phantom limb could be located, not in thin air, but in another—that is, in a surviving—limb. But the surviving limb itself might not be hurting, and could even be anaesthetized. Hence, Jackson's view implies that it is possible for a person to have a pain in a part of his body that is not, or cannot be, hurting. And this is paradoxical, or absurd.

If we state this objection in the formal mode, it is that Jackson cannot accept the equivalence, noted above, between sentences in which a prepositional phrase locates a sensation ('I have an itch in my toe', 'I have an ache in my head', 'I have a pain in my leg') , and the corresponding sentences in which the subject refers to the

[24] The characteristics of mental objects are explained by Jackson in *Perception*, ch. 3 *passim*, espec. pp. 50ff & p. 80f.

[25] Ibid., p. 51.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

affected part ('My toe is itching', 'My head is aching', 'My leg is hurting'). Jackson could deny the equivalence, of course—some philosophers have an appetite for bullets. But if he did so, we would want to know how he proposes to interpret a sentence of the latter kind. For example, what is 'My leg is hurting' supposed to mean, if it means something different from 'I have a pain in my leg'? I shall not speculate about the answers that this question might receive; but it does not take much thought to see that we are heading straight back to the muddy ground of baroque paraphrase and *ad hoc* claims about ellipsis—territory that we do well to avoid.

9. I shall now turn to the second objection, which is concerned with the use of the preposition 'in'. Some philosophers have argued that 'in' cannot have a spatial meaning when it is used to locate sensations. For—first premise—if A is (spatially) in B, A can be taken out of B and put in C instead; and if A is (spatially) in B and B is in C, it follows that A is in C. For example, if an apple is in a bowl, it can be taken out of the bowl and be put in a drawer instead; and if it is in a bowl and the bowl is in the kitchen, it follows that the apple is in the kitchen. But—second premise—if I have an itch in my toe, it doesn't follow that I cannot take that very itch out of my toe and put in my finger; and if my toe is in my shoe, it doesn't follow that I have an itch in my shoe.[26]

The conclusion of this argument—viz. that 'in' does not have a spatial meaning when it is used to locate sensations—is hard to accept, for at least two reasons. First, if 'in' did not have a spatial meaning in this kind of sentence, I could not answer the question 'Where is the pain?' by saying 'It is in the place where the thorn is', unless the preposition had the same non-spatial meaning in my answer. Secondly, 'The thorn and the pain are both in my leg' would be a zeugma, like 'she came home in a flood of tears and a bath chair', which it is not.

The first premise of the argument is also implausible. It may be true of what J. L. Austin used to call middle-sized dry goods, that if A is (spatially) in B, A can be taken out of B and put in C instead. And it may be true, in the case of substances generally, that if A is (spatially) in B and B is in C, it follows that A is in C. But neither of these inferences is valid in the case of modes. For example, if I

[26] N. Block, 'Mental pictures and cognitive science', *Philosophical Review* **92** (1983), pp. 499–541; P. M. S. Hacker, *Meaning and Mind* (Oxford: Basil Blackwell, 1990), pp. 49f.; but cf. P. Noordhof, 'In pain', *Analysis* **61** (2001), pp. 95–7.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

have a crease in my shirt, it doesn't follow that I can take it out of my shirt and put it in my trousers; and if my shirt is in the chest of drawers, it doesn't follow that I have a crease in the chest of drawers.

Hence, the more plausible explanation of why these inferences fail in the case of itches is not that 'in' does not have a spatial meaning when it is used to locate sensations. It is that sensations are modes, and these inferences are not valid in the case of modes at all. But it does not follow from the doctrine I am defending that a sensation cannot move. A pain can travel up my leg, just as a vibration can travel through the air and a wrinkle can move across a carpet. Nor does it follow that no valid inferences about the location of sensations are possible. Thus, if I have a pain in my gastrocnemius and my gastrocnemius is part of my leg, it follows that I have a pain in my leg; just as if I have a crease in my sleeve and my sleeve is part of my shirt, it follows that I have a crease in my shirt.

So, these patterns of valid and invalid inferences do not suggest that we should not take statements which locate sensations at face value. On the contrary, they support the view that sensations are modes of the sensitive parts of bodies—a view which implies that this is exactly how we ought to take them. They also provide a further reason to prefer this view to Jackson's. For the salient differences between mental objects such as sensations and (Aristotelian) substances such as apples and bowls are, first, that mental objects are not 'material things', and secondly, that they 'cannot exist unowned'.[27] But these differences do not explain why the patterns of valid and invalid inferences about sensations noted above should conform to the patterns that we find in the case of modes.

10. Three objections remain to be considered; but I shall give them shorter shrift. The third objection is that the immediate causes of sensations are located in the brain. But causes and their immediate effects must be contiguous. Hence, sensations must also be located in the brain.[28]

The reply to this objection is as follows. First, the basic kinds of mechanical transaction on which the concept of a cause is founded —pushes and pulls, breakings and knockings over, and so on—these basic mechanical transactions do not involve action at a distance. And we therefore feel most comfortable, intellectually, with contiguous causation. But non-contiguous causation is not absurd—in fact it seems to pervade nature—and the production of a sensation

[27] Jackson, *Perception*, pp. 50ff.

[28] B. O'Shaughnessy, *The Will: A Dual Aspect Theory I*, p. 176.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

by an occurrence in the brain is not a mechanical transaction like a push or a pull.

Secondly, it is a medical discovery that the production of a sensation is not a case of contiguous causation. If I clap my hands and make thern smart, cause and effect seem to be contiguous, because the clapping seems to cause the smarting immediately, and not by dint of causing events elsewhere in my body. This is how it seems; but it isn't how it is. That is what Descartes used the case of the phantom limb to prove. But instead of encouraging us to doubt whether the stinging actually happens in my hands, this discovery ought to weaken our prejudice in favour of contiguous causation.

The fourth objection is that my knowledge of my own sensations is in some way (which philosophers disagree about) privileged or peculiar; but nobody can have privileged knowledge about the state of a toe or a tooth, even if it is part of his own body.

The correct reply to this objection will of course depend on exactly what kind of privilege is claimed for my knowledge of my own sensations. But perhaps two points can usefully be made, without considering every kind of privilege that philosophers have claimed to detect here. First, there is no reason I am aware of why my knowledge of the state of a sensitive part of my own body cannot be privileged or peculiar in some way. For example, it may be plausible to argue that my knowledge that my head is aching is unlike anybody else's because it not the result of observation, inference or testimony. Secondly, the boot may be on the other foot where this objection is concerned, since philosophers who claim that sensations are brain states, and who also hold that my knowledge of my own sensations is in some way privileged, are committed to the view that I can have privileged knowledge about the state of my brain. But this is substantially more difficult to justify, precisely because the brain is *not* a sensitive part of the body.

The fifth and final objection I shall consider is, in effect, an argument from queerness. This is the name that Mackie gave to a similar argument about values: 'If there were objective values', he writes, 'then they would be entities or qualities or relations of a very strange sort, utterly different from anything else in the universe.'[29] Similarly, it could be argued that if aches and itches were modes of heads and toes, they would be too strange for a scientific view of the world to countenance.

[29] J. L. Mackie, *Ethics: Inventing Right and Wrong* (Harmondsworth: Penguin, 1977), p. 38.

[30] See C. D. Broad, *The Mind and its Place in Nature*, p. 71.

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The reply to this objection is that whether sensations are strange denizens of the world depends on the test of strangeness that we are using; but science—and especially twentieth-century science—has apprised us of much stranger things than aches and pains. It may be true that an archangel with a perfect knowledge of the part of physics that explains the behaviour of the ultimate constituents of matter (if matter has ultimate constituents) would have no reason to expect sensations.[30] But if so, then a scientific view of the world can evidently encompass more than this part of science can explain. In any case, sensations are exactly as strange as sentient animals are; and that is a degree of strangeness which we had better feel capable of accepting.

11. I have defended the view that sensations are located in the sensitive parts of the bodies of sentient animals. I suspect that this view has been unpopular for so long because of the influence of Cartesianism. As we have seen, Descartes held that thoughts are modes of an immaterial substance. But he also extended the boundaries of the mind, and brought into its domain what earlier philosophers had attributed to the body. In particular, he held that thinking does not include only understanding, judging and willing, but also pain and pleasure, the experience of colour and of sweetness, and every act of the imagination. As Anthony Kenny puts it, for Descartes, the boundary between mind and body lay between consciousness and clockwork; whereas for Aquinas it lay between intellect and sense.[31] (Hence, Kenny explains, Aquinas held that disembodied souls in hell do not suffer pains, in the strict sense: they suffer because of the thwarting of their wills.)

Descartes' division between mind and body meant that aches and pains are, strictly speaking, spiritual occurrences. It desensitized the body, and made it seem (to philosophers) more like a prosthesis than it really is. When the residue of the Cartesian philosophy of mind that had survived into the twentieth century came under fierce attack, from Ryle among others, one might have expected this view about the body to be in the firing-line. But it wasn't. Persons or animals slipped into the role which disembodied minds had played in the Cartesian philosophy, but the division between psychological and bodily attributes was preserved. More recently, the central nervous system has assumed the role that persons and animals played briefly. But the strange and grotesque idea that bodies are insensi-

[31] A. J. P. Kenny, *The Anatomy of the Soul* (Oxford: Basil Blackwell, 1973), p. 115. Again, this interpretation of Descartes' views is not accepted universally. But it is the received interpretation, and that is what matters in this context.

https://doi.org/10.1017/S0031819103000019 Published online by Cambridge University Press

tive continues to predominate. It is a bitter pill, and it is not made more palatable by the concession that the causes of our sensations are often in the parts of our bodies where we say the sensations are, and that we can sometimes alleviate these sensations by rubbing or scratching or sucking these parts of our bodies.[32]

Perhaps philosophers who learned their trade when Cartesianism was the norm—the philosophy one had to take a stand on—found it sufficiently unCartesian to insist that pains have *some* physical location. I do not. I am reluctant to accept the Cartesian idea that our untutored thoughts about the places where our pains and itches are located are mistaken, and that the idioms in which we express these thoughts record the mistake. And I do not find the alternative, that these idioms are oddly ellipted ways of saying anything but what they appear to say, more palatable. Given the choice, I would prefer to accept the error theory. It seems less mealy-mouthed. But fortunately the choice can be avoided.

One final comment. The reader will perhaps have noticed that I have not addressed any of the problems about the epistemology of sensations which philosophers have grappled with so energetically in the last half-century. (I mean the ones about introspection, incorrigibility, authority, and so on.) I regard this as a strength, and not a weakness, of my argument. If we can settle some basic questions about sensations without engaging in these difficult controversies, so much the better. And it seems we can. Headaches are very different things from nosebleeds. And the differences between them obviously include the epistemological features that philosophers have had such trouble in defining. But if we are interested in deciding where sensations are located—and hence whether they could be thwarted impulses or brain states, for example—these differences can safely be ignored.[33]

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[32] Jackson's theory shows that it is possible to accept that sensations are generally located where we say they are without challenging the Cartesian division between mind and body. But the cost of doing this is the mis-categorizing of sensations, and the corresponding logical and semantic weaknesses discussed above. Perhaps one lesson we can learn from thinking about Jackson's theory is that if we want to renounce the strange idea that the bodies of sentient animals are insensitive, merely co-locating sensations and parts of bodies, without attributing sensations to these parts, is not enough. Jackson can of course *call* parts of our bodies 'sensitive', but only in a Pickwickian sense—a sense in which the patch of thin air in which the phantom pain is felt is sensitive as well.

[33] I am grateful to participants at the 2001 conference 'Wittgenstein in Delphi' and at the 2002 Beijing International Symposium 'Wittgenstein and Twentieth Century Analytical Philosophy', for their critical remarks.

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