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**HOW I LEARNED TO STOP WORRYING AND LOVE PANPSYCHISM**

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So how, on earth, did I become a panpsychist? Well, you may perhaps have heard the comment made by John Perry, the Stanford philosopher, that if you study consciousness long enough you either become a panpsychist or you go into administration! I haven't gone into administration; so, I've become a panpsychist. I have to say that this conversion bothered me for quite a while but then I stopped worrying and came to love the view. What I'm going to try to do in this essay is to explain to you how I came to my present position as well as how it relates to what I held previously; I also want to make some new remarks. The essay is pretty wide-ranging, I might add. I've done my best to make it generally accessible. I hope I've succeeded.[[1]](#footnote-1)

 I want to start with something quite extraordinary. Earlier this year, I met the Dalai Lama at his palace in Dharamsala. He was hosting a very small conference on animal consciousness, at which I gave a talk. I mention this mainly because while I was in Dharamsala, I came to learn about the case of dead-but-not-dead Buddhist monks and the extraordinary phenomenon of Thukdam.

Buddhist monks can often tell when they are close to death. In these cases, they usually go into deep meditation, and after death this deep meditative state, as Buddhist monks conceive it, called ‘Thukdam’, continues, but there is no brain activity or heartbeat. Yet extraordinarily the bodies of the monks, still in the meditative position, do not decompose. They can stay in the same condition as they were before death for days.

This has been studied in depth recently by Western neurophysiologists, for example, Richard Davidson, at the University of Wisconsin at Madison. He reports in a recent study that electroencephalograms failed to detect any brain activity in 13 monks who had practised Thukdam and had been dead for at least 26 hours. One of these was a friend of Davidson, a Buddhist monk, who, by conventional standards, died on August the 28th, 2014. Five days later, Davidson reports that he returned to the place where his friend had died and observed his friend's body for a second time (having also seen the body earlier, two days after death). Here is what he said: “There was absolutely no change; it was really quite remarkable.” By the standards of western medicine -- conventional western medicine -- this man, Geshe Sopa, was dead though with an inexplicably preserved corpse. By the traditions of Tibetan Buddhism, Sopa’s body continued to harbor a mind. On the Buddhist view, death is not really an event but rather a process. As it occurs, Evan Thompson tells us (in his 2015), sensory consciousness “dissolves away and is replaced by the rising of the clear light of pure awareness at the end of the inner dissolution”.

It's interesting to note that there are connections between the phenomenon of Thukdam and what Catholics call “the doctrine of incorruptibility”. Incorruptibility is the preservation of the body from normal decay after death. According to Catholic tradition, incorruptible Saints give witness to the truth of the resurrection of the body and the life after death. Unfortunately, there is no strong evidence of which I'm aware supporting Catholic cases of incorruptibility. In the cases that have been examined (so far as I know), the body had been tampered with after death and some silicone reconstruction performed on the face and the hands.

Why am I mentioning this? Well, Thukdam is highly interesting and puzzling, to say the least. And it reminds us of what we already know from quantum mechanics, namely that the world is a very strange place. Moreover, if the world *is* a very strange place then why should it not be strange in the ways proposed by the panpsychist? I shall suggest later that panpsychism, or at least my version of it, can be connected to Thukdam. But let me begin with the doctrine of panpsychism itself.

Panpsychism obviously is a theory or proposal about consciousness. Unfortunately, the word ‘consciousness’ is used to mean so many different things. Let me start by saying what pansychism is not. It is not a theory of self-consciousness, that is, awareness of the self as being in such and such a state or doing so and so, as, for example, when I am aware that I am 5 pounds heavier than I was a week ago, or that I am late for a dental appointment.

There's also a use of the word ‘consciousness’ which applies simply to being awake and functioning normally. For example, if I tell you my daughter is upstairs in her bedroom and that I'll go up and see if she's conscious yet, I mean that I'll go up and see if she has woken up and is clear-headed. That again is not the kind of consciousness on which panpsychism has anything to say.

 There is also higher order consciousness. This is consciousness that one is in such and such a mental state. Again, this is not the sort of consciousness in which panpsychism is interested.

Panpsychism is a view about *phenomenal* consciousness and talk of phenomenal consciousness goes with talk of what it's subjectively like. Take the case of pain, for example. Pain is a certain kind of feeling. There is always something it is like to be in pain. Pain in this way is an inherently phenomenally conscious state. This makes it very different from belief, for example. When you go to bed each night and you're fast asleep, without any dreaming, you retain your beliefs even though there is nothing it is like for you subjectively at those times to have those beliefs. Belief is not a phenomenally conscious state.

 Phenomenal consciousness gives rise to the so-called hard problem of consciousness (Chalmers 1995). Let me remind you briefly of what the hard problem is. Suppose I tell you functionally and physically (from the level of microphysics on up) what is going on in some human’s brain when that human is in a given phenomenally conscious state, for example, pain. It makes perfectly good sense for you to ask the question ‘Why do those physical and functional goings on give rise to *that* subjective felt state? Why couldn't they have given rise to a *different* subjective felt state or no subjective felt state at all?”. To appreciate that these questions do indeed make sense is to have a firm grasp on the notion of phenomenal consciousness.

Having such a grasp, you should also see that the concept of a zombie, as discussed by philosophers, is intelligible. Zombies (in philosophy) are people who are functionally and physically (again from the level of microphysics on up) just like us but for whom on the inside there is *nothing* subjectively it is like. No one is claiming, I might add, that there are, in fact, any zombies among us. The point is that the idea of a zombie makes sense, and it makes sense because of how we think of phenomenal consciousness.

 The feature of phenomenal consciousness on which I want to focus is its apparently not admitting of borderline cases. In the case of being tall or being rich or being old, for example, there clearly are borderline cases, that is, cases of people who are not definitely tall (rich, old) but who are also not definitely not tall (rich, old). Not so in the case of phenomenal consciousness. If you disagree with me here, try to conceive of an objectively borderline case of phenomenal consciousness. You can certainly conceive of a case of consciousness which is indeterminate as to whether it's a case of pain, say. Suppose, for example, you're at the dentist and he has given you an anesthetic. He is starting to drill but the anesthetic hasn't quite taken hold yet, so you're still feeling something in the tooth he's drilling on but what exactly are you feeling? Are you feeling pain or is it just a feeling of pressure? You may not be able to say. What's going on here is that there is indeterminacy in *what* you are feeling but there isn't any indeterminacy as to *whether* you are feeling. So, this isn't a borderline case of phenomenal consciousness itself.

 Here's another example. Imagine that you're in a hospital bed feeling pain and that you can adjust a dial that controls the delivery of morphine to your body. As you do so, your pain becomes less intense, gradually transforming itself into a feeling of pleasure. In the middle of this process, there may well be experiences that are not easy to classify. Again, there is indeterminacy at such times as to what you are feeling, but there is no indeterminacy as to whether feeling continues to be present.

Consider finally the case of auditory sensations. Suppose you're participating in an experiment and you are listening to random high pitched sounds through headphones. You're asked to press a button for each sound you hear. In some cases, you may be unsure as to whether you're hearing any sound at all. Someone may say: well, isn't that a borderline case of consciousness? I don't think that it is.

 The salient point here is that even if you’re not hearing a sound, you are still hearing *something*, namely silence, the absence of sound. There is something it is like subjectively to experience silence. So, if there's indeterminacy here, the indeterminacy is in what you're experiencing (the slight sound versus silence) not in whether you are experiencing. You might insist here that there is no such thing as experiencing silence. What we call “experiencing or hearing silence” is really just failing to hear any sound. But I think this doesn't merely fail to fit with what subjects themselves say (and think) about this sort of case. It also doesn't fit with the results of an experiment that was just published (Goh et al, 2023).

Basically, the experiment was this: subjects were presented with a long sound of the same length as two subsequent short sounds with a small gap in the middle. Subjects were then asked whether the long sound was longer than, the same as, or shorter than the two short sounds put together. In actual fact, they were the same length but the subjects reported that the long sound was longer. So, there's a kind of auditory illusion. What's interesting is that the experimenters got the same result in the silence case. Here they presented subjects with one long silence followed by two shorter silences with a small gap of noise in between. Again, the

subjects were asked which was longer and they judged the longer period of silence to be longer than the two short periods of silences put together. So, it looks as if what's going on here is that there is still an auditory illusion occurring, though this time with respect to silence, and so there really is a case of auditory perception in the silence case.

Let me try to illustrate further my general point. Suppose someone held that being tall is precise, admitting of no borderline cases. We can quickly show this person that they are wrong by presenting them with examples of people who aren't definitely tall but who also aren't definitely not tall, and we can do the same with experiencing red or feeling pain or hearing a loud noise or feeling happy. In these cases, there is indeterminacy with respect to what is experienced. But can we come up with a borderline case for having some experience or other (or being conscious)? I don't think that we can.

In the case of life, we don't have the same problem. The reason, I think, is straightforward. The concept l*iving* is a functional/behavioural concept. What it is for something to be living is for it to have enough of a cluster of features (using energy, growing, reproducing, responding to the environment, adapting and self-regulating). Borderline cases arise with respect to whether a given creature genuinely does have enough of the relevant features making up the definition of living (perhaps it does so by my lights but not by yours) and also with respect to the possession of individual features. So, the result is that the transition in the case of life from clearly inanimate to clearly animate beings is gradual and continuous. In the case of phenomenal consciousness however, as already indicated, there is no functional or behavioural definition and that's why it's perfectly coherent to imagine a creature that is not conscious, a zombie, as I mentioned earlier, even though it's functionally and behaviourally just like a creature that is. Indeed, it's not that there isn't any functional or behavioral definition of phenomenal consciousness. I don't think that there is any definition, a period. The best we can do, I think, is to come up with synonyms and give examples of states that are phenomenally conscious, such as feeling pain. The result I think is that, unlike the case of life, there are no intermediate stages with respect to phenomenal consciousness itself. Either it's there or it isn't.

Suppose you're still not persuaded. Let me add this. Experiences, we can all agree, are rich to varying degrees. Take, for example, my current visual experience, as I look at the room before me. It's enormously rich in its subjective character. I can't begin to put this character into words: the slight differences in shades of color I experience, the shapes and orientations of surfaces, the variations in the light, for example. You might contrast that extraordinarily rich, fully conscious experience with, say, your bodily and perceptual experiences just as you are waking up. Those experiences are much more impoverished in their subjective character. Going still further down the scale, think about your experience of silence -- it's an experience of the absence of something, namely sound, as already noted -- or your experience of darkness – that is, the experience of the absence of light.

Experiences, then, vary in their richness from being rich to a degree that cannot be put into words down to experiences simply of the absences of certain properties[[2]](#footnote-2). Within what is experienced, there are various categories admitting of vagueness or borderline cases. So, there's a scale here with respect to *what* is experienced; but the idea that there can be degrees of experience *itself*, that one state can be an experience to a greater degree than another, as one person can be older or taller than another, that seems incoherent. You can be conscious *of* more in one case rather than another, but you can’t literally thereby be *more* conscious.[[3]](#footnote-3)

 Someone might respond by saying, “We only have an imperfect grasp of the concept PHENOMENAL CONSCIOUSNESS. Really the concept is vague. It's just that in everyday life, PHENOMENAL CONSCIOUSNESS. Really the concept is vague. It's just that in everyday life,

we're asked to think about the concept, we falsely believe that it's sharp. So, we falsely believe that phenomenal consciousness cannot have borderline cases.”

 Here is a possible parallel. Maybe the concept PHENOMENAL CONSCIOUSNESS is a natural kind concept like WATER or GOLD. This would fit with the lack of a definition of the concept PHENOMENAL CONSCIOUSNESS. Sometimes, users of natural kind concepts have an inaccurate conception of their referents, an inaccurate associated mental file. For example, it could conceivably be the case that gold isn’t really yellow even though it appears that way. Maybe there is some weird atmospheric effect which distorts gold’s real color (Kripke 1980). So, our everyday conception of gold is inaccurate in this respect. Something like that could be true here. We *mistakenly* believe that the concept PHENOMENAL CONSCIOUSNESS has no borderline cases. In reality, it picks out a physical natural kind admitting of possible borderline cases.

I think that this response isn't good enough. For one thing, we cannot even begin to imagine a case of borderline phenomenal consciousness, as we can imagine a case of gold that isn’t really yellow. It isn’t simply part of our ordinary *conception* that phenomenal consciousness lacks borderline cases. If it were, we would have no difficulty in imagining a scenario in which there is a borderline case of phenomenal consciousness. Rather it is part of the nature or essence of phenomenal consciousness that it lacks such cases. Moreover, we don't just *believe* that phenomenal consciousness is sharp, or so I would say. We *know* a priori that it is, that is, we know, sitting in our armchairs, just by reflecting on the idea of phenomenal consciousness, that there *cannot* be any borderline cases just as we know a priori, sitting in our armchairs, thinking about the concepts RED and GREEN, that there cannot be a surface that is red and green all over at the same time or we know a priori, sitting in our armchairs, that a surface cannot be square and triangular at the same time simply by reflecting on the concepts SQUARE and TRIANGULAR. One more example: we know a priori that a rock could not be a prime number simply by reflecting on the concepts ROCK and PRIME NUMBER. Again, it's not just that we believe these things. We know them a priori.

Here is another possible response. Maybe we do grasp that our current concept PHENOMENAL CONSCIOUSNESS full well and it *is* sharp. But maybe the concept is empty like the concept PHLOGISTON.[[4]](#footnote-4) As such, it needs to be replaced by *another* concept that does allow borderline cases. The trouble is that to take this line is effectively to become an eliminativist about experience/phenomenal consciousness. It is difficult to take this proposal seriously.

A final response is to grant that our current concept PHENOMENAL CONSCIOUSNESS is sharp, but to insist that through time it will develop into vague concept with a functional or behavioral definition. This being the case, there is no difficulty in fitting phenomenal consciousnesss into the physical world.

The immediate problem with this proposal is that it ignores the fact that it is a priori necessary that our current concept *lacks* a functional or behavioral definition. So, our current concept cannot develop into a vague functional or behavioral concept. At best, it can be *replaced* by such a concept. But were such a replacement to occur, it would be a concept for something other than consciousness and therefore the possibility of such a replacement offers no support for the view that phenomenal consciousness itself might turn out to be vague.

 Unfortunately, if you agree with me here and you go along with what I am arguing then you end up with a kind of paradox. The paradox is this. I have tried to show that there's a very good case to be made for the claim that phenomenal consciousness is sharp, that it doesn't admit of borderline cases. From this, it seems to follow that phenomenal consciousness cannot be reduced to anything physical. Why? Well, because all the plausible physical candidates are ones that admit of borderline cases. Think, for example, of various functionalist proposals about experience. There's always possible indeterminacy with respect to the relevant functioning. Alternatively, consider the hypothesis from Crick and Koch that phenomenal consciousness is a matter of having a 40 millihertz neuronal oscillation. That proposal is chockablock full of vagueness. Evidently, Crick and Koch (1990) were not proposing that *exactly* 40 MHz is the oscillation that crucially matters. For what about 40.0001? Or 40.00001? And so on. There are endlessly many equally eligible oscillation candidates for identification with consciousness. So, either all of them are consciousness, which is impossible since they are different, or none of them are. So, none of them are.

This is essentially the argument Benacerraf (1965) used against the view that numbers are sets. It is also very similar to an argument David Lewis (1993) presented in laying out what he called “the problem of the many”. Lewis’ argument went this way: consider a single cloud in a blue sky. There are a huge number of minimally different overlapping aggregates of water molecules in the vicinity of the cloud. Each of them is an equally eligible candidate for identification with the cloud. So, either all of them are clouds, which contradicts the assumption that there is a single cloud in the sky or none of them are, which seems to imply that there is no cloud in the sky at all. The solution here, I think, is to deny that the cloud is identical with any precise aggregate of water molecules. Rather the cloud is a vague object with vague spatio-temporal boundaries.

In the case of the Crick-Koch hypothesis, if none of the minimally different precise oscillations in the vicinity of 40MHz is consciousness then the hypothesis must be interpreted as the claiming that consciousness is one and the same as a certain vague physical entity, namely a neuronal oscillation of *approximately* 40MHz. The idea of an oscillation also allows for borderline cases (as indeed does the idea of a neuron). So, if consciousness is sharp then it cannot be identified with any such oscillation. But if it cannot, and it also cannot be identified with anything else physical, then it seems it must be nonphysical. But if phenomenal consciousness is nonphysical then, it seems, it must have emerged at some stage in the history of evolution. If that is the case, then there must be laws to the effect that when such and such a physical state or process is going on that generates a phenomenally conscious state. You will thus have to believe then that when the relevant vague physical goings on occur, there is something radically different and new and nonphysical and sharp that just suddenly pops out without any explanation. I think that this is very hard to believe. If you agree with me, we have a paradox, since these claims cannot all be true.

 The solution that seems to me, on balance, to be the best solution here is to say that consciousness did *not* emerge and moreover consciousness is *not* reducible to anything physical. How is that possible? Answer: consciousness is a fundamental intrinsic feature of basic micro-entities. It was there all along at the absolute bedrock of reality (that I now think is also what the hard problem in the end indicates). This is the panpsychist view.

One reaction you might have to this is to say, “It's completely nuts to think of quarks and electrons as being intrinsically conscious things!” But, as I said at the beginning, the universe is a strange place if you look into it deeply enough. We know that already from theories in physics which tell us that microphysical entities are both waves and particles, that there can be action at a huge distance (one so great that there cannot a causal connection, as in quantum entanglement), and that time is dependent on a frame of reference. So perhaps really in the end it is only fitting that phenomenal consciousness should turn out to be strange too.

The admission that consciousness is fundamental, it is worth adding, does not commit us to the view that absolutely everything is conscious. That view – *universalist* panpsychism, as we might call it – is one we would do well to repudiate. However, as soon as we embrace the idea that consciousness is there at the absolute bedrock of reality, we certainly do face a big problem that's come to be known as the combination problem. It may be illustrated as follows.

The fundamental micro-entities, if they are conscious, have experiences. But they don’t experience red (for example). How is the experience of red generated? It looks as if the panpsychist must say that the experience of red is (or at least is generated by) a combination of micro-experiences, M1, M2, etc. But what is this combination and what are these micro-experiences? Evidently the micro-experiences are not *phenomenal* parts of the experience of red. We don’t experience the micro-experiences in experiencing red. So, we may ask again: What is the relevant mode of combination, if it is not phenomenal? Why should *that* combination, if it isn’t phenomenal, generate an experience with the phenomenal character of the experience of red? Why doesn’t it generate an experience with a different phenomenal ‘feel’? Why does it generate an experience at all?

 The experience of red just seems phenomenally simple, without any components whatsoever. Dave Chalmers puts the general point here this way: “Our smooth unstructured macroscopic phenomenology doesn't seem to have any micro phenomenal basis.” So now we've got a problem. If consciousness is there at the most basic level, since the experience of red is not, then how did it arise? Not via combination, it seems.

 What I want to suggest now is that it seems to me the best way out here is to become what I call a “panpsychist representationalist.” The key idea is that at the most fundamental level of reality there isn't actually any such thing as consciousness, as was being suggested above. There is rather what I call “consciousness\*”. This does not admit of further species. There are no kinds of consciousness\*. At the macro level, there is consciousness and here, of course, there are further species (for example, the experience of blue, the experience of silence, the experience of fear). These determinate phenomenally conscious states are all states that *represent* properties of one sort or another. In my view, when we introspect our experiences, what we're actually aware of are the properties that these experiences represent.[[5]](#footnote-5)

This is the doctrine of transparency. I shall say some more about transparency shortly. First, I want to make some further remarks on consciousness\*. Consider belief and desire. Let us agree that they have representational contents and indeed that upon occasion they have the very same representational content. What distinguishes the states in the latter case? Answer: there is a feature which beliefs have that makes them beliefs as opposed to desires; similarly, there is distinctive feature desires have. Call the former feature “belief\*” and the latter “desire\*”. Fodor (from whom I take the star qualifier) took these features to be narrow functional roles (in his 1975), but that is irrelevant for present purposes. What I want to suggest that just as a belief (desire) is a state that is a belief\* (desire\*) and that has representational content, so a conscious state is a state that is conscious\* and that has representational content. Consciousness\* is what is distinctive about conscious states, just as being a belief\* is what is distinctive about beliefs and being a desire\* is what is distinctive about desires. Consciousness\* does not suffice for a state to be conscious, however, any more than belief\* suffices for a state to be a belief.

Let me now return to the doctrine of transparency (Harman 1990, Tye 1995, 2014) and let me illustrate it via the case of visual experience. I think a reasonable initial assumption with respect to visual experience is that visual experiences are representational. That gives us a very simple account of visual illusions. Consider, for example, a pencil in water. The pencil appears bent but it's really straight. So, the pencil visually appears other than it is. It is natural to say, then, that your visual experience of the pencil, as you view it, is inaccurate. Why is it inaccurate? Well, it represents the pencil as having the property of being bent when, in reality, it's straight.

 Suppose now I tell you to introspect your visual experience. What are you aware of? According to the doctrine of transparency, the pencil and the properties you experience it as having. The visual experience itself is transparent or diaphanous, as it were. You see right through it to what it represents. *That* is what gives the experience its specific phenomenal character.

The representationalist holds that these points generalize. Experiences generally are representational. What any experience feels like is fixed by what it represents (more precisely by the properties it represents). Let me give some examples. The experience of red is a conscious\* state that represents red. Its representing red gives it its specific phenomenal character. The experience of a loud noise is a conscious\* state that represents a loud noise. Again, what it represents gives it its specific character. The experience of thirst is a conscious\* state that represents dryness in the mouth and throat. The experience of fear is a conscious\* state that represents a variety of internal bodily changes -- think here about how you feel internally when you're feeling fearful -- as well as the presence of something external that is threatening or dangerous. Again, in this case, what matters to specific phenomenal character is the cluster of properties represented.[[6]](#footnote-6)

So, the thought from a representationalist perspective is that structure arises in our experiences simply from the structure of what gets represented by those experiences. This then suggests the following view of borderline cases: as far as experience goes, borderline cases can arise, as I've said repeatedly, with respect to what is experienced. This is due, I now want to claim, via possible indeterminacy in what an experience represents. If you take experience apart from what it represents, then that doesn't allow for indeterminacy. To put it slightly differently, the idea is that consciousness\* is sharp and that's the phenomenon found at the bedrock of reality.

 If consciousness\* is what is at the bedrock of reality, and we ourselves undergo conscious mental states, then how did those conscious mental states arise? After all, in opposition to universalist panpsychists, we surely should agree that not all macro states are conscious nor are all macro things.[[7]](#footnote-7) Rocks for example are not conscious nor is the state of weighing 50 pounds a conscious state. There are, I think, a number of alternative views one could put forward here but the view I myself like is a view that's come to be called “global workspace theory” (due to the psychologist Bernie Baars (1988)).[[8]](#footnote-8) What global workspace theory says is that experiences are informational states that arise in an integrated central workspace, a workspace to which specific cognitive mechanisms have direct access. The contents of experience, so the theory proposes, are widely broadcast via the relevant mechanisms to systems of reporting, reasoning, remembering, and planning. Unconscious mental states do not have their contents broadcast in this way though they may elicit other responses.

One way to think of this view is in terms of a theatre metaphor. Suppose information comes in via the senses to the stage inside the theatre, the stage here being working memory. In the theatre, everything is dark except for those actors who come on the stage and are illuminated by the spotlight. The actions of the illuminated actors on the stage (verbal and nonverbal) are the conscious mental states. Those actions, which represent various things, are then accessible to the audience sitting there in the dark. Members of the audience react in various ways to what they witness. Audience reactions (or better, a subset of these reactions) are the salient cognitive responses, the ones produced by the cognitive systems to which the information is widely broadcast.

I should respond here to a worry you might have about the proposal I am making. If you see global workspace theory as offering a theory about the nature or essence of consciousness, which is the usual interpretation of the view, then consciousness will end up being vague and not sharp. Why? Because global broadcasting is patently something that admits of borderline cases. However, I'm not presenting global workspace theory here as a theory about the nature or essence of consciousness. What I want to suggest instead is that global workspace theory gives us a way of understanding the transfer of consciousness\* from the micro-parts of reality to macro-wholes.

Let me try to illustrate this further by an example involving dancers. Suppose you've got a group of dancers, each of whom is graceful. The ensemble of dancers dancing together may or may not be graceful. It depends on how they're arranged. Take another example: suppose you've got individual words, each of which is meaningful. The combination of words into a string may or may not be meaningful. In the case of the dancers, each of whom is graceful, the whole ensemble is graceful once a certain kind of arrangement is definitely in place. Once that's there, gracefulness transfers from the parts to the whole.[[9]](#footnote-9) Correspondingly, the thesis I want to propose is that, in fact, *in our world*, there is transfer of consciousness\* from micro-states to complex states once the following condition is definitely met: the latter states must be the relevant global workspace states. Since those states occur in the global workspace and have contents that are widely broadcast, they are conscious, period.[[10]](#footnote-10)

With all this in place, let me return to the extraordinary phenomenon which which I started, that of Thukdam. Here is a purely speculative proposal about Thukdam. The Buddhist monks, as they meditate, experience conscious states with a content that is less and less rich as time passes. The content is slowly stripped away, as it were, by the meditative process. These states that the monks undergo are, I think, global workspace states, as described previously. In Thukdam the states perhaps have absolutely minimal contents, that is, they represent the absence of sound, the absence of light, the absence of smell, the absence of what's going on in the body. On that picture of what's happening, the monks then eventually *only* experience total absence, and perhaps that's what was being described earlier as “the rising of the clear light of pure awareness at the end of the inner dissolution.” Alternatively, perhaps the monks come to undergo conscious\* states with entirely *new* contents, once sensory consciousness dissolves away. How these states could play a role in preserving the body I currently have no idea.

 Let me now turn to one final topic, namely that if phenomenal consciousness is indeed an on/off phenomenon, as I have been suggesting, not admitting of borderline cases, then the idea of there being a switch in the brain, an on/off switch for phenomenal consciousness, gains plausibility. In this connection, it's worth mentioning a hypothesis by Francis Crick and Christoph Koch that they suggested back in 2005, namely that in human beings the claustrum is the place where information underlying conscious perception is integrated into a harmonious, conscious whole. The suggestion I want to consider is that the claustrum is the on/off switch for consciousness.

Here is one way to develop this idea. With the switch in the on position, sensory inputs reach the global workspace so that it gets filled and global workspace states are formed. To put it metaphorically, with the switch in the on position, the spotlight in the theater is turned on, the actors are illuminated and their actions representing various things are also thereby illuminated, so that they are visible to the audience, and the audience starts to react in various ways. This proposal is supported by a recent experiment by Mohamed Kobeissi (2014), a neuroscientist who was probing a woman's brain with an electrical probe, stimulating various parts of the tissue. He was doing this because the woman suffered from very bad epileptic seizures and he was trying to find out what might be done to help. What happened was that when the probe touched the claustrum, which is a thin irregular sheet of neurons attached to the underside of the neocortex, the woman immediately lost consciousness and became unresponsive, even though the woman's eyes stayed completely open.[[11]](#footnote-11) When the probe was removed, she immediately regained consciousness. Kobeissi repeated this procedure a large number of times and he got the same result each time. That seems to support the idea that, in humans, it's the claustrum that's the on/off switch for phenomenal consciousness.

However, the well-known neuroscientist, Antonio Damasio, has another subject, who suffered from herpes encephalitis when he was younger, and who, as a result, no longer has a functional claustrum. Nothwithstanding this, the individual is conscious, across the board. That doesn't seem to fit with the idea that the claustrum is the on/off switch for consciousness in humans. So, there is a real puzzle here.

 The view that Damasio favors (2013) is that consciousness actually arises in the brainstem, rather than higher up. This, however, does not seem to fit well with the results of Kobeissi’s procedure. Those results strongly suggests that what goes on in the claustrum is crucial.

My suggestion is that the way Mother Nature designed things, the on/off switch for consciousness in human beings is indeed the claustrum, but there are other ways in which consciousness can be generated. Here's an image to try and illustrate what I believe. Think about the case of a car and the ignition key. The car is designed to turn on when you turn the ignition key into the on position. The engine then starts and the car can be driven down the road. That's how things are designed in the factory. But you can get the car to drive down the road without turning the ignition key on or if the ignition key has been destroyed. You can do that by hot wiring the engine. That's another way to get the engine going. Correspondingly, what I think is plausible here is that in the case of Damasio’s patient this other route via the brainstem is providing something like hot wiring in the case of the car. Activity in the brain stem generates activity in the prefrontal cortex via the thalamus. This is not the way in which things were designed by nature, but it has the desired result. Since this individual’s prefrontal cortex is working well and is active in the normal way, he undergoes global workspace states (the prefrontal cortex being taken to be the usual locus for such states) and thereby he is conscious. But the way Mother Nature designed things, the claustrum is what normally gets the information through to the global workspace. Once this is turned off, as with Kobeissi’s patient when the probe touched the claustrum, the prefrontal cortex is then inactive and consciousness is lost.

This is, of course, very speculative but it is one suggestion as to how to make sense of the above cases.

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1. For more on panpsychism, see Chalmers forthcoming, Coleman 2014, Goff 2006, Lewtas 2013, Seager forthcoming, Stoljar 2001, 2006, Strawson 2006. [↑](#footnote-ref-1)
2. More on these later. [↑](#footnote-ref-2)
3. My view that there can be no borderline experiences is shared by Jonathan Simon. See his 2017. For an opposing view, see Papineau 2002. Antony (2006) argues for a complex view under which consciousness may turn out to be vague even though our current concept of it is sharp. For criticisms of Antony, see Tye 2021. [↑](#footnote-ref-3)
4. Another more contentious example: the concept LIFE, as understood by the vitalists to mean VITAL SPIRIT. [↑](#footnote-ref-4)
5. In some cases, where a thing is represented too, we are also aware of it. [↑](#footnote-ref-5)
6. For an elaboration of this view that covers all experiences, including endogenous moods, see my 2021. [↑](#footnote-ref-6)
7. Philip Goff has suggested to me that there is a weaker form of universalist panpsychism worth considering, namely that transfer of consciousness\* is universal, so that all complex entities are conscious\* though only some are conscious. This is still a very puzzling view, however; for consciousness\* is supposedly what is *distinctive* of conscious states, what distinguishes them from unconscious and non-conscious states. However, if *everything* is conscious\*, then the feature that is supposedly distinctive of conscious states (and thus that marks them out from all other states) is not really distinctive at all. [↑](#footnote-ref-7)
8. One alternative possible view here is provided by integrated information theory (Tononi 2016). That view, if it is proposed reductively, faces a dilemma: either consciousness is the same as having integrated information greater than zero or it is the same as having a sufficiently large amount of integrated information. The former alternative has the virtue of making consciousness sharp, but it has as a consequence that thermometers, for example, are conscious (which is very hard to swallow and its strangeness Is not mitigated by saying that thermometers are only a little bit conscious, since, as already emphasized, consciousness does not come in degrees). The latter alternative makes consciousness vague. If the integrated information view is not proposed reductively but instead is understood as specifying a condition under which consciousness\* gets transferred from micro-entities to complex wholes (for more on this, see below), there remains the question of how the various species of consciousness are generated. Here there seems a huge explanatory gap and no hope of closing it on the integrated information view. [↑](#footnote-ref-8)
9. In offering this example, I am assuming that aesthetic properties have no hidden nature – that they are (or some of them are) irreducible.  But gracefulness is an irreducible feature not only of individuals but also of groups of them. The relevant groups get to be graceful in virtue of the parts being graceful and the spatio-temporal arrangement of the parts (let us suppose). This connection I think of as nomological. There are other possible worlds in which the law fails, because, say, that spatio-temporal arrangement has effects it does not have in the actual world (maybe it makes the ensembles unstable or it makes the individual dancers have sudden color changes that clash so that even though the individual dancers remain graceful, the ensemble as a whole is no longer graceful).

 One more example: consider a surface that has reflectance *R*. In our world. Suppose very small parts of that surface of size S have *R* too (if the parts get smaller than *S* they no longer have reflectance *R*). In our world once these very small parts of size *S* have *R* and they touch one another the whole has reflectance *R*.  There is transfer. But this is nomological. In some other possible worlds, where there are crazy laws of physics not found in the actual world, there are these very small parts of size *S* that have *R* without the whole surface having *R*. Maybe in that world, it is only when the parts are a little bigger than *S* that there is transfer of R from the parts to the whole. Thanks to Shane Wagoner for pushing me here. [↑](#footnote-ref-9)
10. Here is a parallel of sorts. Suppose that being good looking is the ticket (indeed the only ticket) to getting into a certain nightclub. What if you are borderline good looking? Answer: you don’t get in. Transfer occurs from outside the club to inside, only once a certain condition is definitely met: you are good looking. And as far as being in the club is concerned, there are no borderline cases: you are either in or out. Something like this is true for consciousness\*. [↑](#footnote-ref-10)
11. Later on, I might add, she had no memory of the period of unconsciousness at all. [↑](#footnote-ref-11)