

Mind within Matter – Tim Bollands

The aim of this talk is to solve the Hard Problem of Consciousness by: i) making the case for Panpsychism, ii) solving the Combination Problem (Panpsychism's equivalent of the Hard Problem).

i) The Case for Panpsychism

It is intuitively clear that combining any two non-conscious material objects results in another non-conscious material object. If true, then adding one more non-conscious material object will also result in a non-conscious material object. By mathematical induction then, it is clear that:

- A. For all integers N , any combination of N non-conscious material objects will itself be a non-conscious material object.

By this reasoning, a material human being must be non-conscious. And yet, somehow, we are conscious. Hence, the question we need to answer is this:

- How do the combined material objects that make up a human body change from a state of being non-conscious to a state of being conscious?

There are 3 possible answers:

- i) They don't. Human beings are not conscious.
- ii) A miracle happens. A conscious state "emerges" from non-conscious matter.
- iii) They don't. Consciousness already exists within the matter our brains are made from.

I suggest that: i) is evidently false; ii) is impossible; and therefore the answer must be iii).

Before dismissing ii), however, we should consider the argument for it, which goes as follows:

- Not all properties of complex material objects can be predicted or explained with reference to Physics, e.g. liquidity, the folding of organic molecules, the path of a hurricane, or human behaviour. Such complex material objects exhibit novel, unpredictable properties which emerge spontaneously and inexplicably. Consciousness is one of those novel properties.

Despite its clear appeal, this argument is a red herring. It is true that we cannot *predict* or *explain* the behaviour of molecules, or hurricanes, or people, using the theories of Physics, but we can *describe* that behaviour perfectly well "in physical terms". Conscious states are unique in nature in that they cannot be described using the language of Physics or that of any other physical science.

If it is true that consciousness has a physical basis, then every human being is nothing more than a combination of physical matter (albeit a very complex one) and everything that can be said about each human being can be said 'in physical terms', including statements about our conscious states. But how does one express properties such as 'sees red', 'hears the sound of a bell' or 'feels intrigued' using today's physical terms - length, breadth, location, velocity, acceleration, force, frequency, mass, charge, spin, etc.? Conscious states are expressed using subjective, qualitative, experiential terms, which do not translate easily into such objective, quantitative, physical terminology.

But why must we limit ourselves to today's physical terms? Physics is not a completed project; we don't yet have that elusive Theory of Everything, which would give us a full understanding of particles of matter. So perhaps there is something missing from today's 'physical terms'? And perhaps what's missing are experiential terms - the very terms we use to describe conscious states in humans.

So, what would it mean to apply subjective, qualitative, experiential terms to particles of matter? Well, it would mean attributing conscious states to particles, as well as (potentially) our other material components, such as atoms, molecules, cells or organs. This is Panpsychism - the view that consciousness is not the preserve of human beings and similar large organisms, but exists throughout nature and within matter itself. It allows us to sidestep the question of how non-conscious matter gains a given conscious state, by declaring that such conscious states already exist within matter.

ii) Solving the Combination Problem

The main problem with Panpsychism is the so-called Combination Problem, the question of how the conscious states of all those cells, molecules or particles across the brain combine to create the complex conscious states of a human being. Conscious subjects, as far as we can tell, do not combine to create new conscious subjects, or as William James put it (*The Principles of Psychology*, 1890):

“Take a sentence of a dozen words, and take twelve men and tell to each one word. Then stand the men in a row or jam them in a bunch, and let each think of his word as intently as he will; nowhere will there be a consciousness of the whole sentence”

This Combination Problem applies, no matter how many heads are involved. Using the same formulation we used a moment ago in regard to the Hard Problem and statement A, it is clear that:

- B. For all integers N , any combination of N conscious material objects will itself be a non-conscious material object.

The Combination Problem is therefore to Panpsychism what the Hard Problem is to Physicalism:

- How do all those material particles, molecules or cells within our heads combine to create the conscious state of a human being? Whether such components are conscious or are non-conscious, we cannot see how they can combine to create the conscious state of you or me.

However, there is a difference between the two problems. The Hard Problem is indeed 'hard' because, as stated, it is impossible to solve. The Combination Problem in contrast is 'easy' because it does have a solution. There is one, and only one, value for N for which statement B given above is NOT true. That value is $N=1$. But how are we to interpret this apparently trivial solution?

Neuroscientists tell us that, while there is correlation between brain processes and conscious states, this is not the case for the vast majority of such processing (Christof Koch, *Consciousness*, 2012, p89). Hence the Combination Problem is not the question of how the conscious states of ALL our brain cells, or that of all our atoms and molecules, combine to create a human conscious state; it's the question of how SOME of them so combine. But how many of them? Nobody knows.

However, if the solution $N=1$ is correct, then that number is 1, which means that each of our conscious states is numerically identical to the conscious state of one of our material components. For example, the conscious state you are experiencing right now is the same conscious state of one of your organs, i.e. your brain. But, by the same reasoning, the conscious state of your brain is the same conscious state of one of your brain cells, which is the same conscious state of one of its molecules, which is the same conscious state of one of its atoms, which is the same conscious state of one of its particles.

This solution presents a very different understanding of the natural world and of ourselves. We are no longer a physical, material object made of billions of non-conscious particles of matter; we are a physical, material object made of billions of *conscious* particles of matter - particles that experience a life, just like you or I. For most of them, that life is the life of a particle, existing within a sub-atomic world of particles. But for some of them, their conscious states become the de facto conscious states of the atom they are part of, and they experience the life and the world of an atom. Likewise, for some atoms, their conscious states become the de facto conscious states of the molecule they are part of, and thereafter the cell they are part of, and then the organ they are part of. And, while most of our organs live the life of an organ, one of those - our brain - experiences the life and the world of a human being. You, it would seem, are not human, after all. You're a particle, which, due to the vast and complex processing of that human body you are part of, has come to think of itself as human.

This view of the world, and this solution to the Hard Problem, may sound crazy and implausible, but, being consistent with modern science, is certainly possible. And since we can eliminate all other proposed solutions as impossible, then whatever remains, however hard it is to believe, must be true.