

Two Aspects of Emergence: A Response

Sam Coleman

In the previous paper Peter identifies emergence as an attempt to find a middle road between reductive physicalism on the one hand, and dualism on the other. This attempt, he says, is fuelled by an attitude of discontent; a discontent directed primarily, I guess, at the ruthless desire to cram all existents into a reductive physicalist ontology. But the discontented emergentist also finds cause to complain about the dualist alternative.

The dualist, it is felt, is a bit metaphysically extravagant, positing two radically different kinds of property (I follow Peter in sticking to property-talk) where arguably just one kind will do.

The problems all stem, of course, from the fact that reducing the mental to the physical seems to many to be impossible. Philosophers of all kinds of stripe are moved by the thought that no matter how comprehensive our knowledge of, say, the physical workings of the visual system, nothing will follow about the character of the experiences being undergone by the owner of the system. And this fact has created a drive, as Peter notes, to find an ontology that can be seen to be adequate; rich enough to contain mentality, and not merely as pared down and austere as possible.

On this description of the motivations that have prompted a move away from strictly reductive physicalism, I agree with Peter wholeheartedly. And it certainly seems true that, historically, in the debate between vitalists and mechanists which paralleled that between dualists and physicalists today, it was emergentism that tried to steer a middle course between the extremes of unnecessary economy and overblown metaphysics. I guess my worry and confusion is over where the motivations, the discontent, should lead us today. I'm not sure that there now exists a gap in the market that can be uniquely occupied by emergence. It is this thought that I'm going to probe a little.

We currently have a very popular position that tries to take a middle line between reductive physicalism and dualism. This is non-reductive physicalism (NRP). A non-reductive physicalist is free to hold, with Peter's emergentist, that the mental supervenes on the physical, whilst holding that there is no possible reductive explanation of the mental in terms of the physical. And, also just like emergentism as Peter characterised it, according to NRP what is going to keep the mental supervenient on the physical, in the absence of any explanatory relation between the two, are some fundamental, that is brute, psychophysical laws. Finally, again to the emergentist's liking, we can hold on this picture that mental properties have distinctive causal powers. They have causal powers by virtue of being physical properties, and explanations featuring such properties will be indispensable: it won't be possible to give equivalent explanations in terms of lower order properties because of the failure of reduction.

This NRP looks a lot like emergentism as Peter describes it. It stems from the same discontent with the extreme positions, and it defends the commitments important to the emergentist. Here there is only one kind of thing in nature; nature is 'all joined up', we might say, in that there are only physical properties at the high level just as at

the low level. Moreover there is a failure of reduction, but this is not seen to imply epiphenomenalism about the mental. The mental remains distinctively causal.

So my first question for Peter is: does he see any daylight between this form of NRP and emergentism as he understands it?

I guess it's possible that NRP might not be metaphysically 'punchy' enough for Peter. One question that has always come up for the non-reductive physicalist is how to account for the fact that the mental is physical. We just can't see any kind of entailment between them, or any explanation of the mental in physical terms. Frank Jackson puts this poser in a typically eye-catching way:

It is implausible that there are facts about very simple organisms that cannot be deduced a priori from enough physical information about their physical nature and how they interact with their environments, physically described. The physical story about amoebae and their interactions with the environment is the whole story about amoebae...But according to materialism we differ from amoebae essentially only in complexity of ingredients and their arrangement. It is hard to see how that kind of difference could generate important facts about us that in principle defy our powers of deduction...Think of the charts in biology classrooms showing the evolutionary progression from single-celled creatures on the far left to the higher apes and humans on the far right: where in that progression can the physicalist plausibly claim that failure of a priori deducibility of important facts about us emerges? Or, if it comes to that, where in the development of each and every one of us from a zygote could the materialist plausibly locate the place in which there emerge important facts about us that cannot be deduced from the physical story about us? (*From Metaphysics to Ethics: A Defence of Conceptual Analysis*. Oxford: Oxford University Press, 1998 (pp 83-84))

The thought is that the defender of NRP owes us a story as to why it should be opaque that the mental is entailed by the physical, if it is indeed so. There have been appeals to a posteriori necessity, to the idea that we couldn't even see a priori that, say, water was H₂O, as in fact it is. This tactic has been largely dropped in recent writing, with non-reductive physicalists acknowledging that more needs to be said, since mentality seems to be in a uniquely intractable position as regards any entailment between it and the physical.

Recent accounts have tried to offer an *epistemological* solution to the opacity. Many holders of NRP now claim that there is something distinctive about the concepts we use when talking about mentality, in particular consciousness. For example one thought might be that, due to evolution, mental concepts and physical concepts have developed to play radically different cognitive roles, with the result that there are no conceptual connections between them at all. This might mean that, even when faced with a true identity, imagine c-fibre firings = pain is one, we wouldn't be able to see that the mental and physical concepts flanking the identity co-referred. We would never see that the presence of c-fibre firings implied that of pain and vice versa.

This sort move is now very popular, but as I say, as an explanation of the lack of entailment between physical and mental, I'm not sure it is metaphysical enough. The move suggests that in *nature* there *is* an entailment between physical and mental:

mental properties really are systematically and logically the upshot of lower-level physical stuff and its properties. It's just that, because of the nature of our concepts, we are barred from ever seeing this. Indeed the position suggests that there could be beings, with concepts different from our, who could see the physical to mental entailment. This is as much as to say that we are contingently cognitively barred from being reductivists, but that reductivism is really the position we ideally ought to aim to hold.

The gap between physical and mental allowed by such a theory is just an epistemological one, perhaps even merely a contingently human one. This does not seem to do justice to Peter's thoughts when he says that mental properties are to be kept 'irreducibly distinct from physical properties', that 'it is...right to attribute to emergentism an inclination for metaphysical pluralism'. Perhaps an even more telling way to bring out how the defender of NRP using the epistemological move may not be what Peter wants is to think about causation. Peter says: 'the causal powers of emergent properties are irreducible and fundamental. The thought is this: were the causal powers of emergent properties reducible to...the causal powers of their base properties, they would be neither new nor distinct'. But this epistemological brand of NRP precisely does hold that mental properties' causal powers are reducible to those of their physical base. They are reducible in the metaphysical sense that the physical base and its properties entail the whole story about what mental properties are instantiated. This entailment remains opaque to us, and we can make no predictions from physical data alone. Causal explanations employing mental concepts remain indispensable, but it is still not true that mental properties have radically distinct and *fundamental* causal powers, metaphysically speaking.

So I don't think that this NRP makes mental properties quite *distinct enough* for Peter, thus arguably it is not quite the same as the emergentism he described in his paper. The question that presses now, then, is just what kind of picture would make mental properties distinct enough for Peter to class it as emergentism?

I find this territory tricky and confusing. We need a picture where emergent mental properties are not just epistemologically, but *metaphysically* novel when compared with their subvenient physical bases, whatever this means. Such a picture would look, epistemologically, just like the NRP considered just now. That is, we would be unable to go beyond some brute, fundamental, psychophysical laws in expressing the relationship between mental and physical. But this time, rather than these laws merely arising from a cognitive impairment of ours, or some peculiarity of our concepts, they would actually reflect the way mental and physical interacted in reality. If this is emergentism, it is a strange view. It is plausible that, setting mentality aside, the macro properties of the world are entailed by the nature of the lower level physical. We have good evidence that this is the case with successful reductions like that of heat to molecular kinetic energy. The emergentist as portrayed would have, in the face of future successful reductions, to be willing to endorse the existence of a metaphysical gap solely between the physical and the mental. They may be willing to hold this, those who have given up on the emergence of life holding onto mentality as the last bastion of irreducible reality. But it is reasonable to ask how the emergentist can account for the existence of this unique metaphysical gap. A dilemma lurks here which threatens to push the emergentist either into the arms of the epistemological

NRP, or towards full blown dualism. In any case it is a move away from holding a stable and distinctive position.

The epistemological NRP has a neat explanation of the uniqueness of mental/physical relations. Really there is nothing unique about mental-physical relations; the mental is physically constituted like everything else, and owes its powers systematically to those of its physical bases. The only reason we are left with fundamental psychophysical laws is that our mental and physical concepts have so little cognitive connection that we can't describe any entailments between the two realms. This allows us to see a way for the mental to be unproblematically physically constituted whilst denying us any reductions. But on the emergentist story described, the problem is not with our concepts, there exists a lack of entailment between mental and physical in nature. But this is very hard to square with another emergentist thought, that there is only one kind of thing in existence, 'that there are no alien intruders *in nature*', as Peter puts it. If there are no alien intruders in nature, then how is it that one part of nature, the mental, should enjoy fundamentally different relations to what it supervenes upon, than do all the other parts: the chemical, biological, architectural and so on? What explanation can the emergentist give us of what makes the mental unique, though natural?

It is here that the pressures come to bear for a lurch to NRP or dualism. NRP, as we've said has a neat, and moreover, parsimonious explanation for the uniqueness of the mental. The problem is just one of our concepts. This looks a good way to preserve the thought that the mental is metaphysically of a piece with the rest of nature. Dualism on the other hand explains the uniqueness of the mental by saying that the mental is *not* of a piece with the rest of nature: mental properties are not in any way physical properties. This looks a good way to preserve the thought that the mental is really *metaphysically* distinct from the physical, and thus could have fundamental and distinct causal powers. The problem for the emergentist is that she wants to hold on to *both* thoughts: that the mental is of a piece with the rest of nature, and that it is metaphysically distinct from the physical. How can these two thoughts be reconciled? If they can't, a shift to one of the other two views looks unavoidable.

The real issue for me at this point is what the emergentist gains by distancing herself from *dualism*. I can see why she wants to avoid epistemological NRP, because it doesn't make mental properties robustly their own kind of distinctive thing. The difference between the dualist and the emergentist as we've set things up is that the dualist says the mental is metaphysically distinct and non-physical, while the emergentist says the mental is metaphysically distinct but still physical, or at least, still natural.

What is gained by insisting on hanging on to the claim that the mental is of a piece with the physical or the natural? The initial motivation for resisting dualism was that we needed no intruders into nature. But the dualist can just say that the mental is perfectly *natural*, just that nature turns out to contain two kinds of property, mental and physical. So the disagreement seems to turn on the retention or not of the word 'physical'. Does the emergentist want to hang on to the thought that the mental is of a piece with the physical? If no, then I suggest she happily acquiesces in dualism. If yes, then two questions face her. First:

1. What is the benefit, and what is the content of saying that the mental is one with the physical?

And second:

2. How can she elucidate the oneness of the mental with the physical, alongside the claimed metaphysical distinctiveness of the mental?

Perhaps there are answers to these questions, but it does look like a hard road.

Sam Coleman
Birkbeck College
University of London