

Extended Abstract:

The question of individuals in metaphysics comes in at least two flavors: what exactly constitutes an individual and how does one re-identify her over time. Pure wave mechanics has seemed to greatly complicate both of these questions. If one takes seriously Hugh Everett's claims about the central importance of relative facts and takes this to imply that the proper understanding of our world is that it is branching in some way,¹ then on the one hand we are left with deeper questions about how one is to understand what constitutes the objects that seem to make up our everyday world, but, I will here argue, on the other hand we are given a physical justification for an interesting proposal by Derek Parfit for handling the difficulties of diachronic identity in a branching context.

One of the main problems of diachronic identity in the context of a branching metaphysical picture implied by pure wave mechanics is that if we take there to be one observer, Hugh, before a measurement, then after that measurement there are a number of resulting observers, Hugh₁, Hugh₂, ..., Hugh_n who all bear some relation to the original Hugh. But that relation cannot be the equivalence relation of identity since Hugh₁ and Hugh₂, for example, are not identical. So in the context of a metaphysical picture supported by pure wave mechanics, we need to be able to describe the relation between Hugh and the Hugh_n with some relation other than identity, but one that still captures that close relation between Hugh and whichever Hugh_n he is after the measurement.

In 1971 Derek Parfit suggested that what matters in the case of diachronic identity is not the strict equivalence relation of identity, but rather a relation that admits of degrees, which he calls "survival", where survival is taken to be a relation that is intransitive and asymmetric.² Parfit argues that the question "Will there be some person alive who is the same person as me?" is equivalent to "Will I survive?" (p. 9). What interests him is in being able to make sense of a case "in which one person can survive as two", as proposed in a thought experiment by David Wiggins in which a person divides much

¹The proper way we are meant to understand that branching is not something I will argue here. I do have an opinion on what is the right way to understand Everett, but the argument I will here propose will work for any branching evolution of the world.

²"Personal Identity" *Philosophical Review* 80, pp. 3-27.

like an amoeba (p. 10).³ This thought experiment is not just a matter of science fiction, since in the context of pure wave mechanics we can interpret the metaphysical picture of the evolution of the world as one that includes branching.

Parfit considers a branching structure for the evolution of a being, let's call her Mary, who reproduces through asexual division. I will argue that this example is analogous to Hugh's branching evolution through time. Parfit suggests that Mary should think of any of the individuals in her tree of successors as a "descendent self" (p. 21), and any of the Marys_n can think of Mary as an "ancestral self" (p. 22), rather than any of them thinking or speaking in terms of an equivalence relation between them. This, I will argue, is perfectly analogous to Hugh and his relation to the Hughs_n.⁴

Parfit argues that when we use the word "I", what we are doing is tracking the descendants with whom we have the greatest degree of psychological connectedness (p. 25). When two things are psychologically connected what Parfit means is that the two hold a direct psychological relation, such as the relation between an intension and the intended act (p. 20). Thus if Mary and Mary₁ are psychologically connected then if Mary has the intention to visit Paris, Mary₁'s travel to Paris will be a direct result of Mary's intention. Psychological connectedness is not transitive and, Parfit argues, comes in degrees. Thus, it serves for him as a good criterion of survival.

Analogously, I will argue that Hugh uses the word "I" to track the descendant with whom he is psychologically connected to the greatest degree, the one whose epistemic experiences are those to which Hugh will have access.⁵ He will be able to speak of "one of my future selves" just as Parfit's fictional being does (p. 22). Since this relation is not transitive and is a matter of degree, it dissolves a sticky problem faced by metaphysicians working in the context of pure wave mechanics.

Parfit closes his paper with a discussion of rational action. He argues that

³David Wiggins *Identity and Spatio-Temporal Continuity* (Oxford: Blackwell, 1967), p. 50.

⁴Parfit also considers beings who evolve through a combination over time of fission and fusion which will allow us to further extend the analogy to cases in which the different branches of a world not only split but also recombine.

⁵Why Hugh does not have epistemic access to all of the experiences of all of the Hughs_n is an important matter to resolve, but one that is relevant to epistemological questions rather than the current focus on metaphysics. And so I will leave that discussion to another forum.

the principle that it is especially rational to act in one's own best interest has no force, and that it may turn out to be the case that what we ought to do may turn out to be against our own interest, but still rational (pp. 26-27). This will allow for a good discussion of rational decision making in the context of a metaphysics in which every outcome in fact occurs.

Ultimately it is exciting that a renowned metaphysician provides us with a good model for how we can understand a tricky aspect of any metaphysical interpretation of pure wave mechanics, and that physics can provide justification for a metaphysical proposal for solving a problem of concern in both fields. This again underlines the benefit of practicing naturalized metaphysics.