Burying the Vehicle

Commentary by Richard Dawkins

Wilson and Sober's passion is obviously genuine. I welcome their plainly sincere attempt at clarification and, despite myself, I quite enjoy the rhetoric. They are zealots, baffled by the failure of the rest of us to agree with them. I can sympathsize: I remain reciprocally baffled by what I still see as the sheer, wanton, head-in-bag perversity of the position that they champion. You see, we really do agree about so much. We come so close to being like that. We agree about the fundamental importance of the replicator/vehicle distinction. We agree that genes are replicators, organisms and groups are not. We agree that the group selection controversy ought to be a controversy about groups as vehicles, and we could easily agree to differ on the answer. But why, having talked so much sense, do they spoil it all at the bottom line by pretending that their kind of group as vehicle selection has any illuminating similarity with the kind of group selection that Allee, Emerson and Co uncritically misused to explain altruism? They call that kind of group-selectionism naive, which is right. But then they go right ahead and talk of re-introducing it. Please don't re-introduce something naive that deserved to be dropped.

We also agree that the individual organism has been oversold on the campus. Far from championing the organism, The Extended Phenotype is best seen as an attack on the organism and this should be music to Wilson's and Sober's ears. I coined the vehicle not to praise it but to bury it. This is, paradoxically, why vehicle is a better name than Hull's interactor. Interactor comes too close to the (messy) truth and therefore doesn't merit a helpfully decisive burial.

Selection chooses only replicators such as DNA molecules and, conceivably, units of cultural inheritance. Replicators are judged by their phenotypic effects. Phenotypic effects may happen to be bundled, together with the phenotypic effects of other replicators, in vehicles. Those vehicles often turn out to be the objects that we recognise as organisms but this didn't have to be so. It isn't part of the definition of a vehicle. There didn't have to be any vehicles at all. Darwinism can work on replicators whose phenotypic effects (interactors) are too diffuse, too multi-levelled, too incoherent to deserve the accolade of vehicle. Extended phenotypes can include inanimate artifacts like beaver dams. They can even include phenotypic characteristics manifesting themselves in other individuals and other species. The very existence of discrete vehicles is something that needs an explanation, in the same sense as the existence of sex needs an explanation. No doubt there are good explanations and I essayed three myself in The Extended Phenotype. But the vehicle is not something fundamental, in terms of which other explanations should be framed. You should not feel entitled to ask: "What is the vehicle in this situation?"

The cooperative crickets, sculling like Mole and Ratty in unison towards their lily pad, are enchanting. But it is deeply unhelpful to claim that the pair is the vehicle of selection. There is no vehicle of selection in this case. It is a terrific vehicle-undermining example. Natural selection favours replicators that prosper in their environment. The environment of a replicator includes the outside world but it also includes, most importantly, other replicators, other genes in the same organism and in different organisms, and their phenotypic products. Cricket genes for cooperating in the presence of another cooperating cricket prosper. This statement is true and illuminating, in precisely the same sense as the statement that genes for thick hairy coats prosper in the presence of snow. Like snow, each cricket is part of the environment of the other one's genes.

It would be unfair to accuse Wilson and Sober of including the snow as part of that which is selected, although it would follow from my view of the world that that is what they are, in effect, doing. But it would be only slightly unfair to offer the following challenge to Wilson and Sober. Figs depend obligately on fig-wasps for pollination, and fig-wasps are obligately dependent on fig ovules for food.

Each species of fig has its own private species of fig wasp and neither can survive without the other. The underlying game is almost certainly isomorphic with that being played by the two harmonious crickets. Wilson and Sober should, to be consistent, say that {Fig + Wasp} is the vehicle. Maybe they would. But now suppose that a fig species is equally dependent on a particular species of monkeys to spread its seeds in their dung, and the monkeys are completely dependent on the same figs for their food. Here {Fig + Monkey} is the vehicle. We descend into a criss-crossing, interlocking nightmare of Venn diagrams, but only if we insist on parcelling things up into discrete vehicles in the first place. To push to the reductio ad absurdum, aren't Wilson and Sober perilously close to saying of a specialist predator and its uniquely endangered prey, whose shapes and behaviour have been sculpted over many generations by a mutual arms race, that the pair of them constitute a joint vehicle?

Natural selection chooses replicators for their ability to survive in an environment that includes other replicators and their products. Sometimes cooperation among replicators is so strongly favoured that units coherent enough to be called vehicles emerge. But just because a vehicle may emerge at a given level, we have no right to assume that it will and I believe the evidence will show that at most levels it usually doesn't. The question, "What is the vehicle in this situation?" may be no more justified than "What is the purpose of Mount Everest?" Ask rather "Is there a vehicle in this situation and, if so, why?"