How might free will be compatible with determinism?

By Paul Dixon

Introduction

Philosophers and scientists struggle to articulate a coherent worldview that simultaneously accommodates both free will and determinism. Arguments for determinism seem to undermine the ground on which belief in free will rests, yet many are not prepared to give up the idea of free will so easily. I will argue, following a line of reasoning proposed by Christian List, that determinism and free will can be compatible. In this short essay I explicate List's argument and consider his defences from three objections. I find that List offers an appealing and plausible account of how free will can be compatible with determinism.

Free Will, and Determinism

Free will is often defined as having the ability to both choose and be in control of our own actions. For example, faced with a choice of apple or blackberry pie, free will enables me to freely choose one or the other. Furthermore, this choice should be under my control. I cannot be someone's puppet, as my 'choice' would not be a true instance of free will.

Determinism is the view that that all events, including our choices, are already determined by antecedent conditions and the laws of physics. Many who hold determinism to be true believe it denies the reality, or possibility, of free will. For example, a determinist would say that my 'choice' of apple pie was determined first, by the state of the entire world at some time T, including the state of the biochemistry in my brain; and second, by the laws of physics, which govern all resulting actions. In this case the process of choosing apple pie would be seen as no more than a mechanical, biochemical process. My apparent free will to choose would be an illusion.

A compatibilist argument

Many philosophers, given these definitions of free will and determinism, have concluded that free will and determinism are incompatible. However, 'compatibilists' believe a third way is possible. Christian List (2019a) proposes one such argument. List argues for what he terms a "compatibilist libertarian" view on free will (2019b, p. 2). He defines free will as summarised above; first, one's having the ability to *choose*; that different options were available. Second, that one has *causal control* over one's actions. Third, List argues a necessary condition for free will is '*intentional agency*'; that humans, and possibly higher-level animals such as dogs, but not rocks or trees, make intentional choices. List then proposes an argument, which I reconstruct below:

i) Free will has meaning at the aggregate, not reductionist level
ii) Our best theories in the natural and social sciences operate at the aggregate level
iii) These theories are generally accepted as the best available explanations of the 'real world'
iv) Therefore, free will, as an 'agential level phenomenon', is real

The first premise, and indeed overall approach, attacks the traditional 'consequence' argument made by incompatibilists such as van Inwagen (1975). Van Inwagen concludes that, for free will to exist alongside determinism, we

must either be able to change the past, or alter the laws of physics.[1] Since van Inwagen holds that neither of these is plausible, he concludes that free will must be an illusion. But List argues that van Inwagen makes a 'category mistake' (List, 2019b, p. 1), in which two worldviews are conflated: the world of fundamental physics is conflated with the world at the agential' level, whereby we observe agents and their actions. List argues that free will is not a physical, but a 'higher-level' phenomenon, similar to agency or intentionality.

The second premise draws on how the ideas of laws, or causal connections, are formed across a wide range of sciences. These include cognition in psychology, and laws in biology, economics, and sociology. List argues that the phenomenon of cognition, or laws in macroeconomics, emerge, or 'supervene' on physical or lower-level phenomena, and cannot be reduced to the particles, molecules, or individual actors in which they consist.

The third premise appeals to the 'successes' of these sciences to justify why analysis at the aggregate, agential level is more explanatorily useful than the reductionist approach. For example, we accept the reality of protons and electrons, but not 'ghosts and spirits' (List, 2020, 14m36s). Furthermore, List argues where postulating an entity or phenomenon is indispensable to a theory's explanatory power, this supports the case for its 'reality'. Consequently, List's argument concludes that free will, as an *agential level phenomenon,* is real.

Three objections, sometimes described as 'challenge schemes', are often made to List's argument. Broadly, they target each of the three requirements of free will respectively. I consider them in turn.

1. Against Intentional Agency

First, those holding the view known as *radical materialism* argue that the three aforementioned requirements of free will are nothing more than bio-physical processes, and that intentional agency is just 'folk-psychology' thinking (Lasater-Guttmann, 2020). Furthermore, recent developments in neuroscience, beginning with Libet's 1983 discovery of *neuro-readiness potentials*[2], challenge beliefs in intentional agency (Libet et al., 1983). List's defence does not deny these bio-physical processes, but rather maintains that meaningful intentional explanations will not be found at the particle level, only at a higher, psychological level. List maintains that by analysing causation at the particle level we would simply incur 'informational overload'; that meaning and intention only emerge at the higher level of mental states.

2. Against Freedom to Choose

Second, determinism implies that no alternate possibilities can exist from a given prior state plus governing laws. Against this, List argues that even if particle-level determinism is true, this does not imply *agent-level* determinism. He believes that, even if we accept deterministic physics, a level of indeterminism can exist at the agential level. List argues that since multiple physical brain states can lead to the same intentional decision, this denies a one-to-one mapping of brain states to intentions, and consequently indeterminacy at the agent-level is possible. However, a challenge to List may be that determinism at the particle level does not preclude two different routes to the

[1] For a detailed exposition of his incompatibilist argument, see (van Inwagen, 1975).
[2] That chemical activity in the brain occurs *before* consciousness to take an action arises

same choice: after all, 7 + 3 = 10, but so does 6 + 4. A more robust defence to this objection may need to argue more convincingly that two identical prior states and sets of identical laws can lead to more than one intentional outcome.

3. Against Causal Control

Third, a challenge arises from epiphenomenalism: that the physical state of the brain is sufficient to instigate an action, and that no additional mental state is required. Epiphenomenalism seems to challenge the 'need' for higher mental states in a causal model of the world. List employs a clever analogy to defend his core argument from this challenge: consider a glass flask of boiled water, that breaks (2019a, p. 133). The molecules of water are likened to the brain's particle states, the 'boiling' to the brain's mental state. List argues that multiple, different molecular states could cause the glass to break, and similarly different particle arrangements could create the same mental state, and so denies that a given mental state can be 'reduced' to a singularly determined lower-level physical state. Now, this argument does not necessarily deny that a particular arrangement of particles 'caused' the flask to break; but it does introduce the fruitful idea of 'boiling' as a higher-level, explanatory phenomenon, more so than the mere specification of a particular set of agitated particles and their physical parameters.

Does List succeed?

So, does List succeed in posing a credible compatibilist argument? As noted by Lasater-Guttman (2020), a weakness may be in calling upon the explanatory value of our best theories in the social sciences to justify his claim. It is an ongoing, unresolved problem in the social and natural sciences that theories with high explanatory value need not relate to 'real' entities; many hold that instrumental value, or pragmatism, count for more than agreement on what is reality. For example, much of 'useful' modern economics is based on rational choice theory, but true 'rational' agents are hard to find, or even define. Nevertheless, List's central claim that we should analyse free will at the level of the intentional agent, rather than the particle or physical level, is appealing, as it offers a highly explanatory, useful account, in keeping with how we often proceed in science. List argues that if we *do not* accept this approach to free will, we might need to rethink our entire approach to the natural and social sciences, as these broadly rest on assumptions of humans as intentional agents, with choice and causal control over their actions.

Conclusion

List claims that free-will, when viewed as a higher-level psychological phenomenon, is compatible with determinism. It is an appealing, thoughtfully-argued approach to an age-old problem. However, hard determinists will attack the vulnerabilities of List's claims. It seems that most of us want to believe in free will; proving its existence beyond doubt is a much harder undertaking.

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