

A Response to Brennan and White

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Geoffrey Brennan and Christopher White have offered a surprisingly lengthy and sometimes quite passionate commentary on my paper “Game Theory in Christian Perspective,” originally published in the Spring 2015 issue of *Faith & Economics*. I am grateful to have the opportunity to respond.

1 Interdependence

Brennan and White first of all take issue with my introductory description of game theory, which in part says “... each decision [in a game] involves considering what the other decision-makers will choose.” Later on I say, “The choice a player makes is therefore influenced by what he or she believes the other players will choose.” They make the point that in games where a player has a single strictly dominant strategy (like the prisoners’ dilemma), that player is—in the end—not *actually* influenced by the choices of other players. Fair enough. In the second instance, it would have been clearer to say “is therefore *potentially* influenced...” or some such.

But Brennan and White clearly don’t like this focus on strategic interdependence, or what they call “action-interdependence,” and make a distinction between it and what they call “payoff-interdependence,” which is their preferred way of characterizing what game theory is trying to capture. This was my first encounter with such a distinction, and they cite no reference from the game-theoretic literature to others making it or using it. I do find it puzzling and have been wondering why we seem to be thinking and talking at cross-purposes here. The answer, I think, is that we’re talking about interdependence at two very different levels. In line with most game theorists, I have described game theory in terms of strategic interdependence at a very general level. Formally, the outcome of a game is given by the profile of strategic choices by the players, which we suppose depends on the payoff structure of the game. At this general

level, strategic (or action) interdependence and payoff interdependence are inseparable—one doesn’t make much sense without the other. Brennan and White, however, are thinking about interdependence at a deeper, more particular level of analysis—after we’ve begun to think about the choices of the players in a *given* game, after (for example) we’ve deleted all the strictly dominated strategies, perhaps on the way to finding some sort of equilibrium outcome. There may be good reasons for thinking about the degree of dependence between players’ choices at this level. But the fact remains that interdependence at this level is conceptually quite different from interdependence considered more generally.

I hope it’s clear, therefore, why those of us who follow Robert Aumann’s characterization of game theory as “interactive decision theory,” with an interest in its potential to describe and explain strategic interdependence, find no contradiction between this and our willingness to consider and analyse games like the prisoners’ dilemma. And there is certainly no contradiction between this characterization and an interest in normative issues in game theory.

2 Payoff Maximization and Ethics

Brennan and White are more on target in their critique of my illustrative story for the prisoners’ dilemma, which is based around a drugs deal. They comment that “Cooper seems to think that a simple utilitarian ethicist (or the standard economist) would be obliged to conclude that the deal should go through.” What I *actually* say is “the utilitarian ... outcome [of the game] is for the gangs to exchange successfully.” That is, when one views the game *in isolation*, with just the standard consequentialist tools of welfare economics at one’s disposal, then for the gangs to exchange is the welfare maximizing outcome. Thus much is true, but what I should have gone on to say is that most utilitarian ethicists wouldn’t want to take the game in isolation. They would want to consider the wider consequences of the deal, and many of them (though not all) would probably come to conclusions very similar to ethicists approaching the situation from a Christian point of view. In that sense, I concede it’s not a well-chosen example. But it at least makes the point that simply rendering a situation as a game and applying a utilitarian rule is unlikely to be adequate as ethical analysis. One of the aims of the paper was to consider whether it’s possible for Christians to use the tools of game theory in good con-

science. My basic answer is, “Yes, with care, it is possible—but be wary of being sucked into the narrow consequentialism that dominates much of the welfare analysis in game theoretic applications.” I want to encourage Christian economists to avoid being smothered by what someone once evocatively called the “bear hug of utilitarianism.” Later in their response, Brennan and White accuse me of wanting (at least implicitly) to elevate payoff maximization to “the status of a trump card (a sort of ultimate justifier) in Christian interpretation.” This is precisely what I am arguing *against* in this section of the paper.

Moving on, I can’t help thinking that Brennan and White have either over-read, misread, or simply misunderstood the final part of the original paper, which outlines some possible Christian applications of game theory. The aim here was to provide just a few (hopefully thought-provoking) examples of how Christian ethics might interact or intersect with game theory. I make no grand, general claims and don’t suggest any of the examples are generalizable. So, no, I am not advocating some sort of rule-utilitarianism. I am not suggesting (and do not anywhere say) the prisoners’ dilemma is somehow “solved” by Christian virtue. I know that not all prisoners’ dilemma situations are socially destructive. And, yes, I realise that Christians are not principle exempt from prisoners’-dilemma-type scenarios (and I don’t need an example to convince me). At one point, Brennan and White suggest that some of these things are a “natural interpretation” of my “argumentative strategy.” I think rather they are a greatly over-stretched interpretation of what I actually say. Looking at the paper again, I find it very hard to see how it can be read the way they seem to have read it. But if this is an opportunity to clarify what I did not say, then I welcome it.

The example of envy and status goods (my section 3.1) was simply intended to show the possible congruity between a game-theoretic treatment of an issue and the kind of social commentary we find in the Bible. For example, the use of game theory is one way (among many) of explaining how envy can produce socially undesirable outcomes. I don’t actually offer any normative analysis beyond this.

The final example in the original paper, in the section called “Costly Messengers,” considers the prisoners’ dilemma one last time. But the intention here is by no means to offer some kind of “solution” to the prisoners’ dilemma, whatever that might mean. It is simply to note the impact of Christian ethical teaching on some situations that could nor-

mally be modelled as a prisoners' dilemma. For a Christian player, the impact of such teaching *may* be literally game-changing. Their outlook, values, and preferences are so transformed that they are no longer playing a prisoners' dilemma. The outcome will typically then *look* very bad for them. This is another example of how far the argument in the paper is from a simplistic claim that Christian virtue is a pathway to obtaining maximum immediate payoffs. On the other hand, I make the point that Christian virtues exercised within a Christian community *may* result in better immediate outcomes than those obtained outside the community. This is hardly a new or surprising claim! Perhaps Brennan and White would respond with, "So what?" But I actually think it would be worthwhile tracing how these things might work out across a number of real examples. I'm especially interested in how these differences from untransformed behaviour might signal something about the Christian players' beliefs to the other players.

3 Preferences and Payoffs

In Part 3 of Brennan and White's response (Preferences vs. Payoff), we are much more in agreement. I would only want to stress that whenever we focus on objective (e.g. dollar) payoffs, we do need to be absolutely clear and transparent about what we're doing, and acknowledge that we're operating outside the normal assumptions of rational choice theory (which were developed for good reasons). I would personally be very hesitant about applying equilibrium concepts to games specified outside the normal assumptions, for example.

4 Final Thoughts

Brennan and White claim in their introduction that the aim of their commentary "is to adumbrate and clarify, rather than to criticize." I genuinely do hope their paper does function to serve this purpose, and hope that this response clarifies things still further. I would also love the exchange to stimulate further investigation by others into the relation between game theory and Christian ethics, conducted in a spirit of openness, charity, and partnership.