

Tendencies, Determinism, and Sporting Prowess – A Response to Mumford and Anjum

REVISED VERSION

Abstract

In Getting Causes from Powers (2011) Stephen Mumford and Rani Anjum published a novel approach to the metaphysics of dispositional properties, according to which causal powers are to be viewed as vectors. More recently they have employed a similar system to represent prowess in sport. In this paper I discuss the Mumford/Anjum ‘tendential theory of sporting prowess’. I question their motivation for the tendencies account, concluding (contra Mumford and Anjum) that a belief in determinism would not take away from the enjoyment of spectator sports. Nonetheless, I deem the tendential theory of prowess plausible. In addition to criticising their motivation, then, I develop the Mumford/Anjum thesis, applying the multi-dimensional aspect they themselves apply to ‘complex causal situations’, to the metaphysic of sporting prowess.

Paper

1. Introduction

Applying the ‘vectors’ approach to causal powers developed and defended in their 2011 monograph, Mumford and Anjum (2014)¹ recently published a ‘tendential theory of sporting prowess’. The representation of prowess they espouse is compelling, and highlights the importance of causal notions in the philosophy of sport. Here I seek to develop the Mumford/Anjum theory, but question their conclusions regarding how beliefs about the metaphysics of laws and causation might affect the enjoyment of spectator sports.

¹ At the time of writing

Mumford and Anjum produce a metaphysic of prowess based on their now well-established 'tendencies' approach to causation. They claim one must believe that sporting results are not predetermined, whilst simultaneously believing that outcomes are not chancy, since sport '...would be of no interest to us if the outcome were necessitated but also no interest to us if the outcome were a matter of nothing but chance' (2014, 400). Sport, they say, 'would have no point if the outcomes were either necessary or pure chance', so assuming sport does have a point, one should endorse a 'third modal option: something that sits between the two unpalatable cases' (p. 404), whereby good teams/individuals (with greater net prowess) 'tend' toward beating poor teams/individuals, in roughly the same sense as matches tend toward lighting when struck.

The quotations above might suggest that Mumford and Anjum present the tendential theory of sporting prowess as more than just an exercise in conceptual analysis - that they take the theory to have genuine explanatory value, and that 'prowess' is a true dispositional property. In fact, they leave the metaphysical state of affairs open (with the caveat that 'for the record, [they] think [determinism] is false' (p. 401)). The main goal of their project is to show that 'a belief in the necessity of sporting outcomes would undermine entirely any motivation to play or watch it' (p. 401).

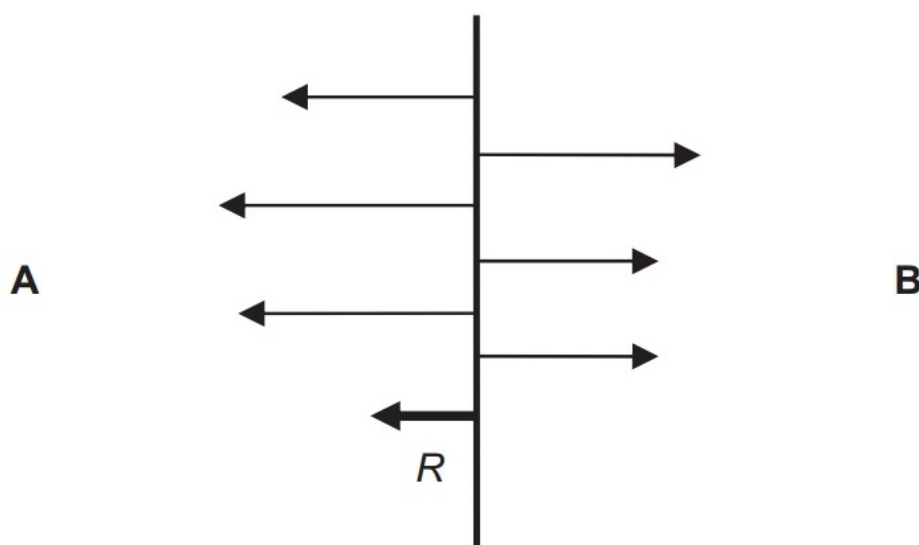
In this paper I first reconsider the Mumford/Anjum approach, suggesting their theory can be improved by adding the multi-dimensional aspect to their vector diagrams suggested in their 2011 modelling of 'complex causal situations' (p. 44); second, I question the importance of the determinism/randomness dilemma in sport. Mumford and Anjum argue that believing determinism is false is fundamentally important to the enjoyment of sport. I show why I disagree.

2. The Tendential Theory of Sporting Prowess

Mumford and Anjum represent sporting prowess using vectors (see *figure 1*. from Mumford and Anjum, 2014, 404). Each arrow is a vector representing the prowess of an individual member of a team, with the vectors pointing to the right indicating the prowess of team B's players, and those pointing to the left the prowess of team A's players. *R* is the resultant

vector, which, in the example below, illustrates that the magnitude of team A's prowess-vector exceeds that of team B, and thus team A will *tend* to win. An accurate representation denotes which team has the overall greater prowess, and how strong this differential is.

Figure 1. One Dimensional Vectors [AWAITING PERMISSIONS]



Source: With kind permission from Taylor and Francis Online. Mumford, S. and Anjum, R. The Tendential Theory of Sporting Prowess. *The Journal of the Philosophy of Sport*. 2014. Vol 41, No 3. Figure 1: p. 404 © Routledge. All rights reserved.

I take the vector theory to nicely represent the intuitions of sports fans. When a Queen's Park Rangers (QPR) supporter goes to Arsenal Football Club's Emirates stadium, for example, she knows the resultant vector points toward Arsenal (the better team); but she nonetheless looks forward to the match in the knowledge that the result might not reflect the tendencies. Indeed, knowing the team she supports is disposed to lose to Arsenal would no doubt add to the enjoyment of the game were QPR to overcome the odds.

The vector system maps our concept of accumulative prowess fairly effectively², but it also provides a useful representation of 'expectation'. *Ceteris paribus*, the resultant vector

² It must be noted that the tendential theory is far from perfect with respect to team sports. The overall prowess of a team is not wholly determined by the net prowess of the team-members. For example, a group comprising eleven incredibly skilful footballers may not play well together as a team, due to a variety of

points toward the team one would expect to win (and in addition, how likely that victory is). Suppose, however, one is interested not just in representing relative prowess and the game's winner, but the nature of the game. Tacticians, fans, and sports gamblers are all interested in how a match will play out – will it be an attacking game with lots of goals? Will one of the teams play extremely defensively? What are the team's strengths and weaknesses? The vector theory of *figure 1* does not portray these tendencies. Similarly, confounding factors such as playing conditions play a significant role in the result of a game, yet these are not considered in the Mumford/Anjum model at all.

However, one *can* represent tendencies toward multiple variables simultaneously (for example, the victor and the prevalence of goals) by implementing the multi-dimensional vector-model Mumford and Anjum applied to complex causal powers situations in their 2011 (but do not apply to sporting prowess in their 2014 - *figure 2*. is taken from Mumford and Anjum, 2011, 44). Prowess is not a single quality, but an ill-defined notion incorporating all kinds of ability: the ability to tackle, the ability to score, the ability to dribble, the ability to pass, and many others. An individual may have sublime passing ability, and an impeccable strike, but a complete inability to perform a clean tackle³. Similar principles apply to teams as a unit.

In order to make one's representation more informative, one must replace the one-dimensional theory of ill-defined 'prowess' with a multi-dimensional equivalent, incorporating qualities like the tendency to score and the tendency to concede, given confounding factors such as playing conditions, since these confounding factors can have a profound effect on the direction of the resultant vector. The information required for this more detailed analysis thus requires contrasting one kind of tendency with another, and includes all knowable match conditions, making the graph somewhat more complex than the simple tendential theory of prowess represented by *figure 1*.

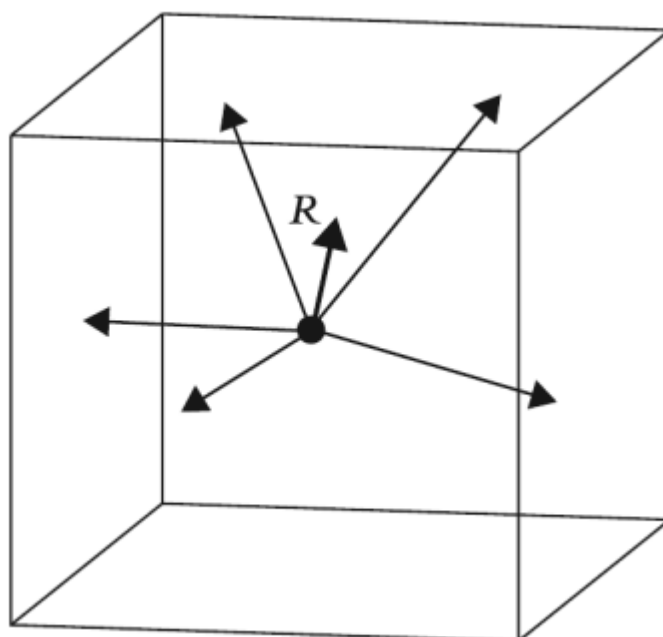
Consider the 'prevalence of goals' in a football match, for example: one would have to compare the attacking prowess of team A to the defensive prowess of team B, and vice

'emergent and non-summative aspects of the ways in which individual team members combine and cooperate, or fail to do so' (my thanks to an anonymous referee for highlighting this point).

³ For those fans of the English Premier League, no doubt Paul Scholes springs to mind!

versa. If the net disparity between the striker/defender prowess vectors (the sum of those of both teams) renders a high-magnitude vector in favour of the strikers, then one can rationally expect a high-scoring game (so long as playing conditions are conducive to high-scoring games). Of course, the representation cannot identify what the relevant factors are – this must be done by experts in their field; that is, by bookmakers, football managers, and so on – but a single resultant vector of a multi-dimensional vector diagram can represent rational expectation not only about who will win, but about whatever parameters are included in the graph (in principle one could produce quality spaces with thousands of dimensions, but in practice, far fewer will be of use).

Figure 2. Multi-dimensional vectors [AWAITING PERMISSIONS]



Source: With kind permission from Oxford University Press. Mumford, S. and Anjum, R. *Getting Causes from Powers*, Oxford University Press, 2011: p.44, figure 2.14 ©Stephen Mumford and Rani Lill Anjum. All rights reserved.

Alternative Theories of Prowess

A number of alternative theories of sporting prowess are available, but none, I think, are as palatable as the tendential account. One might, for example, take an individual's prowess to be 'measured by his capacity to perform [a sporting] activity across counterfactual situations'. This 'model differs significantly from the tendential model, since once a counterfactual situation is specified, the level of prowess on both sides might fully determine the outcome of the sporting event⁴'. However, although a counterfactual-based theory is a live option, I do not believe it successfully represents the concept of prowess. Prowess is not a natural property like those we are accustomed to discussing in the chance/determinism debates (e.g. mass and charge). If 'the circumstances' and a player's degree of prowess fully determines a sporting outcome, then a player with prowess P would always make the same decision in the same circumstances; but the concept of prowess surely doesn't imply that degree of prowess P in circumstances C entails a specific brain/mental state, the same choice of action, and same sporting outcome, even if determinism is true. One could, of course, consistently define prowess in this way, but it certainly would not cohere with the concept we standardly employ.

Another option is to view prowess in terms of probabilities; that is to say, something akin to 'a player with the greater probability of winning is the player of greater prowess'. Although I agree that prowess is generally a probability raiser when it comes to winning matches, mapping prowess in terms of probability of victory is problematic for a number of reasons. First, it is not always the case that the player of greater prowess is more likely to win. A tennis player of greater prowess than his opponent, for example, might currently be injury-prone (suppose he has recently recovered from a calf injury). Although he would generally be more likely to win, the relatively high chance of him pulling his calf muscle (again) could lower his probability of victory to below that of his opponent. This would incorrectly imply a lower degree of prowess (were one to endorse the probabilistic theory). Second, a simple probability theory does not provide as much information as the tendential theory. The probability of player A beating player B might be 0.5 – but this tells us only that the players are equally likely to win. It does not provide a measure of prowess *simpliciter*; the tendential theory, on the other hand, does. The probability-of-winning being 0.5 tells us

⁴ My thanks to an anonymous referee for this comment.

only that the prowess 'arrows' for A and B are of the same length, but once one views the full graph, one can recognise whether A and B are of school-boy standard, or professional sportsmen. The tendential theory, then, has significant advantages over both the counterfactual and probabilistic alternative theories of prowess.

3. Watching Sport

Mumford and Anjum have argued that the metaphysics of prowess contributes to the enjoyment of spectator sports. In this section I consider a number of factors that affect one's enjoyment of watching sport, but conclude that Mumford and Anjum are wrong to think that a tendential approach is in any way important in this regard.

Andrew Fisher (2005) has argued elsewhere that sports fans prefer to watch live sport than replays (let us assume that more people watch a match live than at any other given time), even if the games are watched in precisely the same way (e.g. on the same couch, with the same people, with the same food, etc.). More specifically, Fisher argues that people like to watch sport in 'shared time' (Fisher, 2005, 185), where watching in shared time is 'watching with the belief that the majority of people are watching it at the same time' (pg. 185). To justify his claim, he asks us to imagine a number of sport-watching scenarios:

1. You reasonably believe that your television shows the match 30 minutes before everyone else's; thus you are not watching in shared time, since you reasonably believe that the majority of people begin watching the game 30 minutes later than you do.
2. You reasonably believe that your television shows the game 30 minutes after everyone else's, so again, you reasonably believe that you are not watching the game in shared time.
3. A tennis match is cancelled at Wimbledon due to bad weather, so a live game cannot be shown. However, a replay of a past match is shown instead, and all those watching that replay are watching it in shared time.

All three of these scenarios, claims Fisher, prove that watching in shared time is the key reason one prefers to watch sport live, and not the epistemic uncertainty it implies. In the second case, one remains in a state of epistemic uncertainty, yet one would nonetheless prefer to watch the game with the other viewers 30 minutes earlier. In the third case, even if the result is known, one prefers to watch the replay on television along with other viewers, than to watch one's own recording of the match at some other time.

I find both scenarios 2 and 3 fairly convincing. Scenario 1, on the other hand, is less so, since one might well prefer to watch the match live, than to watch it 30 minutes later along with the majority of viewers. Of course, appeal to intuition is hardly the strongest of philosophical arguments (although irritatingly common!), but I am nonetheless sure that many would feel a sense of advantage over those who could not watch the match live, even were they in the minority. Furthermore, given the option of watching a match in shared time, but knowing the result, and that of watching a match outside of shared time, in a state of epistemic uncertainty, I expect many would choose the latter option.

Two of Fisher's three examples certainly show that watching sport in shared time is important to one's enjoyment of spectator sports, but this is not the only reason people prefer to watch sport live. At least on the face of it, both watching sport as it occurs as a quality in and of itself, and epistemic uncertainty, play important roles⁵ in spectator-enjoyment. Mumford and Anjum make an additional claim, however: that it is important for spectators to believe that determinism is false. I argue here that they are mistaken.

Determinism and watching sport

Mumford and Anjum's primary motivation for the tendential theory of sporting prowess is that it avoids the (supposedly) nasty consequences a belief in determinism would have on the enjoyment of spectator sports. I argue here that beliefs concerning the metaphysics of determinism are irrelevant in this context.

As Mumford and Anjum point out, were it the case that, necessarily, for all teams, if team F is higher up the league table than team G, team F will emerge victorious, then the

⁵ Note, of course, that the claims here are not incompatible with Fisher's argument for the importance of watching sport in shared time.

match would be of little interest to spectators (2014, 400). This is undeniably true. However, ‘the team with more points always wins’ is by no means implied by determinism.

Determinism could be true and Queens Park Rangers (QPR) beat Manchester City 2-0 (where QPR are, at the time of writing, a far inferior team), and of course, this kind of result is not hugely uncommon in many football leagues⁶. Regardless of the truth or falsity of determinism, this can be at least partly explained by the fact that confounding factors like poor weather, the size of the pitch, the input of the fans, unusually good/poor performances, and so on⁷, always play a role in the result (as well, of course, as the relative net prowess of the team).

The presence of confounding factors guarantees that prowess alone is insufficient for victory, ensuring situations like that presented by Mumford/Anjum never occur, whether or not determinism holds. Although not explicitly stated, Mumford and Anjum are of course well aware of this, so I am sure this is not the point they wish to raise. Their claim, I can only assume, is just that if a sports fan believes that the result is entailed by the physical facts and laws of nature at time t , where t is prior to the match (sporting-determinism in a nutshell), that fan would be far less interested in watching the manner in which the result obtains.

One can understand their intuition - were I to have attended the Wanderers Cricket Stadium last year *knowing* that AB de Villiers was shortly to produce the fastest one day international century in history, I would have undoubtedly enjoyed the spectacle less. In sport in general, one simply would not have that ‘edge-of-the-seat’ experience were the result not in doubt. But ‘being in doubt’ and ‘not being metaphysically determined’ is not the same thing. If it had been announced on the radio on the way to the stadium that, unequivocally, our best scientists were now universally in agreement that determinism must hold, I *still* would have been ignorant of what de Villiers was about to do, and would *still* have enjoyed that edge-of-the-seat experience. Observing the realisation of de Villiers’s sporting prowess was something to behold, and knowing that his prowess was a

⁶ Somewhat appropriately, this article was written in the year Leicester City, a 5000-1 outsider at the beginning of the 2015/2016 season, won the English Premier League.

⁷ Manchester United even changed their shirts at half-time once, because the colour of their new away-shirt was putting them off!

contributing factor to a metaphysically determined result (a result I was unaware of at the time) would not have taken away from that. What is important, it turns out, is not that results are causally 'open', but that we, as observers, are (a) in a state of epistemic uncertainty, (b) observing the sporting-prowess of good players, and (following Fisher) (c) watching in shared time. Of course, complete knowledge of all physical facts and the laws of nature, and a computer with sufficient processing power, would provide us with the result (in a deterministic world), but this is not something we have to worry about too much. In short, it is clear that being predetermined because a game has finished, and being predetermined because the states of affairs plus the laws of nature ensure that the result is 'set in stone' for some future time, are substantially different. It is certainly plausible that the latter does not affect the enjoyment of sport, regardless of how the spectator's enjoyment is affected by when it is watched, even if the former does.

It is worth noting that Mumford and Anjum allude to the free will debate to highlight the importance of 'authorship' in our enjoyment of spectator sport. I do not contest the importance of agency in sport, but I nevertheless find their argument unconvincing. The claim is that if determinism is true then we are slaves to necessity, and if the world is chancy (in some stronger sense than 'tendencies' admit of) then our decisions are simply the effect of random neuronal firings unworthy of admiration. In both cases we lack authorship, and if agents lack authorship then there is nothing to admire about their sporting 'achievements'. In essence, they conclude that unless one is happy with a 'modal middle-ground' (weaker than necessity but stronger than pure contingency) one is committed to hard incompatibilism; that is, to the thesis that there is no free will if determinism is true, *and* no free will if determinism is false.

Mumford and Anjum seem to have ignored a number of popular conceptions of free will that make no reference to tendencies (certainly not in the metaphysical sense made clear in their 2011 monograph) whatsoever, requiring no 'modalities' over and above the necessity and contingency with which all philosophers are familiar. It is not within the scope of this paper to go into any detail on this issue, but compatibilists deny that if determinism is true then we are slaves to necessity, taking free will to be perfectly compatible with determinism; that is, despite our decisions being in *some* sense inevitable given the physical

facts prior to that decision and the laws of nature, we are nevertheless the authors of those decisions⁸. Similarly, libertarians typically believe that free will and determinism are incompatible, but that we can still be free (partly because determinism is false). The tendencies approach to causation *might* be a nice escape for those who feel that free will is compromised by both determinism and ‘randomness’⁹, but one should not feel forced into the dilemma of (i) rejecting free will, or (ii) accepting a tendential/dispositional approach to decision-making, when compatibilism and libertarianism are, at the very least, live options.

4. Conclusion

The major motivation for the tendential account of sporting prowess was not simply to develop a suitable representation of prowess in sport, but to provide a theory that avoids the supposedly undesirable consequences of believing results to be either predetermined, or chancy. Although the theory is successful in this regard, I have shown that the claims Mumford and Anjum make about the effect beliefs in determinism or randomness would have on our enjoyment of sport are deeply suspicious. Nevertheless, the tendential theory of sporting prowess is plausible, and can be developed into a more complex and informative multi-dimensional representation of the interesting ‘tendencies’ in sporting contests.¹⁰

⁸ There are lots of different versions of compatibilism, but this short reply piece is not the place for discussion; see (Lewis, 1981).

⁹ Although an interesting project, I am not convinced that tendential approaches to authorship offer anything ‘more than contingency’. Their view (I think) is that there is a modality in addition to necessity and contingency - a modality weaker than necessity, but stronger than contingency. I am not entirely certain what this means, however. Do the players *choose* which of their dispositions manifest? If so, then how (in such a way that is neither physically necessary given the laws and prior facts, nor contingent (as contingency is standardly conceived in this context)? If not, then we are back to mere randomness. This is not a point I wish (or even need) to push – I just look forward to reading more on the matter.

¹⁰ I would like to thank two anonymous reviewers for their useful and extensive comments.

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