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1. The problem

Causation plays a vital role in the free will debate so it is among the top priorities that it be understood right. There is a view, for instance, that merely being subject to causal laws is already enough to compromise our freedom, or eradicate it completely. This trades on an alleged link between causation and determinism. Dennett, for instance, articulates the thesis of determinism thus: 'Determinism is the idea that every event has a cause, which has a cause, which has a cause, in a causal chain that goes back to the Big Bang, if you like, and that there are no events without causes – undetermined events.' (Dennett 2010: 2) Causation then looks to be the enemy of free will and something we need to escape. There might be a temptation to look for free will in an ability to step outside the regular causal nexus. This would be a mistake, we allege; effectively attributing supernatural powers to agency. Even if our minds have a degree of exemption from the laws of nature – for instance, if some version of Cartesian dualism is true – our physical bodies surely don't. The actions we perform thus have to comply with the causal laws as at least something of us, if not the whole, is a part of the natural world.

We shouldn't look for freedom in counter-nomic abilities. And we don't have to. The problem we have with Dennett's statement, and many other commentaries on the free will problem, is thinking of causation as the enemy of freedom. It is not. We should think of causation as something that is on our side: on the side of freedom. It is through the exercise of our own causal powers, for instance, that we get what we want and we would be helpless without them; hence helpless without causation. Why, then, start with the assumption that it is something to be escaped?

We argue in this paper that an aspect of causation has been misunderstood over a long period, especially in its connection with issues of modality, and this error has had a particularly significant and damaging influence on the direction of the free will debate. A tight connection has been drawn

between causation and necessity, for instance, and this has been highly problematic to those seeking any kind of credible libertarian stance on free will. It is necessity that is the threat, we claim. Causation is seen as part of the problem of free will when really we should be looking to it as part of the solution.

2. Freedom's dilemma

A dilemma afflicts our attempts to form a coherent understanding of free will and it is to resolve this dilemma that we need a better understanding of how causation works; specifically, how it relates to the possibility of its effects. The dilemma was articulated by van Inwagen (1983) and in a more succinct form by Mumford and Anjum (2015a).

As the standard dilemma goes, under determinism we are slaves to necessity. If what we do is necessitated, then we are not free because we have no genuine choice or other possibility open to us. This violates the principle of alternate possibilities, which some think is important for a libertarian theory of free will. To be free, you must have been able to do otherwise. There have to be alternate possibilities for you. If determinism is true, you have no alternate possibilities: hence, the appearance of free will is illusory. This is van Inwagen's *consequence argument* (1983: 16, ch. III).

But if indeterminism is true, the situation looks no better. Aren't we then just slaves to chance? The problem here is that even though there may be alternate possibilities available, where determinism is false, it looks as though no one has control over their actions. This violates the principle of ultimate authorship. Freedom – indeed agency generally – requires that we are the authors of our own actions. If we do not control the things that we do, then they are not properly actions and we are not agents. In what sense would we act if what we did was to some extent a matter of chance? Could we really be said to be in control, in those circumstances? And without control, there is no responsibility for what is done. Under indeterminism, therefore, the appearance of free will is again illusory. This is what van Inwagen (1983: 126-50) calls the *Mind argument*, after the journal in which it often appeared (e.g. Hobart 1934 and Smart 1961).

This looks bad. There is no free will if determinism is true and no free will if indeterminism is true. Determinism and indeterminism seem to exhaust all the possibilities. It is easy then to take this as a conclusive argument against a libertarian conception of freedom. The dilemma explains some of the attraction of instead opting for a compatibilist solution. One can hold a compatibilist position, saying that free will is compatible with determinism, if one is willing to give up the principle of alternate possibilities, for instance (Frankfurt 1971, Beebe 2013: 146-50). But not everyone likes that. There is a feeling that it perhaps requires an exercise in doublethink to believe that an action can be both free and determined. The consequence argument, among others, trades on this incompatibilist intuition.

Even if compatibilism does make sense as a solution, one might still think that if libertarianism were defensible, it would always be better to have that kind of freedom than the compatibilist kind. A motivation for compatibilism is sometimes simply that there is no conceivable alternative. Hume (1748; VIII), for instance, conceded that he could think of no better solution to the problem than

compatibilism (which is also clear in Hobart's 1934 title). We can reconstruct Hume's argument within the framework outlined above. He could see no sense of freedom in randomness so he chose compatibilism, effectively retaining the principle of ultimate authorship while relinquishing alternate possibilities. But suppose we can do better than Hume and find a way of resolving the dilemma, thereby validating a libertarian conception of freedom. Wouldn't that be better? We could have the strong sense of free will – that is, one that retains both principles of alternate possibilities and ultimate authorship – and not have to resort to compatibilism as a fall back.

To do that, we argue here, we need a better understanding of causation. If there is a straight choice to be made between determinism and indeterminism, it looks like there can be no free will. Part of the difficulty has been to see how there is any other option than these two. There is one, we insist, but the key to it is getting causation right, in particular the proper modality that holds between causes and effects. To see this, we should first motivate the connection between our freedom and causation and thus how we need to be causes in order to act. The free will problem is then seen as a problem of causation and a modal problem, produced when they are not conceived accurately.

3. Three ..., no, four options

We have already seen that there are three standard positions one can adopt with respect to the free will debate:

- i. *Determinism*: all is necessary so we have no free will
- ii. *Libertarianism*: determinism is false and we have free will
- iii. *Compatibilism*: free will is compatible with determinism

As typically stated, option iii is of a different character from i and ii. They commit on whether there is free will or not whereas iii is simply a statement of compatibility, which i and ii deny. We could think of it as a putative logical truth, saying that determinism and free will can co-exist. This is not a commitment to free will even though it might be assumed so automatically. Given the discussion around determinism and ultimate authorship, it should be clear that there is also a significant fourth option. This is almost always ignored, perhaps because it looks like the worst option of all. Determinism could be false but we still have no free will because, in the chancy world, we have insufficient control in order to be able to act. We might, thus, call this least palatable view stochasticism:

- iv. *Stochasticism*: determinism is false but we still have no free will

What this shows is that the libertarian has more work to do than simply show determinism to be false (as Kane 2014 urges). In a way, that's the easy part, although largely an empirical matter. A libertarian needs more importantly a positive account of how we can be free in an indeterministic world. That determinism is false is a necessary but clearly not a sufficient condition for free will. The big question, therefore, becomes the other, more neglected one: not of how free will is compatible with determinism but of how it's compatible with indeterminism. Hume held that free will and determinism were compatible partly on the ground that he thought free will and indeterminism were incompatible. The libertarian needs it exactly the other way round: free will is incompatible with determinism and compatible with indeterminism. The task, then, is to provide a credible account of how we can or do have free will in an indeterministic world.

We take it that causation will be central to any credible libertarian position. Causation is crucially what gives the agent freedom. Contrary to Dennett's view, then, causation cannot be the enemy of free will. It's what we need to the extent that we have to be the causes of our own actions. Causation is then at the heart and at least a *sine qua non*. Let us, therefore, consider a little more why the attitude to causation in the free will debate is so often contrary to this view, which we think *prima facie* appealing.

4. Determinism and necessity

In Dennett's own account, he goes on to say that determinism is a red herring, by which he means that such determinism is compatible with free will. But he does not challenge this way of articulating determinism, which is where we think the true red herring hides. The commitment in Dennett's account amounts to the view that an event is determined just in case it is caused; and this is the view we reject.

It is worth noting, in case it is thought that Dennett's characterisation of the position is an isolated aberration, that his connecting of determinism and causation is not unique. Watson (1982: 2), for example, speaks as if we are robbed of free will simply in virtue of our actions having prior causes. Both Clarke (2003: 3-4) and Earman (1986: 13) treat determinism as an explicitly causal thesis. This certainly fuels the idea that we gain freedom only by escaping causation, given that causation is seen as the engine of determinism.

Causation need not, however, be directly involved in the understanding of determinism. It is not something that essentially plays a role in the articulation of determinism nor, we would argue, in determinism itself, considered ontologically. Causation appears in statements of determinism, we venture, only as a proxy for what determinism is really about, which is necessity. Others have seen this. Kane (2011: 4) speaks of determinism as a conditional necessity. Laplace (1814) used the metaphor of a machine, which is able to produce outcomes infallibly and he then introduced the idea of the demon (1814: 4) who is able to deduce future history from the current state of the world and its laws, which he would be able to do only if they necessitated the future.

If causation is not inherently about necessity, then it is not part of that threat to free will. However, many writers on free will, especially anti-Humean causal realists in their metaphysics, have thought

of necessitation as the only way in which genuine causal production could work. The idea is that a cause produces its effect by, in some worldly and natural way, necessitating it. Hence we have the notion of natural necessity (Swoyer 1982, Fales 1990, Shoemaker 1998) as an account of how real, non-Humean causation is supposed to work. Russell (1913: 194), in contrast, argued against the reality of causation precisely because the 'notion of cause is so intimately connected with that of necessity', and he was at the time a sceptic about necessity. The view is widespread and not held only in philosophy. Heisenberg (1959: 81-2) argued there was no causation in Quantum Mechanics, for example, on the sole ground that there seemed to be no necessity of outcomes in the quantum realm. The argument could count against causation only if it essentially involved necessity. One might speculate that the principle of sufficient reason (articulated by Leibniz 1714: sec. 32) plays an implicit role in motivating such a view, it being deeply engrained in our post-Modern way of thinking philosophically. There is no way we can demonstrate this historical conjecture, of course, but it lends weight to the thought that there has to be a sufficient reason for a cause producing its effect. The sufficient reason is the rational mirror or the worldly necessity. This means that if there are two similar causes and the first produces a particular effect, but the second doesn't, then there must be some relevant difference between them, whether known or unknown; that is, some sufficient reason why the first was productive of the effect and the second wasn't.

Perhaps if there was no other coherent understanding of causal production, such reasoning would go through. If causation entailed necessity, and necessity entailed determinism, then causation would jeopardise freedom. We think the first step of that argument can be blocked, as we will argue shortly. If we take that out of the reckoning momentarily, however, we can see that the mere presence of necessity in determinism is sufficient to make it a threat. Free will is a problem if the past necessitates the future, or there is only one possible future, hence no alternate possibilities. These are ways of articulating determinism and how it affects free will that make no mention of causation at all. Causation only gets dragged into the debate around this issue, we maintain, because it is assumed to be the means by which necessity is introduced into the world. It is depicted as the carrier of natural necessity.

5. We need to be causes

We will now move on to the positive aspects of our proposal. We will start by motivating the claim that we need to be causes, if we are to be free agents. After that, we will progress to a consideration of the modality of causation and show how there is at least one account of it that seemingly would allow both the principle of alternate possibilities and the principle of ultimate authorship to be true. This resolves the classic dilemma of free will and solves the modal problem of free will. In doing so, we are showing how one can be a compatibilist about free will and indeterminism. But we then have to make some case that, in addition to this compatibility, we do indeed have free will. The 'we' in this case refers to rational thinkers, who in the possession of certain rational abilities become free agents. As such abilities can be held to some degree, greater or lesser in different agents, then there is no reason in principle why some non-human animals cannot also have free will (Steward 2012), again in some degree.

First, then, authorship of our actions requires that we be causes of them (for instance, Alvarez 2013, Vihvelin 2013). Without causation, we are impotent: disempowered. Causation is vital to our agency in at least two ways. First, we want that our decisions are causes of our bodily movements; for instance, that a decision to raise a hand is indeed accompanied by the raising of the hand. Second, we want such actions to be connected to intended outcomes, such as a raising of a hand attracting someone's attention. It does so only if the hand-raising causally affects that person, getting them to notice via a perceptual experience. Alternately, the hand-raising could be for the purpose of lifting a box, which means that we want our bodily movement to causally interact with the box. Causation is what allows us to get what we want as agents: it is what allows us to act.

Suppose it were otherwise. What would we get from being free of causation, such as in an entirely stochastic world in which nothing is causally connected to anything else? This avoids the threat of determinism, certainly, but lands us with another threat just as big. Our decisions wouldn't be causally connected with any bodily motion. A decision to raise the hand wouldn't make it do so. It could only do so through coincidence but most of the time it wouldn't raise or some other movement would occur. And any bodily movement that occurred wouldn't be connected to any particular outcome. The hand's lifting of the box wouldn't cause it to rise. It could evaporate instead, remain stationary where it is, or turn into a frog. This stochastic world is not one that gains us freedom at all and shows us that we really want to be causes.

Now perhaps it might be said that it is not causation that really does the work of free agency. Rational agents act for reasons, for instance, and reasons are not the same as causes (Davidson 1963). Thus, while a world of causation is perhaps required for us to function effectively as free agents, it is not *qua* causers (i.e. that which causes) that we are free but *qua* rational deliberators. Reasons are normatively evaluable, for instance, to the extent that you can have good and bad reasons for action, whereas there cannot be good and bad causes. We accept the power of this distinction but have two relevant points that show it is not undermining of the importance of our basic position. In the first place, the arguments above concern what occurs after deliberation has occurred and a decision has been made. Without causation, we are unable to act on those decisions; that is, to exercise our agency. This issue remains even if reasons are a fundamentally non-causal matter. But, second, a naturalistic account of normativity, and by extension of reasoning, is not yet ruled out, as we will discuss below in section 7. As well as being caused, and an action, a decision could be a cause of action. Causation, in that case, would remain the unrivalled central component in our freedom.

There is, however, a different view of libertarian freedom inspired by Kant (1781: B559-86). This view accepts that causation itself is deterministic but rejects that we as agents are restricted by it. We have agency, which means that we are able to act as causers, but we are able to escape the causal necessity that would otherwise act upon us. Effectively, this means that we are able to step outside the causal nexus of the world or, as some would understand it, break the laws of nature.

We do not want to take this route. Why allow humans this special power and how do they have it? Why a different rule for us than other parts of nature? We reject both claims integral to this Kantian position. We say that agents are restricted by causation to the extent that causes act upon them, in other words, make them do things. We are not, then, free to do just anything, given that we are a

part of the natural world. But we also say that causation is not deterministic in the natural world. Hence, causes acting upon us can produce changes in us but that does not mean that they did so through necessitating those changes, as the principle of sufficient reason would have it. The causes that we enact are of the same character as the causes acting upon us and thus agents are not special cases, as the Kantian view suggest. And nor do we need different types of causation for agents, as is suggested when some divide agent causation from event causation (see O'Connor 2002). Causation is just one thing.

We conclude that it is through the exercise of causal powers that we are agents and through which we have gained free will. The last thing we need is to be liberated from causation, then, if that would thereby enslave us to matters of chance. It is clear, however, that causation has been misunderstood in terms of determining, necessitating and controlling. In contrast, we should think of causation in terms of power, tendency, influence, counteraction and mutual manifestation partnerships. It is needed, then, that we now consider the detail of how such a non-necessitating notion of causation would work. Equally important, we need to see how it would avoid collapse into a Humean view where anything can follow anything, which would come dangerously close to a stochastic world.

6. The modality of causation

To resolve the classic dilemma, we invoke the tendency view of causation recently advocated by Mumford and Anjum (2011: ch. 8 and 2015a). This trades on Anscombe's (1971) point that causal production and causal necessitation are distinct theses. What counts to make a theory a realist one about causation is that it accepts causal production. Causes genuinely produce their effects. But this does not require that they necessitate them. Necessitation is just one view, even if it's an influential one, of how causes produce their effects. At best, then, it would be a supplementary thesis to a commitment to causal realism. And the view can be resisted, Anscombe insists. Now that we think of the world as containing at least some irreducibly probabilistic elements, then we can make sense of a cause non-deterministically producing its effect. Clearly, therefore, necessitation cannot be an essential part of the notion of cause or of production. Causing an effect is not the same as guaranteeing it.

The Mumford and Anjum account adds significantly to this view insofar as it offers an alternative account of causal production in which it involves a *sui generis* modality of tendency or dispositionality. Causes tend or dispose to their effects with varying degrees of strength in different cases. They often succeed in producing those effects but, even when they do so, they did not through any necessitation. Mumford and Anjum (2011: ch. 3) have an antecedent strengthening argument for this conclusion. A test of necessity is offered. Where A genuinely necessitates B, then as long as you have A, then still B even if C, for any C. In other words, you should be able to add anything else to the situation in which A occurs and you will still get B, if A really does necessitate B. This does not seem to be the case in natural causal processes, which can be prevented from realising their usual effects if something else – an interferer – is added. Hence, dehydration typically produces a headache: but not if a paracetamol is taken. Even where an effect is indeed produced, this form of argument still holds. Had some further factor, C, been added to the cause, it might well not have produced its effect, B. So even there, we cannot say that B was necessitated by its cause.

The important part of the theory is not the negative argument against necessity, however, but the positive proposal that causes involve the dispositional modality. This modality can be characterised as less than necessity, for the reasons given above, but more than mere contingency. We could equate the latter to a world of pure chance – the stochastic world – in which anything really does follow anything else. Ours is not such a world. This is where it is very important to understand the difference between pure contingency and the dispositional modality. A window will tend to break when a stone is thrown at it, where the breaking can be seen as a mutual manifestation (to use Martin's 2008: 48 phrase) of the causal powers of the window and the stone. There is no necessity in the breaking as there are circumstances in which it can be prevented. But it is also a matter of more than pure contingency that it breaks. The impact of the stone tends towards its breaking, whereas it doesn't tend towards the window changing colour, heating up or evaporating. To say merely that the breaking of the window is possible, when hit by a stone, mischaracterises by under-description the connection between cause and effect. Given how weak the notion of possibility is, it is also possible that the window evaporate, turn into a billiard ball or fly away when hit. But there is no natural disposition towards any of these mere possibilities. The powers of the thrown stone and recipient window give us a tendency towards only a subset of all the possibilities and clearly the tendency can come in varying degrees, depending on how big the stone is and how thick the glass is. Of course, some invoke a notion of natural possibility in addition to logical possibility and even metaphysical possibility. The tendencies of things could be what the truths of natural possibility are about. The project of getting modal truths from powers seems a worthy one in principle, though recent attempts (Jacobs 2010, Vetter 2015) do not usually acknowledge the irreducible dispositional modality involved in those powers.

Mumford and Anjum are not the first to observe that nature seems to work in a tendency-like way. There is a tradition going back to Aristotle (*Physics* II, 8, 199b15-19) and Aquinas (*SCG* III, 2) that uses the language of tendencies, and which has continued into contemporary times with the likes of Bhaskar (1975) and Harré and Madden (1975). This historical line seems largely motivated by the observation that pure regularities, or what Hume called constant conjunctions, are not de facto the case. At best they are idealisations. If we look for actual regularities, what we find instead are approximate patterns, where something might be the case often but not always. A planted seed doesn't always grow into a tree, for instance, as there are many things that can get in the way of it doing so. But it often does grow into a tree. This is what led John Stuart Mill (1843: III.x.5, p. 445) to suggest that all laws were descriptive of tendencies rather than absolute uniformities. Peirce (1892: 304-5) made a similar observation.

However, it is not clear that these previous writers were committed to tendencies in the sense Mumford and Anjum advocate. When they describe the details of their accounts, they usually resolve into some form of necessity, such as conditional necessity, in the cases of Aristotle (see *Metaphysics* IX.5, 1048a15-20 and IX.7, 1049a5-11) and Aquinas (see PoN: sec. 26). This means that when all the circumstances are 'right', then the cause produces its effect. The reason there are no absolute uniformities is, then, simply that causes are not always in the right circumstances. Unlike the dispositional modality view, however, the conditional necessity view does maintain that when a cause produces its effect, it does so through necessitating it. Hence, even though the language of tendencies is employed, it is only superficially so. There is no major conceptual novelty on offer,

which is what Mumford and Anjum think is given by their dispositional account. More importantly for the issue of free will, the conditional necessity account doesn't offer the hope of resolving the dilemma and thereby providing a solution to the modal problem.

How does the dispositional modality do so? We saw that necessity threatened the principle of alternate possibilities while pure contingency threatened the principle of ultimate authorship. We rejected as undesirable an account in which the causes that we enact are of a different character from the causes found in the rest of nature. The importance of the dispositional modality is that it allows both alternate possibilities and ultimate authorship while granting that the causes acting upon agents and the causes enacted by agents are of exactly the same modal kind. Causation is the same thing whether it is agents involved or inanimate objects.

In the first place, there will always be alternate possibilities, given that no cause ever necessitates its effect. This follows straightforwardly from acceptance of the dispositional modality, which is always short of necessity. Hence, although a stone may have broken a window, there was an alternate possibility in which it didn't: for instance, where a mattress was resting against the other side of the window and assisted the glass in absorbing the impact. Once the dispositional modality is accepted, alternate possibilities come easy. They are, indeed, ubiquitous. The trick has always been to gain alternate possibilities while not losing control over, or responsibility for, our actions. But we see how this can be done even in the inanimate case. Where the stone is thrown and the window does break, in most cases we would think the thrown stone was responsible for the breakage. The stone's impact caused the break in virtue of it being a causal power of the stone that made the glass break. It produced the breakage; or, to use Martin's terms, the stone and window were mutual manifestation partners for the break. Furthermore, it is clear that the stone broke the glass and was thus responsible for the breakage even though its doing so could have been prevented. A mattress could have absorbed the impact. But this shows that lack of necessity does not undermine causation in any way, and thus causal responsibility.

The classic dilemma for free will is not about causal responsibility of inanimate objects, however: it is about an agent having authorship of their actions through an exercise of free will. Does the story of the stone and the window carry over to the case of agency, then? We argue that it does. We will see, however, that solving the modal problem of free will does not solve the free will problem *tout court* and this means we will have to consider what sorts of powers are the basis of free will.

Let us start, then, with a worked example of agency. We will use a standard example, which is J. L. Austin's (1956: 218n) golfer. This case has been discussed subsequently but we add a further type of case, not considered in Mumford and Anjum (2015a), for instance. The golfing case is useful because it raises questions of desert and reward – though not over very serious matters – which bring the issue of causal and agential responsibility into focus.

In the first scenario, a golfer exercises her causal powers, both mental and physical, and hits the ball towards the hole, and it goes in. There are various powers the agent needed to master and deploy. She made a decision on what she wanted to do and how she wanted to do it. She sized up the shot, calculating its intended direction and force, which needed a good eye for the lie of the land and memory of required effort in similar shots. She then also needed the steady hand and smooth swing to execute the shot. If she did all this and sank the ball, there's no doubt that she was responsible.

She deserves the credit: she might even win a trophy. Let us just stipulate that there was no other causal explanation of why the ball went in. It wasn't radio controlled, for instance, or pulled on a string by a confederate. Only through some sort of subterfuge would we ever think of the successful putt as not being the agent's action and thus not to their credit. Significantly, it does not undermine such responsibility simply because the modality of causation is dispositional modality. The golfer exercised her causal powers in a way that tended towards success. She got the result she was trying to get, sending the ball straight and true into the hole. Her ultimate authorship of this action remains the case even though there were possible circumstances that could have prevented it. The wind could have blown a twig into the ball's path just at the wrong moment, diverting it away from the hole for a miss. More obviously, a jealous opponent could have run up and kicked the ball away just before it dropped into the hole. The action didn't necessitate the outcome, therefore, but was its cause nevertheless. And such an interference could have occurred at any point during the exercise of the golfer's agency, not just after the ball sped away from the club. An opponent could have nudged her just as she was taking the shot, or distracted her while she was trying to calculate the shot, or slipped her a mind-altering drug so that she never chose to make the shot at all. These things were all possible but they didn't happen. The golfer made the shot, but she did so without guaranteeing its result.

This illustrates what we all know: you need a little luck to exercise your agency successfully. No one who ever acts can control everything that could possibly interfere with and prevent the intended outcome. We try to control all we can, and mitigate against some possibilities. But for something to happen depends upon countless other things not happening, many of which are beyond our control. What the first scenario shows, is that if you exercise your powers and succeed, it is true that you caused the intended effect and thus that you were the ultimate author.

What, though, of the opposite case? Let us consider a second scenario: one that Mumford and Anjum don't discuss but which is an important test of the credibility of the theory. In the first scenario, the account gives credit where it's due but it is equally important that we don't give credit where it's not due. In this new case, then, the golfer tries to get the ball in the hole as before but this time plays a bad shot. Maybe she miscalculated, had a lapse of concentration, didn't spot an undulation of the green or just lost control of her swing. The shot is going some distance wide; but in this case an outside interference diverts the ball and it ends up in the hole. This could be, for instance, that the wind blows a twig into the ball's path, which then changes the ball's direction through a collision. Should we give credit to the golfer for apparently sinking the putt? The intuition is that we should probably not; but does the account we have offered give that same result?

We say that it does. In this second scenario, the golfer did not exercise a power that tended towards successful completion of the action. Because the action was badly executed, the ball was tending towards a miss. There is then a significant difference between this and the first scenario, even though they both end with the ball in the hole. In the first case, the golfer's action was tending towards the sinking of the putt even though it succeeding required for there to be no outside interference. In the second case, the shot was not tending towards the hole and got there only because of the outside interference. It is for this reason that we think the second golfer does not have ultimate authorship of the outcome; that is, causal responsibility for it. If left alone, the ball

would not have tended to go in. The first golfer's ball was tending to go in, which is why it doing so depended on it being left alone.

The theory gives us a credible account of what is happening in both scenarios, therefore, and the modal problem of free will is solved. The causes acting upon agents may tend them towards certain outcomes, including tending them towards making certain decisions, but they do not necessitate any such outcome. Therefore, there are alternate possibilities. And the causes enacted by agents oftentimes succeed, which means that they have causal responsibility in those cases. Therefore, there is ultimate authorship. A world of dispositional modality in natural causal processes permits satisfaction of both principles. Neither determinism nor a stochastic indeterminism would.

7. Your normative powers

That something exercises its causal powers is clearly not enough to give it free will. A table exercises its power of gravitational attraction when it rests on the ground but it is not an act of free agency when it does so. It matters, then, which specific powers are being exercised. Some are powers of willing – as in free *will* – and others are not. What counts is that we have the power to decide and choose, which we are capable of exercising some of the time. How do we have this ability? Is it a primitive? Is there a simple will power that humans have and tables do not?

We think the situation is not quite that. The ability that humans and possibly some other animals have to make choices is a complex one that doubtlessly has a number of component powers. There is an account, for instance, in which it is a necessary condition of having free will that an agent be capable of higher-order thinking; that is, of having thoughts about their thoughts (Frankfurt 1971, Mumford and Anjum 2015a). But it matters also what particular higher-order thoughts one has. A crucial matter for free will is that one can have normative thoughts about one's first-order thoughts.

Suppose we have a case where an agent has a thought that <I want x> (using angled brackets to mark the content of the thought). It is possible to have a variety of types of higher-order thought about this desire. For instance:

- a. I had that same thought only yesterday
- b. I'm determined to get my way on this
- c. It's a nuisance to be subject to such wants

These higher-order thoughts do not have explicit normative content. It is arguable that b and c have some implicit normativity although a doesn't appear to have any at all. But a-c contrast with d and e. If we are capable of normative thinking we can also have thoughts such as:

d. I ought not to want x

e. I don't want y but I ought to

Normative thought allows one to think what ought and ought not to be. Of course, normative thinking need not be about oneself. One can see a man harm a dog and think that he ought not to. But free agents are both normative and self-reflective thinkers, hence capable of thinking about what they ought and ought not to do, and even what they ought and ought not *want* to do. Freedom requires not just that there are alternate possibilities but also that an agent is capable of understanding what some of them are, which are within their power to realise, and capable of making a decision between them not just on the basis of their wants but also in accordance with their accepted norms.

This no doubt requires a whole cluster of interrelated powers acting together, which would require an architectonic account of personal dispositions. One must be capable of seeing what is the case but also imagining what could be the case and considering what ought to be, taking account of what you want there to be. This all takes place within a context in which agents are also patients, constantly acted upon. A man walking in the sun on a hot day can be caused to dehydrate through the sun's action. This man's thought that he is dehydrated is caused by the sun acting upon him. And while there is no necessity in this, or any other effect, the sun could also be the cause of his desire for drink. But higher-order self-reflection means that we are more than simple stimulus-response mechanisms. This man can still think whether he ought to drink. In almost all scenarios, he can and should; and his freedom is not compromised by the fact that the desire had causal antecedents outside of himself. He was still exercising his agency in choosing to satisfy the desire that the hot sun had given him. But there are other scenarios in which he chooses otherwise: that he ought not to drink (tragically, he is lost in the desert with a child and little water and chooses that he shouldn't drink, despite his thirst, but save the water for the child).

From where does this crucial normative power of agents come? The power is not magical. Our normative powers are certainly special but they are not *that* special. While the details are still a riddle, normativity ought to have an ultimately naturalistic explanation. A lot of that will again reside in understanding the role of the dispositional modality, as argued by Anjum, Lie and Mumford (2012). That normative notions are dispositional in character, exhibiting again a modality that is between necessity and pure contingency, suggests that they are grounded in the causal powers of the agents who create such notions. What should be added to that, however, is also the causal powers found in higher-level social entities. This is because normativity should be accepted as a necessarily social phenomenon, generalising Wittgenstein's (1953: secs 269-75) private language argument. Norms can be correctly understood and applied only relative to the judgements of a group. Arguably, a solitary individual could not think normatively about what ought or ought not to be, and what he or she ought or ought not to do.

If this is so – and a serious argument would have to be advanced in another place – it tells us that our free will is dependent upon us being situated within a norm-using society in which we can develop a self-reflective conscience. Indeed, a sharing and mutual contesting of those norms –

rational and moral – will be one of the things that turns a mere plurality of individuals into a society, especially one that assumes its constituent members to be free agents and thus ends in themselves. The idea that free will evolves, then, is not merely a biological claim (as in Dennett 2003). Our freedom will have evolved as we became more and more of a society, with free agency as an emergent phenomenon of that society.

8. Compatible with what?

In the traditional division between compatibilism and incompatibilism, we see that many philosophers have thought there to be a tension between free will and prior causes. They effectively thought of free will and causation as incompatible. We saw the reason why: they thought causation entailed necessity, which then entailed determinism. For instance, Libet's (1985) neuroscientific experiments show at the most, if they show anything at all, that conscious decisions have prior causes. This impinges on the debate only if you think that free will is incompatible with prior causation.

The real threat, we argued, was necessity because free will seems to be incompatible with determinism *qua* necessity (Mumford and Anjum 2014 also offer a defence of this kind of incompatibilism). This result is not alarming to any adherent of the dispositional modality for it is just an instance of the more general thesis that causation is incompatible with necessity, and thus with determinism *qua* causal necessity. Once that move has been made, the possibility is open for a re-appropriation of the term compatibilism. Our view is that free will is certainly compatible with causation. It is not something an agent needs to escape in order to be free. Indeed, how would free will be possible other than through causation: allowing agents who are active, exercising causal powers in response to the worldly causes that affect them? The problem has been that many have thought the only way causation can work is through necessity and this has led them to assume that free will is threatened by causation *per se*. We have shown that it is not. Once causation and necessity are separated, you can see that causation is not your enemy.

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