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Laws Loosened

It is sometimes suggested that a libertarian view of free will – that is to say, a view of free will according to which free will exists in such a way as to be inconsistent with universal determinism – is thereby committed to the idea that free will requires the beings that possess it to be beyond the reach of natural law. Here, for example, is Jerry Coyne, an evolutionary biologist[1]:

> Our thoughts and actions are the outputs of a computer made of meat – our brain – a computer that must obey the laws of physics. Our choices, therefore, must also obey those laws. This puts paid to the traditional idea of … free will: that our lives comprise a series of decisions in which *we could have chosen otherwise* (Coyne, 2014).

Coyne does not explain in any detail why he thinks the fact that our brains must obey the laws of physics puts paid to free will. But few philosophers would agree these days that there is any *straightforward* route available to Coyne's conclusion. Even if we interpret 'traditional' free will as something like 'free will as typically understood by the libertarian', the recognition that the fundamental realm to which the laws of physics pertain cannot be assumed to be identical with the deterministic world-system of Newtonian science[2] – or any similarly deterministic system of all-encompassing physical laws - leaves Coyne's claim in want of justification. If we are to be persuaded to believe him, we need to know what assumptions he is making about the scope and nature of the laws of physics, and whether there is any justification either for those assumptions, or for the conclusion that they warrant the denial of free will.

Along with many libertarians, I believe that Coyne is wrong about the inconsistency of what I shall continue to call 'traditional' free will with physical law. And, like most of those libertarians, I also believe that the key to understanding how this is possible lies in a correct conception of the world as a globally indeterministic place, a place therefore in which laws have to be thought about as principles far more permissive of alternative futures than laws as they have often been conceived. But I part company with many libertarians on the question of what *kind* of adjusted understanding of the nature of the world's subjection to law is needed for the job. We libertarians all agree, of course, that indeterminism is necessary for free will, because we all agree that determinism and free will are inconsistent. However, that doesn't mean we all agree about how to conceive *positively* of the indeterminism that we all insist upon. If indeterminism is simply the negation of determinism, that still leaves plenty of room for debate about what *kind* of denial of determinism is needed for free will. And this is important, because some positive conceptions of the indeterministic universe might be a good deal more hospitable to the accommodation of free will than others.

In this paper, I shall examine a range of possible ways of departing from a strictly deterministic vision of the Universe which have been claimed to provide a basis for free will.[3] Each of the departures I shall consider makes a different suggestion about how our conception of the physical laws (or indeed more broadly, of the *natural* laws) might be 'loosened' so as to make space for libertarian freedom. One of my aims is simply to forefront the fact that there *is* such a range of non-equivalent

[1] For another prominent example of the same sort of claim, this time from a quantum physicist, see Hossenfelder (2019).

[2] If indeed Newtonian science *is* deterministic. For a contrary view, see Earman (1986).

[3] It may be important to say here, though, that I shall not here defend the libertarian line of thought in general – rather, for the purposes of the paper, I shall take it for granted. My aim here is to differentiate between some alternative ways of understanding what the falsity of universal determinism might consist in and adjudicate between them.

suggestions available to be considered – since far too often, discussion of libertarianism in the free will literature simply assumes without argument the version of indeterminism that I shall consider first, below. But a second aim is to suggest that the dominance in the literature of this first conception is a problem. The reason it is a problem is that the incursions into determinism which this first loosening strategy envisages are in fact the least useful to the libertarian of those that seem potentially to be available. As is frequently observed, the kind of loosening the first strategy envisages seems insufficient, without serious metaphysical supplementation, to support the existence of free will. Moreover, and though this is sometimes claimed on its behalf, it is not even *necessary* for the laws to be loosened in this first way in order to allow for the possibility of libertarian free will. This need not mean that the variety of indeterminism which this first conception of 'loosening' countenances could not, in principle, be *part* of a convincing account of how libertarians might secure what I shall, for the purposes of this paper, call *Law-Compatibility* (by which I mean the thesis that traditional free will is not inconsistent with the laws of nature). But it does mean that libertarians who take this route are left with a great deal of additional work to do. The best the first strategy *unsupplemented* can do, in my estimation, is afford a means of showing that it may not be *absolutely clear* that the laws, such as they are, rule out free will. It cannot show what the libertarian might really wish to show, namely, that it is absolutely clear (on that conception of law) that they do not do so.

I have been (in one sense) baffled for years about why so few people seem to make what seems to me to be the *obvious* rejoinder to the charge that libertarian free will is inconsistent with the government of reality by law. But at the same time, I am also (in another way) not in the least surprised that the obvious rejoinder is not thought to be any kind of route to the establishment of Law Compatibility. The strategy I prefer may ultimately depend for its success on the rejection of a very widely-held view of reality - and persuading people to change their minds about such things is a difficult business. I shall not attempt in this paper, therefore, to complete the persuasive task – that is a job for a book, not a paper. I aim rather to show at least that the option is *there* for those who are prepared to ditch that widely-held view – and to indicate some of the advantages that it has over its rivals.

I shall explain (briefly) what I take to be the obvious but neglected rejoinder in section (iv). Before that, though, I shall explicate some of the strategies that others have adopted which I take to be wanting – and will try to show how and why they are wanting. I will also suggest that they share a feature which my own preferred solution is lacking – a feature which I believe is not unconnected with what I (and many others – mainly compatibilists) regard as their dim prospects of success. My hope is that because it employs a strategy of a notably different variety, my account of how Law Compatibility is to be secured is a good deal more promising than the other accounts I shall consider.

(i) *Probabilistic Laws*

Supposing that universal determinism is best formulated as a thesis about the entailment of facts about the future by facts about the past and present, together with the laws of nature[4], most

[4] This is by far the most popular way of formulating universal determinism, and so I adopt it here, in deference to the literature, although I have argued elsewhere that this is *not* in fact the best way to formulate the thesis of determinism since it is damagingly neutral about the question whether there is any such thing as natural necessity (reference removed for blind review). This may be the place also to note that for the purposes of this paper, I shall be assuming what some have called a 'governing' conception of laws of nature (see Beebee, 2000), since I am in agreement with many compatibilists that on a non-governing conception, there is no

strategies for understanding what the falsity of that thesis might consist in have focused on describing some possible alternatives to the universal reign of deterministic laws. And by far the most commonly touted alternative canvassed in the free will literature is the suggestion that some of the laws in question might be probabilistic, rather than deterministic. Probabilistic laws, in conjunction with facts about the past or the present, would *not* entail facts about the future, precisely because they *are* merely probabilistic, not deterministic. But this suggestion is a good deal less straightforward than it seems – and I will now argue that even if it is true (as I have no problem at all conceding) that many natural laws are probabilistic, it is very difficult (as is frequently pointed out by compatibilists) to show how this would make space for the exercise of free will.

We must start by asking the question what a probabilistic law *is.* It is usually said that probabilistic laws are laws which *fix the chances* of a given kind of outcome, without actually settling which outcome will occur in any given case. But the mere fact that some laws are probabilistic in this sense is not in fact sufficient to rule out the reign of something that might perfectly well be called universal determinism. To see this, consider a law from a science in which there do indeed seem to be laws that are probabilistic in the sense suggested. The Mendelian genetic laws of Segregation and Independent Assortment result in there being a one in four chance that a dihybrid cross between two parents heterozygous for each binary trait yielding a child that is homozygous for each such trait (Glynn, 2010). There seems little reason to deny that this Mendelian principle is a law. Glynn argues convincingly that it supports counterfactuals and is confirmed by its instances and therefore meets the main criteria which it is usually said to be necessary for laws to meet. Nor is there any reason to deny that it is a *probabilistic* law in the sense specified above, since it is a law which does not say what will happen in any given case, but only fixes the chances of different kinds of outcome in any given case of the relevant kind. However, it is a law which would seem to be perfectly consistent with universal determinism at the physical level. The precise underlying mechanisms which determine which phenotypic trait each individual offspring will have might perfectly well take place in accordance with fully deterministic laws, for all that is claimed by the probabilistic Mendelian law. If it were not so, indeed, we would have a much quicker route to the conclusion that indeterminism is generally true of our universe than is normally supposed to be available. We need, therefore, to be careful to specify more carefully *which* laws have to be probabilistic if we are even going to be certain that we have managed to characterise an indeterministic universe by invoking them.

It might seem as though the obvious way to fix this problem is just to restrict our attention from the outset only to laws which are couched in terms of the *fundamental* level.[5] If, even at the fundamental physical level, the laws only *fix the chances* that an event of a certain kind will happen and we cannot find any hidden variable that might explain differences between apparently identical scenarios in which different outcomes occur at different times, then it looks as though the Universe is such as to be irreducibly chancy in a way that means, surely, that universal determinism must be false. If we are already at the fundamental level, there is nowhere else to go for the detection of further *underlying* mechanisms which are nevertheless deterministic. But now we have a different problem – one that is often one of the main reasons why libertarianism is taken to be hopeless. The question now is how the existence of probabilistic laws at the fundamental level might make space, exactly, for free will.

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evident problem about free will at all. It is only if one assumes that the laws are such as to govern that there is any problem about the compatibility of free will with determinism (though see Hüttemann, this volume, for an argument that the Humean faces different problems – an assessment with which I concur).

[5] I do not intend to question, for the purposes of this paper, the widespread assumption that there *is* such a fundamental level, nor that the task of formulating its laws falls to physics.

One view which has been often expressed, for example, is that the fundamental level is far *too* fundamental for probabilistic laws holding at that level to be relevant to a phenomenon like human freedom. One argument that has been frequently made is that such indeterminacy as seems to exist at the fundamental level might very well 'cancel out' at higher levels, leaving the motions of macroscopic objects such as human animals to all intents and purposes determined. Honderich (1988), for example, suggests the possibility that "an undetermined micro-event may be one of a specific and finite set of possible micro-events and further, that each member of the set would have had the same effect in the macro-world. In which case, the macro-event was fixed in so far as the micro-world is concerned, despite its being the effect of a chance event" (p.328). Honderich himself does not fully endorse this argument, noting (with impeccable fair-mindedness) that we would need to be sure that *all* micro-indeterminisms cancelled out in this manner before we could be confident of macro-determinism – but he then moves on swiftly to offer, in addition, a second argument of the general kind which many philosophers still take to be the clincher. The question is how exactly indeterminism, whether or not it somehow ramified into an indeterminism that is still significant at the macro level, could possibly convert into agential *control*. Even if a given nexus is indeterministic at the fundamental level, this does not help us secure free will unless we can understand how such micro-level indeterminism delivers such control. We seem to face a dilemma: either the agent has some control over what happens at the micro-level, or she does not. If she does, we have the problem of understanding how this control is exercised. Certainly, any such control cannot be understood as an ordinary example of direct intentional control, since we definitely do not *knowingly* control microphysical events, under normal circumstances. But on the other hand, if the agent does *not* have control over the fundamental level, she seems to be subject to the problem of luck.[6] Even if the relevant micro-level indeterminacies could somehow get amplified in such a way as to make indeterministic mental events possible, an agent whose options are controlled by which of a range of entirely random micro-level events occurs appears to be hopelessly at the mercy of chance events – and hence arguably is no better a candidate to be a possessor of free will than a fully determined agent.

Some libertarians who have invoked this kind of 'loosening' have, of course, attempted to argue that there is a way out of the dilemma. Robert Kane, in particular, has offered a detailed and complex libertarian view based on the notion of a 'self-forming willing' (SFW), a kind of struggle-resolving event which arises in circumstances in which one is attempting to resolve moral or prudential conflict by battling against temptation. SFWs are, in Kane's view, only indeterministically related to their prior mentalistic causes (which are things such as beliefs, principles, values, etc.), in the sense that those beliefs, principles, values, and so on do not guarantee that a given moral or prudential struggle will result in any particular outcome. This idea of undetermined choice is of course common to many libertarian accounts of the psychology of free willed decision; but Kane goes much further than most libertarian philosophers in the attempt to present a detailed vision of what might be going on, physically and neurologically speaking, in the brain of an agent, when such a self-forming willing event occurs. According to Kane, since alternatives to any given SFW are always metaphysically possible, micro-level indeterminism must be a necessary condition for their occurrence. But how does micro-level indeterminism make room for the possibility of the kind of macro-indeterminism which Kane supposes pertains to situations in which SFWs occur? One possibility, Kane explains, is that SFWs are the result of the amplification of quantum-level indeterminacies in neural networks. In chaotic systems, large and macroscopically detectable

[6] For various versions of this worry, see e.g. Strawson (1994); Haji (1999); Almeida and Bernstein (2003); Mele (1995): 195-204; Mele (2006).

differences may eventually result from tiny variations in starting conditions. Kane's idea is that systemic effects at the level of neural networks might amplify micro-level indeterminacies in such a way as to make it possible that more than one psychological-level outcome might result.

What still seems difficult to understand, though, on Kane's picture, is how the agent can possibly have any influence over which undetermined quantum-level event occurs and subsequently gets 'amplified'. Even if neural networks can amplify minute variations at the microphysical level into major differences at the macroscopic level, the agent still seems to be at the mercy of luck, since without more additions to the story, the agent still seems to be subject to the chance occurrence of indeterministic event A happening (and then being amplified) as opposed to chance event B occurring (and then being amplified). At one point, Kane does get close to providing the sort of explanation which I think actually could help us see how this problem could be avoided, by appearing to suggest that top-down effects might be possible within neural networks:

Of special interest are the potential effects … chaotic amplification might have on neural networks, which are systems of many functionally interconnected neurons. The operation of such networks is holistic in the sense that, as Gordon Globus (1995) puts it, "the influence of the whole net" of neurons affects each "individual node [i.e. each neuron] and the influence of the individual node [affects] the whole net". As a consequence, such networks can be sensitive to variations of firings of individual neurons …. Similarly, the self-organization of the network can effect (sic) the firing potentials of its individual nodes" (Kane 1996: 130).

If we imagine that in some sense the workings of our conscious decision-making processes are to be identified with processes going on within the neural net, then perhaps we can see an argument for the view that for the purposes of thinking about moral and prudential decision-making, an agent *is* such a net, or perhaps an agglomeration of them; and so if a net can affect what happens in its parts, and those parts in turn can affect what happens in *their* parts, and so on, we have a way of understanding how an agent could ultimately come to have some control, by way of deliberation and decision-making, over events at the fundamental level. This would afford us a way of embracing the first horn of the dilemma – we could accept that the agent *does* have control over events at the fundamental level, because there is such a thing as top-down causation from whole neural net to quantum level event, via a cascading chain of whole-to-part determination relations. However, after briefly mentioning the capacity of the whole net to affect its parts, Kane lays no further stress on the idea that the whole net might affect individual nodes – and in particular, he never extends the suggestion that top-down influences might be at work in such a way as to allow it to be the case that a whole physical system might be able to have top-down effects on quantum-mechanical events. But without such supplementation, we seem to be left impaled on the 'problem of luck' horn of our original dilemma.

Where, then, do we stand with respect to Kane's proposed solution? To be as charitable as possible, perhaps it is just about conceivable that some mechanism such as that which Kane envisages could somehow underlie free will. But in order to escape the dilemma posed above, it is insufficient merely to postulate probabilistic laws; further heavyweight metaphysical posits such as top-down causation from system to sub-systemic part appears to be essential if a version of the dilemma's first horn is to become available for occupation. Moreover, and perhaps more importantly for the purposes of this particular paper, I would like to point out that it does not seem at all *necessary* for anything that is important to Kane's story that there be probabilistic laws at the fundamental level – *what is essential is merely that some events and circumstances should be such as to escape the net of deterministic law*. And it is important to see that these two suggestions are not equivalent. Recall that probabilistic laws (as they are generally defined) *fix the chances* that a given outcome will result

from certain conditions (in that respect, they resemble deterministic laws, which are special only in that they fix those chances at 0 or 1). But why must everything that happens either (a) be determined or (b) have its chances precisely fixed by some law, or laws? Why might there not be events which are simply (in certain respects) *lawless*? – neither determined to happen, nor likely to happen with any particular fixed probability of the sort which a probabilistic law, or set of such laws, might together dictate?[7] The assumption that the *world* is indeterministic need not, surely, be the same thing as the assumption that at least some of its *laws* are *probabilistic*. One can, for instance, surely imagine indeterministic worlds *all* of whose laws are completely deterministic. For example, one can imagine a world in which there is just a single law to the effect that everything that is red at a given moment turns blue ten seconds later and then back again to red ten seconds after that – and that's it. Everything else in that world, let us suppose, is sheer chaos, with neither deterministic nor chance-fixing laws holding sway.[8] In trying to understand more fully how we might make the probabilistic law variety of loosening serve the purposes of the libertarian, then, we have effectively come to see that this idea is (a) useless without serious metaphysical supplementation; and (b) in any case represents by no means the only way we have of understanding how some events might fail to be determined by prior conditions together with the laws; and it is this negative condition, and not anything specific to chance-fixing laws, that is important to the workability of a Kane-style solution. I shall return to this theme in section (iv).

(ii) *Ceteris Paribus Laws*

The shift from deterministic to probabilistic conceptions of law is one kind of 'loosening' of the grip of law which has been thought potentially helpful to defenders of libertarian free will. It is not, however, the only kind of loosening which has been attempted in recent years which has been thought potentially relevant to the free will debate. Another strategy which has been thought promising by some has taken note of the fact that many laws are apparently not 'strict' but are rather so-called 'ceteris paribus' laws – that is to say, laws which are not completely exceptionless, but hold true only absent interference, or for the most part, or only under idealised circumstances that never actually obtain. The literature on how precisely to think, in general, about *ceteris paribus* laws is vast and I shall not be able to do it justice to its richness here; nor can I take on the task of justifying the assumption that such laws exist and deserve the appellation. What I shall do instead is to move directly to consider how ideas related to the observation that some laws have exceptions or are 'non-strict' has been thought potentially helpful to the defender of free will.

The strategy I have in mind begins from the idea that it may be helpful to free will to observe that the laws, such as they are, of *human behaviour*, that is to say, the laws, as best we can find them, that are proper to *psychology* and perhaps to certain other of the social sciences, such as economics or sociology are, at best, merely *ceteris paribus* (CP) laws. Psychological examples, indeed, were prominent in the early arguments for the recognition of CP laws in general – things such as "if person X wants A and believes B to be an optimal means of achieving A, then X will attempt to do B" (Fodor, 1987). Fodor, one of the most influential advocates of the importance of recognising CP laws in the special sciences, noted that although principles like this were enormously useful, explanatory,

[7] Cf Nancy Cartwright "For all we know, most of what occurs in nature occurs by hap, subject to no law at all" (1999: 1).

[8] Recall that we are assuming, for present purposes, a *governing* conception of laws of nature (see note 4 above). The issue might admittedly present somewhat differently given a Lewisian 'best system' account, but as mentioned above, I believe libertarians have in any case nothing to fear from 'best system' laws.

supportive of counterfactuals, and so on, and thus seemed to be deserving of recognition as laws of some kind, it certainly could not be maintained that they held without exception – to take the present example, there are, after all, such things as weak-willed agents, who precisely do *not* attempt to take what they believe to be the best means to satisfy what seem to be their strongest all-things-considered desires. There are of course very different accounts in the philosophical literature of *why* principles formulated in folk-psychological terminology seems to resist the reach of universal law – for some, it is a matter of a fundamental distinction between reasons and causes[9]; for others, although it is conceded that reasons *can* be causes, the psychological is nevertheless supposed to be fundamentally anomalous in and of itself, there being neither psychological nor psychophysical laws.[10] But we need not decide this issue for present purposes; what is important is merely that ceteris paribus laws do not hold without exception.

Are ceteris paribus laws also probabilistic laws? Not in the sense described above, since they are not laws that fix the chances of anything. Rather, they are general principles which hold for the most part – and though that implies that they are in a sense indeterministic, it does not follow that they are probabilistic according to the definition of probabilistic law mooted above. However, it is noteworthy for present purposes that they appear to share with higher-level probabilistic laws like the Mendelian law I considered earlier the property of being ostensibly quite compatible with universal determinism at the fundamental level. For example, even if we accept as a merely CP law the suggestion above that "if person X wants A and believes B to be an optimal means of achieving A, then X will attempt to do B", there seems no reason to suppose that the universe might not be deterministic at levels *below* the psychological, in such a way that any particular departure from the relevant psychological principle could perfectly well be given a deterministic explanation.

Having made this observation, it might now be wondered how *ceteris paribus* laws could possibly be of any use to the incompatibilist, given their apparent consistency with the rule of universally deterministic physical law, and so, one might have thought, with universal determinism itself. But those who have tried to exploit the *ceteris paribus* strategy would insist that we make a mistake in supposing that determinism and indeterminism can be sensibly characterised independently of any reference to *levels of description*. Kenny (1975), for example, argues that since it is only actions described in terms of human behaviour that libertarians claim to be free, and since there are no strict psychological laws which are couched in the terminology of human behaviour, we have a way to reconcile free will with determinism at other, lower levels.[11] Kenny accepts that sociological or economic or psychological determinisms would be incompatible with human freedom. Any of these sorts of determinism would, in Kenny's view, be incompatible with the idea of voluntary action – an agent cannot genuinely do something because she wants to, or because she sees a reason to do so, if her desire produced her action by way of a strict deterministic psychological law - and moreover if that desire was *itself* produced by such a law. In his view, though, so far as free will is concerned, we need not worry about the reign of deterministic laws only at lower levels – such as the physiological, for example - or (presumably) the level of fundamental physics – because this is not the level of description in terms of which human actions are singled out.

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[9] For a range of representative examples, see Ryle (1949); Anscombe (1958); Kenny (1963); Stoutland (1986); Tanney (1995).

[10] See in particular Davidson's (1970), (1973) and (1974) for an influential development of the thesis of the 'anomalism of the mental'.

[11] Kenny speaks mainly of determinism at the 'physiological' level as being the potential threat to free will – but presumably, he would think that the same was true of determinism at (for example) the chemical or physical levels.

The question is, though, whether this really helps much with the standard worries about determinism and freedom. Kenny himself raises the main issue that I imagine libertarians are likely to have in mind about his purported reconciliation of free will with physiological determinism:

> …surely, if every movement of a man's hands, every twitch of every muscle was predictable; then surely his whole observable life would be predictable, no matter in what terms it was described. The untidy nature of the translation from physiological into intentional terms does not really count against this. The situation might be compared to a jigsaw puzzle. A man's life, told in the terms which would appear in his biography, might be compared with the picture on the completed puzzle; the physiological events which make up his life might be compared to the pieces of the puzzle. There is no systematic correlation between pieces of the puzzles and details of the picture …. For all that, once the pictures are fitted together, there you have the picture; and anyone who knows how to put the pieces together can *eo ipso* lay down the picture. (Kenny 1975: 150).

Kenny himself claims that this picture, though powerful, is misleading. However, he does not really tell us what exactly is supposed to be misleading about it. Rather, he reverts to four necessary and sufficient conditions for possession of 'liberty of indifference' which he takes himself to have established earlier in the book, and proceeds to try to argue that none of these conditions is incompatible with physiological determinism.

The four conditions are these:

1. A has at *t* the ability to ø.
2. A had at *t* the ability not to ø.
3. A had at *t* the opportunity to ø at *t*.
4. A had at *t* the opportunity not to ø at *t*.

The trouble, though, is that the way in which Kenny interprets the two ability conditions is highly controversial. He adopts a traditional compatibilist strategy that goes back at least to G.E. Moore in claiming that:

"whether at t A has the ability to ø and the ability not to ø – the two-way power of ø-ing – can be settled independently of the circumstances obtaining at *t*. Provided that A has in the past, and continues in the future, to satisfy the criteria for possessing this ability, 'A can ø' will be true of him at this present moment *t*." (Kenny, 1975: 151).

But the distinction between what an agent can do in a large range of circumstances (what are sometimes called 'global abilities'), and what the agent is able to do now, in some very particular circumstances (what are often called 'local' abilities), is very often made in the free will literature, and it is hard to deny that it can be pertinent to the decision whether an agent was or was not free to act in some particular way. Features of specific circumstances can certainly be such as to intuitively prevent an agent from acting freely – and the incompatibilist will normally want to insist that it is the latter and not the former that are truly relevant to the question whether an agent could have done otherwise at some particular moment in time. Whittle (2010), for example, presses this point against the so-called 'new dispositionalists'.[12] She adopts what is a useful convention for distinguishing between the two kinds of ability – consider Sally, for example, who is generally an

[12] According to new dispositionalists, an agent has the ability to ϕ if and only if they have a disposition to ϕ when they are trying (or are otherwise properly motivated) to ϕ (I borrow this characterisation from Vetter and Jaster (2017)). New dispositionalist positions are presented by Smith (1997); Vihvelin (2004); and Fara (2005).

excellent singer and confident performer but for some reason finds herself floored in the presence of her forbidding aunt and cannot utter a note. We can then admit, with Kenny, that she still has the ability to sing (when her aunt is present) – her aunt's presence cannot rob her of that general ability. But this point alone cannot suffice to show that she has the-ability-to-sing-when-her-aunt-is-present. And given that this distinction seems coherent, we need an argument for insisting that it is only relatively *global* abilities which are required for free will. This is something the incompatibilist is very unlikely to concede to Kenny – certainly it is very unlikely to be strategically useful for the defence of an *incompatibilist* position. In short, in the end, what Kenny offers is a variation on an old-style compatibilist point about the conditions under which abilities can be attributed – and this is not likely to recommend itself to the *libertarian* as a way of showing that free will is possible. The libertarian will be too doubtful that under physiological determinism, the agent really *does* have the ability not to ø at *t* – and she will feel ultimately that the jigsaw puzzle worry above has not been dealt with.

In recent years, Christian List has offered a somewhat different version of the *ceteris paribus* strategy. Like Kenny, List insists that free will depends only upon what the laws are like at the psychological level. List claims that free will is genuinely inconsistent with a thesis he calls 'Agential Determinism', which states that "in any situation, only one course of action is possible for the agent" (List, 2019: 87). But List says that it would only follow that free will and *physical* determinism were incompatible if something he calls 'The Linking Thesis' is true:

The Linking Thesis

"If, given the complete physical state of the world at any point in time, only one future sequence of events is physically possible, then, in any situation, only one course of action is ever possible for an agent" (List, 2019: 88).

But List claims that the Linking Thesis is false, on the grounds that when we are asking what an agent can or cannot do, the relevant level of description is not the fundamental level but the psychological one.

List's strategy is in some ways evidently akin to Kenny's, in that he insists on assessing the question what courses of action are possible for agents with reference only to the psychological level of description. I have somewhat more sympathy with List's particular version of the *ceteris paribus* strategy than Kenny's, though, because of the emphasis he places on the phrase '*possible for an agent*'. It does indeed seem to me that the question what is possible *for* an agent in a given situation is a different question from the question what it is possible *that* such an agent will do, which may open up room for the observation that even if it is settled by physical laws and prior physical conditions that an agent will do such-and-such a thing, it need not follow that only one thing is possible *for* them. 'Possible for' suggests an intra-deliberative perspective. If more than one thing is possible for an agent, we are invited to think, there is more than one thing they can coherently consider doing. But even if List can show that there is room here to make a promising distinction, it would only serve to open up space for free will if one was confident that there were no necessary conditions for free will which would be ruled out by physical determinism, *other* than the existence of these intra-deliberative possibilities-for-acting. Worries about sourcehood would represent one kind of anxiety here.[13] Another kind, one which is of particular concern to me, would be that List's

[13] So-called 'source incompatibilists' stress that there is a necessary condition additional to the standard 'alternate possibilities' condition on acting freely – which specifies that we must be the *origin* or *source* of our

move to distinguish 'possibilities for' from 'possibilities that' has no appeal for those who embrace the view called *Agency Incompatibilism* – the view that agency *itself* is incompatible with universal determinism[14] – since List's distinction already takes for granted that agents may exist and be confronted with choices in worlds in which physical determinism reigns. Here is not the place to expound and defend these particular arguments for incompatibilist positions – but we can at least observe, I think, that List's view is at best a response to a certain particular *kind* of claim about what determinism would rule out – the existence of alternative possibilities for agents who can already be assumed unproblematically to exist. But if the existence of agents under determinism is *itself* in question, List's strategy will be irrelevant, because it cannot be used to offer a defence of the changed point of contention between compatibilist, on the one hand, and incompatibilist, on the other.

The Kenny-List, strategy, then, will not help to allay the concerns of those who believe that universal determinism at the fundamental level is inconsistent with such things as the sourcehood or agency requirements of free will. However, it might be suggested that the *ceteris paribus* strategy might meet with more success if we could show that *all* laws – including laws at the most fundamental level – might hold, at best, only *ceteris paribus*. Surely, one might think, if *all* laws allowed for exceptions, Law Compatibility might be safely accommodated? – even on the assumption that there are strong sourcehood requirements on agency. In the next section, therefore, I shall take a look at Nancy Cartwright's argument for the view that all laws, including the laws of physics, hold only *ceteris paribus* and will try to cast doubt on the idea that this move alone could be sufficient to establish Law Compatibility.

(iii) Laws as *ceteris paribus* all the way down?

In the introduction to *The Dappled World*, Cartwright announces the three central theses of her book. The second of the three is this:

"Laws, where they do apply, hold only *ceteris paribus*. By 'laws', I mean descriptions of what regularly happens, whether regular associations or singular causings that occur with regularity, where we may, if we wish, allow counterfactual as well as actual regularities or add the proviso that the regularities in question must occur 'by necessity'. Laws hold as a consequence of the repeated, successful operation of what, I shall argue, is reasonably thought of as a *nomological machine*".[15] (Cartwright 1999: 4).

What sorts of things fall under Cartwright's conception of laws as outlined here? This seems to me to be an important question so far as the assessment of her arguments for the claim are concerned, and the answer is not altogether clear, despite the apparently explicit specification offered in the quotation above. That specification is consistent with Cartwright's indication a little later on that the laws she believes must hold only *ceteris paribus* are the laws of "the liberalised Humean empiricism of most post-logical-positivist philosophy of science: a law of nature is a necessary regular

free actions and decisions. According to source incompatibilists, we cannot meet this necessary condition in the way required, if universal determinism is true, since according to determinism, every condition of the world (except, presumably, the first) can be traced to a prior one. See for example Kane 1996, 1999, 2008, 2011; and Pereboom 2001, 2005, 2014.

[14] See (author) 2012.

[15] A nomological machine is "a fixed (enough) arrangement of components, or factors, with stable (enough) capacities that in the right sort of stable (enough) environment will, with repeated operation, give rise to the kind of regular behaviour that we represent in our scientific laws" (Cartwright, 1999: 50).

association by properties antecedently regarded as OK" (p.49). Empiricists differ, she explains, about what properties they take to be OK – but "the usual favourites are sensible properties, measurable properties and occurrent properties" (p.49). In reading this description (though with a pause for thought about 'measurable'), I at first supposed that Cartwright must have in mind laws of the sort which can be thought of as universally quantified conditionals of roughly the 'whenever you have a *this* you get a *that*' variety. But these sorts of laws seem to me to deserve a somewhat different treatment from a *second* variety of law also much discussed by Cartwright. The second variety of law encompasses the sorts of things which are more likely actually to figure as laws in physics textbooks – laws such as Newton's laws of motion, Coulomb's law, and the like - which use precise, abstract concepts, such as 'force', 'mass' and 'charge', properties which are *not* straightforwardly observable by means of the unaided senses (though they may correlate in interesting ways with ones that are). However, with respect specifically to Newton's second law of motion, 'F = ma', Cartwright writes as follows:

> Most of us, brought up within the fundamentalist canon, read this with a universal quantifier in front: for any body in any situation, the acceleration it undergoes will be equal to the force exerted on it in that situation divided by its inertial mass. I want instead to read it, as indeed I believe we should read *all* nomologicals, as a *ceteris paribus* law. (p.25).

It seems on the face of it, then, as though Cartwright wants to insist that laws of *both* varieties – the 'empiricist' kind and the 'textbook' kind, as I shall henceforth refer to them for convenience's sake, are only ever true when modified by a *ceteris paribus* clause.

I believe, however, that despite initial appearances, this is *not* the best way to understand Cartwright's considered view of the 'textbook' laws. I shall therefore proceed by considering the two kinds of law separately in turn. My claim will be that it is much harder to show of the 'textbook' laws than the 'empiricist' ones that they can only be considered true when qualified by a CP clause (and despite appearances, as I shall explain shortly, it seems to me that Cartwright would actually agree). For this reason, I am doubtful whether the '*ceteris paribus* all the way down' solution to the problem of Law Compatibility can be confidently endorsed, since it does not seem to me plausibly endorsable for a range of 'textbook' laws. However, thinking about the way in which the world seems definitively bound by the 'textbook' laws helps us see what we need to say instead about laws, in order to deliver what the libertarian really needs.

Let us begin with empiricist laws which – let us suppose for argument's sake – encode regularities amongst sensible properties or collections of such. Cartwright's view is that even *physical* laws in this description-of-regularities sense hold only *ceteris paribus*. Take for instance the observable regularities that characterise the motions of balls across a billiard table. An experienced player might know from years of experience laws such as the following: 'If the cue ball is hit with just *this* force[16], in just *this* position, towards another ball at just *this* distance in *this* direction from the first, the second ball will move off in just *this* direction at this speed and come eventually to rest *here*'. But Cartwright's point is that this kind of law can only ever be true for the most part, and hence *ceteris paribus*, unless we explicitly specify the absence of interference and prevention by other systems.[17] A person might, for example, lean over the table and pick up the second ball. The light suspended

[16] If necessary for the purposes of according with the wanted 'empiricist' conception of properties that are 'OK' we can treat 'force' here as pertaining to a phenomenologically available property, such as e,g, felt pressure, impact, effort, motion, or whatever, rather than the abstract concept of Newtonian physics.

[17] Anscombe was also mindful of the importance of this point – see the final sentence of her (1958) "The most neglected of the key topics in this subject are: interference and prevention" (147).

overhead might break and crash down on the table, smashing the second ball. An earthquake might occur, cracking the table so that the balls fall on the floor and roll across it. And so on. And then the universally quantified conditionals which describe our empiricist regularities would fail to be borne out. No empiricist regularities of the sort that characterise well-behaved 'nomological machines' - like those composed of billiard tables, balls, cues and people equipped to use those cues, playing the game under the normal rules and conditions - are so secure that they cannot be rudely disrupted by external interference.

Cartwright seems to be right about the fact that the possibility of prevention of, and interference with effects in one system by the machinations of another is ubiquitous. But on the face of it, what Cartwright says here about the regularities which characterise nomological machines appears perfectly consistent with the reign of global universal determinism. Even if universal determinism were true, it might still be that the observable regularities we specify and rely upon in everyday life, or even in science, are only *ceteris paribus* because we do not generally need to specify the descriptions which figure in the antecedents of our universally quantified conditionals to the level of detail that would be required to rule out the operation of any interferers. Moreover it seems likely that we *could* not do so even if we tried, for reasons of informational complexity. But in principle, one might think, had we but world enough and time, it could be done. For example, I might be able, by describing the area surrounding the billiard table in meticulous detail, to rule out the presence of a person who might pick up a ball or the possible breaking of the frayed cables which fix the lights to the ceiling. I would need to go further to rule out the earthquake, no doubt – and indeed as possible interference and prevention scenarios suggest themselves to one's imagination, it becomes quickly apparent that the antecedent of any conditional with a chance of *not* being true merely *ceteris paribus* would need to pack in vast quantities of detail over huge regions of space. But in principle: why not? If we had the regularities properly stated, someone might think – while conceding that this will forever be quite impossible in practice – the regularities could in principle be *strict* laws, quite consistently with Cartwright's point about the need to rely on *ceteris paribus* laws even in physics for all practical purposes. It is true that what we would end up with via this route, were it possible to take it, would presumably be something that looked very little like a collection of laws – and much more like a collection of extremely specific conditionals of the 'if you have exactly this global situation at t1, then you would get exactly this global situation at t2' variety. These conditionals would lack the useful generality of laws, because although in principle they would be applicable to more than one situation sharing a certain general character, that general character would have become so specific that the chances of it arising more than once would be negligible.[18] But nevertheless, if such highly specific laws governed *every* situation, they would imply the rule of universal determinism. And hence, the claim that even the laws of *physics* are *ceteris paribus* – if we are conceiving of them broadly as empiricist laws of the kind specified by Cartwright - seems not to imply the falsity of universal determinism. One might wonder, therefore, whether this is a view of laws that can really help the libertarian.

I think, though, that this dismissal of the capacity of the 'ceteris paribus all the way down' strategy to make space for libertarian free will would be too quick. The charge that libertarian free will must flout Law Compatibility only has any power to undermine libertarianism *if the laws whose*

[18] Bertrand Russell makes something rather like this point:
"In order to be sure of the expected effect, we must know that there is nothing in the environment to interfere with it. But this means that the suppose cause is not, by itself, adequate to insure (sic) the effect. And as soon as we include the environment, the probability of repetition is diminished, until at last, when the whole environment is included, the probability of repetition becomes almost nil" (1912: 179-80).

compatibility with free will are in question are laws that we actually have reason to believe are scientifically established. We *do* have reason to believe in general regularity principles such as the ones for example, which I said above would be known by any experienced billiard player – and the thousands of other such principles on which we base our daily expectations; and so it is important that, as libertarians, we ensure that our doctrine can accommodate those regularities. But do we have reason to believe that we could in principle complete the empiricist-style laws so as to entirely exclude the need for any *ceteris paribus* clauses? Cartwright herself insists that we have no such reason. Her view is that it is merely an unjustified article of faith that they could be produced, even in principle. We actually possess no such *empiricist* laws of whose non-CP status we can be entirely certain at the present time. And it would be unreasonable to demand of the libertarian that she show that her view is consistent with a doctrine that is merely speculative – the doctrine that the CP regularities we all know and love can be successfully turned into the detailed specifications of deterministic relations between global world-states.

So far so good for Law Compatibility, then, if Cartwright is correct. But someone might allege that this result has only been obtainable because we have focused on the wrong sorts of laws of physics to begin with. As well as the empiricist laws which describe the regular workings of Cartwright's nomological machines, one might think, we must consider the *underlying* laws which one actually finds in physics textbooks – things like Newton's second law of motion, F = ma, say, or Coulomb's Law, which says that the force between two charges having magnitudes q1 and q2 and separated by a distance r is equal to kq_1q_2/r^2, where k is a constant. There are questions, of course, about what the correct 'underlying' laws actually *are* – for example, it might be said that we already know that Newton's second law is not universally applicable since it only holds within certain specifiable limits.[19] But provided we can specify those limits, it does not seem to be exactly a *ceteris paribus* law in virtue of those limitations. And in any case, we need not fixate on the laws as we have them. The idea would rather be that some future completed physics might in principle deliver the list of laws that together govern the universe – and that there is no reason to think that *these* would have to be *ceteris paribus*.

Does Cartwright think that these other sorts of laws – the physics textbook kind of laws - hold only *ceteris paribus*? In the quotation I gave above, she seemed to say so. But as her argument develops, it becomes clear, I think, that she is (or was then) prepared to countenance – and perhaps even prefers - a second possibility – one which indeed she appears to endorse eventually for the case of 'F = ma'. Here is what she eventually says about that case:

> If the laws of mechanics are not universal, but nevertheless true, there are at least two options for them. They could be pure *ceteris paribus* laws …And that's it. Nothing follows about what happens in different settings or in case where other causes occur that cannot be brought under the concepts of the theory in question. Presumably this option is too weak for our example of Newtonian mechanics. When a force is exerted on an object, the force will be relevant to the motion of the object even if other causes for its motion not renderable as forces are at work as well, and the exact relevance of the force will be given by the formula 'F = ma' ….
>
> For cases like this, the older language of *natures* is appropriate. It is in the nature of a force to produce an acceleration of the requisite size … even when other forces are at work, it will 'try' to do so. (p.28).

[19] One might also raise the question, of course, as does De Hahn (this volume), whether there are any such fundamental laws of physics *at all*. But if there are not, then the arguments of those who suppose that the reign of such laws is incompatible with free will will not even get off the ground.

A reasonable understanding of the view which apparently here constitutes Cartwright's second option would seem to be that at least some of these textbook laws are *not*, on due reflection, to be considered *ceteris paribus*. They hold absolutely – but in order to find them to be absolute, we must not interpret them as universally quantified conditionals about what always actually happens. Rather, we must instead interpret them as claims made true by the *tendencies* and *capacities* of things – as claims about what things will 'try' to do, even though their tryings may be overwhelmed by the 'tryings' of other things whose powers also impinge on the situation. And thus construed, there seems no obvious reason to insist that these textbook laws are true only *ceteris paribus*. Rather, they state with some precision a certain kind of truth about what will always and without exception be found to be the case concerning the tendencies and capacities of things to contribute to an overall result.

There has been a lively debate in the literature on powers and dispositions about the extent to which we might be justified in endorsing the reality of such component 'contributions' to effects as Cartwright appears to be envisaging in the passage just discussed (Molnar 2003; Mumford 1998, 2009; Wilson 2009; McKitrick 2010). Some contributors to that debate (and especially McKitrick 2010) have questioned whether we should accept the literal existence of such 'contributions' and Cartwright herself has indeed seemingly become uneasy about them, conceived of as a way of understanding how capacities might act together *in general* (Cartwright and Merlussi, 2018). As the authors of that paper put it:

"Nature may assign each capacity its own role, a role that it has qua the capacity it is; and nature may fix what happens when capacities act in consort in given circumstances. But nature need not do this via a simple model where each capacity separately produces its own canonical effect, and what results overall just is all these separate effects piled up together" (Cartwright and Merlussi: 240).

It appears, then, that Cartwright now thinks that it is a mistake to try to understand the way in which different laws and principles interact to produce effects in terms of realistically-construed 'contributions' which certain capacities always make to the scenarios in which they are exercised. But note that she still seems inclined to countenance the idea that it might, at any rate, be a serious possibility that "nature may fix what happens when capacities act in consort in given circumstances". And such a view would still be perfectly compatible, one might think, with the existence of many textbook laws which were 'absolute' in my sense of that word – and depending on the nature of the 'fixing' that Cartwright here has in mind, may indeed entail the existence of many such laws. I cannot here enter the complex debate about the metaphysics of contributions – but for present purposes, we should not need to do so. The dialectic here is this: we are currently searching for an account of the fundamental 'textbook' laws of physics which might, if it were true, give us a *prima facie* reason for suspecting that their joint reign is incompatible with the existence of libertarian free will – a view according to which we are to think of them as 'absolute', rather than as *ceteris paribus* laws. And so far as this search is concerned, we can afford, I think, to be indifferent about how exactly the underlying metaphysics might provide for the absoluteness – whether by realistically-construed 'contributions' which are always identical, given that the identical capacity is at work, or in some other manner. The crucial point so far as our current interests are concerned is that that the view we consider should imply that a certain kind of absolute truth about the relationships between such things as the values of variables is given by the 'textbook' laws – whatever the underlying metaphysical explanation of *why* that representation is absolutely correct may be. If such a view can be maintained – and I do not think we have yet seen any reason for thinking it might *not* be the correct view of the laws of a 'completed' physics – it will not be appropriate to say that any such

laws of physics would be true only *ceteris paribus*. The laws would simply hold without any qualification (at any rate once we have specified them correctly and with sufficient precision). It is *this* view whose compatibility with the existence of libertarian free will I now wish, for the purposes of the final section of the paper, to defend – because I think it is the view which best captures the vision of the rule of law which tempts those such as Coyne to believe, as he puts it, that the view 'puts paid' to the traditional idea of free will.

Suppose then – as I think many would likely find compelling – that the universe is indeed governed by a number of laws of this textbook variety which hold absolutely and universally across the domains of things which possess the tendencies and capacities to which those laws have relevance (however that absolute character is to be explained by the underlying metaphysics). What must the libertarian say to accommodate these absolute and universal fundamental physical laws? In the final section of this paper, I turn to outline what seems to me to be the right kind of answer to this question.

(iv) *Laws as World-Constrainers vs Laws as World-Dictators*

All of the strategies I have looked at so far have attempted to accommodate free will by offering an adjusted conception of what the laws *say*. The laws say something not about what *will* happen but about the *chances* of things happening; or they say that something is true only for the most part; or in idealised circumstances. My own suggestion – which in some ways, as I said at the outset of the paper, strikes me as the most obvious possibility for the defence of Law Compatibility - is different from any of these, in that it is focused not on what the laws *say* – but rather on the nature of their relation to reality. What I suggest is that the libertarian needs to make use of the idea that natural laws *constrain* without *dictating* the course of the world to which they apply. There is no reason to think that constraining laws of what I have been calling the 'textbook' variety might not be absolute – where they hold, they may hold without exception, thought of as abstractly rendered characterisations of the tendencies and capacities of things; or indeed as abstract facts expressing relations between universals; or in some other way. The crucial point is that they need not be probabilistic and they need not be *ceteris paribus* – one can imagine them to be as strict and exceptionless as one likes. But this *still* by no means implies that those laws in their totality dictate a single course for reality (as shown by my earlier example of the world in which there is just a single and absolutely strict law concerning colour changes). Of course, our own world contains many more laws than this imaginary one. But why need the totality of all the laws there are, even in our strongly law-governed world, be world-dictating, rather than world-constraining? It is this point which I think represents the obvious and neglected means of securing Law Compatibility for the libertarian.

This suggestion takes seriously the metaphor on which talk of laws is based. The laws of a nation-state *constrain* its inhabitants; there are many things they may not do without contravening the law. But there is no jurisdiction so severe that it *dictates* to its subjects or citizens a single and precise course of action, prescribed in every detail of timing and execution. Many laws say merely what may *not* be done – but even where laws insist that citizens engage in particular positive actions – that they must vote, say, or register the births of their children, they leave a certain leeway to the citizens about when precisely they must cast that vote (perhaps within a certain 16 hour period, say) or register that birth (within the first 42 days). Laws of the societal kind are *constrainers,* not *dictators*. They hem us in in different ways, but much freedom remains for us to operate differently while remaining within the bounds they set.

My suggestion is that the affordances of this metaphor present the most obvious way forward as regards the defence of Law Compatibility. We should regard the laws of nature as being like the laws of a nation in that they restrict the possibilities. Because of the collective heft of those laws, I cannot fly unaided, burst into flame spontaneously at will or send telepathic messages to Donald Trump. But what laws are, mainly, according to the libertarian, is *constrainers*. Moreover, there is no reason not to suppose that a good number of them are perfectly *uniform* constrainers and in that sense are more like deterministic than probabilistic laws – they determine what will happen, not as regards observable outcomes, to be sure – but as regards the tendencies and capacities at work in the world, or as regards other underlying regular quantitative relationships between variable factors which must be observed. When they hold in a domain, nothing can happen that contravenes them. In that sense, they are universal and absolute – neither probabilistic nor *ceteris paribus*. But the libertarian should say that even the totality of all the laws of this kind that there are leaves much unsettled, just as the totality of societal laws leaves many legal ways available in which to live one's life. If this is how laws relate to the world, one must work very hard to develop even a *prima facie* case against Law Compatibility. One would need not merely to wave one's hand vaguely in the direction of the rule of the laws of physics, but rather to show in great detail how the particular constraints imposed by the particular laws leave us no leeway of the appropriate kind.

In a sense, as I said at the outset of this paper, I think it is baffling that this extremely straightforward move is almost never made. But in another sense, I am not baffled. I know why it is not made and I know only too well the thought process that leads there. The thought process is this: – suppose some situation in the world and suppose it is governed by merely constraining laws which do not limit to one outcome the possibilities which might occur at a given time, *t*. A variety of possibilities then remains as to what will occur at that time. What, then, determines the resolution of those multiple possibilities into one actuality? What *makes it the case* that the world goes the way it does? If the totality of laws does not settle things, it seems the settling must be at least to some extent a chancy matter – and we are back to the problem that we discussed earlier of how chanciness could be of any possible help to the libertarian. The problem is to understand the explanation of *the actual* – as we might say, the explanation of how actuality is *determined* – so as to make space for an answer outside the unappealing disjunctive possibility of 'laws or chance'.

The problem here, in my view, is that we have left ourselves without the resources for offering this explanation because for philosophical (though not for everyday) purposes, we have largely abandoned the Aristotelian metaphysics of things with powers which might give us the means of explaining how the resolution of possibility into actuality is effected. On the Aristotelian view, we are able simply to say that it is the doings of substances, the actions and interactions of the many different things which our lumpy and deeply non-homogeneous world contains, that explains what actually happens. But if, with the post-Humean metaphysical consensus, we eschew things and their powers, we are left only with an ontology containing such powerless things as events or tropes or particular facts – things which can only produce other such events or tropes or particular facts if we suppose them corralled into doing so by the operative laws. The key to arguing for Law Compatibility via this route, in my view, therefore involves ditching the Humean metaphysics which entails that there is nothing but laws to serve as the engines of reality. If laws are all you have available to explain how the world evolves through time then natural necessitation and explanation become the same thing – and the failure of the first becomes the failure also of the second.

I am not able to argue here for the reinstatement of a neo-Aristotelian ontology of things with powers. But I hope that there is at least an indirect argument for it lurking in the fact that it seems to be the only metaphysics which can properly accommodate *both* strict deterministic law of the

'textbook' variety *and* libertarian free will. What I hope to have argued for more directly is the claim that neither the resort to probabilistic laws, nor the Kenny-List invocation of the non-strict character of psychological laws is at all promising for the libertarian hoping to defend Law Compatibility. In Cartwright's views, I believe, we have a range of more promising proposals – but what appears to be the best version of the Cartwrightian 'loosening' proposals needs supplementation with the explicit recognition of the idea that we need to move from the conception of laws as world-dictators to laws as world-constrainers.

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