Supervenient Fixity and Agential Possibilities[1]

Maria Sekatskaya * Alexander Gebharter

Abstract: One of the central problems within the free will debate lies in the apparent incompatibility of an agent's ability to do otherwise and determinism. Recently, compatibilist libertarianism was proposed as an actualist position intended to finally reconcile both. In this paper, we argue that in order to maintain consistency, this position must be understood as a variant of classical compatibilism rather than a version of libertarianism. Though this seems to be an undesired consequence for proponents of compatibilist libertarianism, we think that it is not that bad. We show that recent objections to this position can be avoided by embracing its compatibilist nature and argue that a modified version of compatibilist libertarianism might very well be as close to an actualist account of free will in a deterministic world as one can hope for.

Keywords: free will, determinism, alternative possibilities, compatibilism, luck problem

1 Introduction

Compatibilists argue that free will is compatible with physical determinism, while incompatibilists argue for the opposite view. The incompatibilists' main reason for their position is the conviction that free will presupposes alternative possibilities which are excluded by determinism.[2] The connection

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[2] At least, this is the main reason for leeway incompatibilists. Source incompatibilists, on the other hand, claim that to possess free will, an agent must be the originating or ultimate source of her actions, and that this requirement is incompatible with physical determinism (Timpe, 2016). Some philosophers are both leeway and source incompatibilists, arguing that while alternative possibilities are necessary for free will, they are not sufficient without sourcehood (cf. Kane, 1996; Timpe, 2016). The relationship between these two strands of

between free will and alternative possibilities can be specified as follows: In order to exercise free will, an agent must have alternative possibilities open to her either at the moment of action or at some moment shortly before. In terms of possible worlds:

(AP) For an agent to have alternative possibilities with respect to doing A at t_j, at t_i (where $i \leq j$) she must have accessible to her a possible world w where she does A at t_j and a possible world w' where she does non-A at t_j.

The most influential argument in support of the incompatibility of physical determinism and alternative possibilities is the consequence argument (van Inwagen, 1983; Gustafsson, 2017; Hausmann 2020). In a nutshell, it goes as follows:

Determinism: Given any past state of the world and the laws of nature, there is at any instant exactly one physically possible future.

Fixity: The past states of the world and the laws of nature are fixed, meaning that for any agent, there is nothing she can do such that if she did it, then the laws or the past would have been different.

Conclusion: There are no alternative possibilities for any agent.

Fixity restricts the set of possible worlds accessible to an agent to the worlds sharing the same past and the same laws with the actual world. Let us call an account endorsing this interpretation of accessibility an *actualist* account. The consequence argument and the actualist understanding of accessibility go hand in hand: The consequence argument aims to show that *Determinism* together with *Fixity* implies the lack of alternative possibilities, and the actualist understanding of accessibility defines as accessible only those worlds which satisfy *Fixity*. It follows that there is only one world accessible to the agent at any time: the actual world itself. And since incompatibilists claim that free

incompatibilism is complex. In this paper, we will only consider the requirement of alternative possibilities, and by "incompatibilists" we will refer to those incompatibilists who assert that alternative possibilities are necessary for free will.

will requires alternative possibilities, which are typically understood as possible worlds accessible to the agent, it follows that if *Determinism* is true, then free will does not exist.

As a reaction to the consequence argument, compatibilists can either accept the conclusion and argue that free will does not presuppose alternative possibilities, or try to refute the argument, for example, by rejecting *Fixity*.[3] The former strategy is characteristic of non-traditional compatibilism[4], which we will not address in this article. Applying the latter strategy means subscribing to traditional or classical compatibilism. We will use the term *classical compatibilism* to refer to all versions of compatibilism which subscribe to **(AP)** and reject *Fixity*. Thus, classical compatibilists agree with incompatibilists that alternative possibilities are necessary for free will. However, classical compatibilists and incompatibilists disagree about what alternative possibilities are or, in other words, how to define the class of possible worlds accessible to the agent. According to incompatibilists, only worlds with the same past and the same laws are accessible. According to classical compatibilists, possible worlds which are minimally different from the actual world in the right way are accessible too. That is, they are different with respect to the agent's psychological states plus some other restrictions, depending on the particular classical compatibilist account.[5]

[3] Rejecting *Fixity* is a compatibilist strategy applicable to any version of the argument (cf. Fischer, 1988; Lewis, 1981). Alternatively, compatibilists can object to different particular versions of the consequence argument (Baker, 2008; Hausmann, 2018; McKay & Johnson, 1996), which invites incompatibilist rejoinders with improved formulations (Finch, 2013; Gustafsson, 2017; van Inwagen, 2000). List (2019c) offers his own objections to the standard formulations of the consequence argument, but his objections are based on the assumption that agential possibilities, as defined in compatibilist libertarianism, provide the agent with actualist alternatives. However, as will become clear later, also compatibilist libertarianism must ultimately reject *Fixity* in order to maintain its consistency.

[4] The term is explained in (Campbell, 2005). The position itself was advocated, for example, by Frankfurt (1969, 1971) and Strawson (1962).

[5] On Lehrer's (1976, 1990) account, for example, an agent should not have an unfair advantage in an accessible possible world in comparison to her situation in the actual world. Other versions of classical compatibilism can be found in (Campbell, 1997, 2005; Sekatskaya & Schurz, 2021; Vihvelin, 2013).

What allows classical compatibilists to end up with more accessible worlds than incompatibilists is precisely the rejection of the actualist understanding of accessibility. They argue that when we claim that an agent could have done non-A, although in the actual world she did A, we mean that if certain counterfactual conditions held, then she would have done non-A. The fact that in the actual world the future is determined by the conjunction of the past and the laws of nature does not imply that this counterfactual claim is false. In terms of possible worlds: Classical compatibilists are not only interested in worlds where everything in the past is the same as in the actual world, but also in worlds in which some things are different. Determinism is perfectly consistent with the possibility of a different future, given a different past.

But does this solve the free will problem? According to the incompatibilists, *Fixity* and the actualist understanding of accessibility are so intuitively plausible that any position denying them flies in the face of our deepest intuitions about modality and agency. Is it not obvious that when we ask about an agent's possibilities, only the possible worlds with the same past and the same laws are relevant? When we wonder if we could have chosen a different path in life, and become biologists or physicists rather than philosophers, is it not obvious that we are interested in the facts about ourselves as particular individuals in the actual world? Every agent's past is fixed, and so is the past of the world this agent inhabits. Some philosophers claim that the debate has reached an impasse at this point (Elzein & Pernu, 2017; Kane, 1996). The deepest intuitions about modality and moral responsibility are at stake, and the parties seem to be stuck with their own intuitions which cannot be supported or refuted by anything more fundamental.

Compatibilist libertarianism (CL) promises a breakthrough. It promises alternative possibilities even under the assumption of *Determinism* and *Fixity*. In this article, we explore how far CL can hold what it promises and how far it can be pushed. In section 2, we introduce List's (2014, 2019a) version of CL. In section 3, we review recent objections: We discuss the collapse argument formulated by Gebharter (2020) and the luck objection put forward by Mele (2020). Then, in section 4, we argue that a closer look reveals that CL – contrary to how it was originally intended – must not be understood as an actualist

position, but rather as a version of classical compatibilism in order to maintain consistency. We argue that this is not as bad as it seems at first glance. Embracing this consequence, firstly, allows CL to avoid the collapse argument and the luck problem and, secondly, might bring us as close to an actualist account of free will in a deterministic world as we can hope for.

2 Compatibilist libertarianism

CL was mainly developed by List (2014, 2019a) who proposed it as a position in the tradition of authors such as Dennett (2003), Kenny (1978), and Taylor and Dennett (2002). It is intended as a natural advancement of these positions that should provide a safe haven for their supporters that is finally able to give them what they desire: a metaphysical foundation for reconciling an actualist understanding of free will with physical determinism. First, List (2014) commits himself to the actualist interpretation of the ability to do otherwise. He claims that this ability should be interpreted "modally, as the possibility of doing otherwise, rather than in some weaker conditional or dispositional sense" (p. 157). Second, List argues that while it is true that (given determinism) there is only one future possible for each world, different alternative actions can still be *possible for the agents* inhabiting these worlds. At first glance, this seems almost contradictory. In order to see how CL works, let us follow List and introduce a state space *S* describing all the possible states a world can be in. Deterministic change can then be characterized as follows (ibid., p. 163):

Determinism$_L$: For any two histories h, h' in Ω and any point in time t in T, if $h_t = h_t^{'}$, then $h = h'$, where T is the set of all points in time, h, h' are temporal paths of the system through its state space S, $h_t, h_t^{'}$ are histories of a world up to a given point in time t, and Ω is the set of all physically possible world histories.

This definition of determinism is intended to capture the premise labeled *Determinism* in the generic form of the consequence argument from section 1. Next, accessibility at a time t (R_t) is defined. This definition is intended to capture the actualist understanding of accessibility as introduced in section 1.

Accessibility: For any histories h, h' in Ω and any point in time t in T, hR_th' if and only if

$$h_t = h_t^{'}.$$

Together with **Determinism**$_L$, **Accessibility** immediately yields the conclusion that if determinism rules a world w, then there are no alternative physical possibilities accessible to any agent in w. How can agential possibilities fare any better? According to List (2014), we can distinguish the agential level from the fundamental physical level and assume that the two are ontologically non-identical. **Determinism**$_L$ and **Accessibility** are, first and foremost, assumed to hold for the physical level. At the fundamental physical level there are no agential histories and no agents. Agential histories are constituted by agential states, which together constitute $\boldsymbol{S}$, the set of all possible agential states, defined as "the set of all possible states of the relevant agents and their macroscopic environment *as specified by our best higher-level theory of human agency*" (ibid., p. 164). These states, in turn, supervene on and are multiply realizable by physical states:

> **Supervenience & multiple realizability**: There exists a (many-to-one) mapping σ from S into $\boldsymbol{S}$ such that each physical state s in S determines a corresponding agential state $\sigma(s)$ in $\boldsymbol{S}$, but the same agential state $\boldsymbol{s}$ in $\boldsymbol{S}$ may be realized by more than one physical state s in S.

This allows a decoupling of the physical history from the agential history in three steps (List 2014, pp. 164f):

1. Agential histories are determined by physical histories: Given the mapping σ from physical to agential states, any world history h at the physical level determines a corresponding world history $\boldsymbol{h}$ at the agential level, where $\boldsymbol{h}$ is a function from the set of time points T into the agential state space $\boldsymbol{S}$.

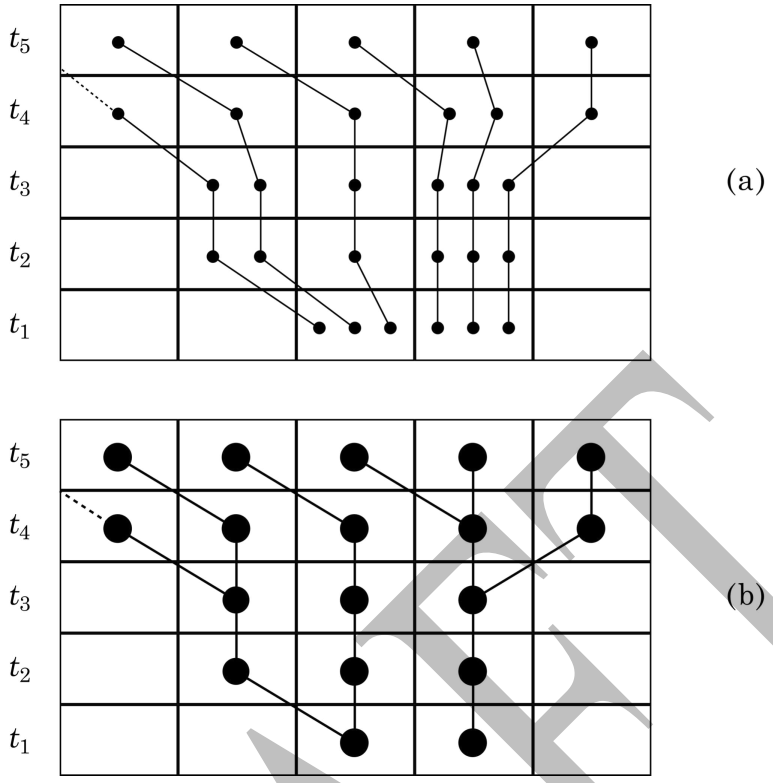

Figure 1: Physical (a) and agential (b) histories. Dots stand for physical states in (a) and for agential states in (b). An agential state is assumed to be realizable by the physical states in the corresponding cell. While determinism rules the physical plane (a), histories can branch out at the agential level (b). The graphic is reproduced from (List, 2014, p. 166).

2. Agential histories are used to define agential accessibility: For any histories $\boldsymbol{h}, \boldsymbol{h}'$ in $\boldsymbol{\Omega}$ (i.e., the set of all agentially possible histories) and any point in time t in T, $\boldsymbol{h} R_t \boldsymbol{h}'$ if and only if $\boldsymbol{h}_t = \boldsymbol{h}_t'$.

3. Agential accessibility and multiple realizability provide alternative possibilities for agents: While any physical history (in Ω) may have only one possible continuation at any time, namely the history itself, there can be two or more distinct agential histories (in $\boldsymbol{\Omega}$) that coincide up to a point in time t but then branch out in different directions.

Consequently, the same agential past can be constituted by different physical pasts. So while at the physical level there is determinism and no branching, at the agential level there can be indeterminism

and branching. (See Figure 1 for a graphical illustration.) *Prima facie*, it seems that the kind of agential accessibility proposed by CL corresponds to an actualist rather than to a classical compatibilist understanding: Any alternative possibilities realized by different future agential histories share the same agential past. So it seems that the account delivers what actualists demand: an understanding of free will in the sense of having alternative possibilities **(AP)** that acknowledges *Fixity* while, at the same time, being compatible with *Determinism* (at the physical level).

CL does not only seem to deliver what actualists desire, but also fits many intuitions about the world and human agency. The position is, for example, well aligned with non-reductionism, a widely held philosophical position asserting the impossibility of describing mental states in terms of the fundamental sciences, and scientific realism, also a widely held philosophical position asserting that scientific claims should be taken as our best guide to ontology. If certain special sciences presuppose the existence of mental states, whereas more fundamental sciences do not prohibit their existence (those states being not even describable in terms of these fundamental sciences), then we have a reason to believe in the ontological reality of mental states, agential states, and agential histories (cf. List 2014, 2019a, 2019b).

List's (2014) model explains how alternative possibilities can exist at the agential level, despite determinism at the physical level. The belief that these alternative possibilities exist is justified by the theories and actual practice of the social sciences. According to a compatibilist libertarian account of human agency, when we say that an action is possible for an agent, we are right if from the perspectives of our best higher-level theories of human agency, this action is possible for this agent in this situation. When a psychologist claims that a particular person can react to a particular stimulus in one of two alternative ways, she means that given the available data and the best available psychological theory, two alternative outcomes are compatible with what we know about this agent, or, in List's terms, the agential history of this person. When a sociologist makes a prediction about the economic behavior of a group of people, she claims that different behaviors are possible, given the data and the relevant sociological theory. The theories and the data in question are always those from these higher-order special sciences; physical data is irrelevant for these predictions. Of course, a physical process, such as

a hurricane, can change agential states, but insofar as this process influences the agent's behavior, it is itself a part of agential states which are by definition "the set of all possible states of the relevant agents and their macroscopic environment *as specified by our best higher-level theory of human agency*" (ibid., p. 164).

So far, we have introduced CL as a position intended to finally reconcile free will with determinism. We tried to make the position as strong as possible by highlighting its various merits. We will come back to these in section 4 where we will argue that CL, though looking like a well-motivated and intuitively convincing actualist account at first glance, must, after a second and more thorough look, be interpreted as a version of classical compatibilism. But before we come to this point, we review some recent objections against CL that will be relevant for our analysis in section 4.

3 Two objections to compatibilist libertarianism

3.1 The luck problem

Being a version of libertarianism, CL faces the problem of present luck, as pointed out by Mele (2020). On List's (2014) model, the branching of agential trajectories is possible only if the agential past is held fixed right until the moment of branching. This is a consequence of the actualist component of CL, and it follows directly from the definition of agential accessibility. On the compatibilist libertarian account an agent has alternative possibilities only if the agent's previous thoughts, deliberations, and plans are fixed right until the moment of choice. Therefore, whether a specific alternative possibility is realized is very similar to a matter of chance. It diminishes or even eliminates the agent's control over her actions. List acknowledges this problem and tries to solve it by distinguishing between what is possible for an agent from what is rational:

> "While in a standard decision-theoretic (or game-theoretic) model multiple actions are open to an agent, and thus agentially possible in the present sense, only some of those possible actions are usually identified as rational, given the agent's beliefs and preferences. There is no contradiction

in saying that *all* the available actions are *possible*, and yet only *some* are *rationalizable* and thus candidates for endorsement." (List, 2014, p. 173)

However, as Mele (2020) argues, whether the agent ends up doing a rationalizable or a non-rationalizable action depends on the difference-making microphysical condition (the physical realization of the corresponding agential state). This microphysical condition is something that an agent cannot control. It is rather the other way around. Whether the agent ends up choosing a rationalizable alternative or another possible alternative is fully determined by the underlying microphysical facts which are themselves fully determined by the physical past and the laws; it is not up to the agent.

We think that CL can go a considerable way towards solving this problem by distinguishing between different types of control and by using the means available to event-causal libertarians. In the next section, we explore to what extent these options can be used to save CL from the luck problem and conclude CL can avoid the luck problem only partially.

3.2 A compatibilist libertarian response to the luck problem

A compatibilist libertarian could introduce the following distinction between different types of control. Firstly, an agent can have control in so far as something within the agent makes a causal difference to how her agential future unfolds. It requires more than one agential future accessible to her. Let us call this sense of control *causal control*. Secondly, an agent can have control in the sense that her current agential state or a preceding agential state rationally explains how her agential future unfolds. This type of control does not require more than one future agential trajectory accessible to the agent; it rather only requires that the agent's future lines up in a certain way with the agent's current state or past. Let us call this sense of control *rational control*. Finally, an agent can have control because she has something to say about how her current agential state is physically realized. Let us call this sense of control *realization control*. The first two types of control are forwards looking in time; they are about how the agential future is connected to the current or to past states. Realization control, on the other side, is downwards looking.

Mele (2020) does not explicitly distinguish between these different types of control when raising his luck objection (see section 3.1). Depending on which type of control we plug into his argument, however, we get different answers to the question of whether an agent can have control according to CL. Let us begin with realization control. Since CL is committed to the agential as well as to the physical past being fixed, the agent has no saying in how her current agential state is realized at the physical level. This also seems factually plausible: An agent's desire for tea at a specific moment might be realized by many different brain states. But even if the agent were a brilliant neuroscientist knowing all these possible realizer states, there is nothing she can do as an agent to influence which brain state realizes her actual desire. This seems to hold for any account of free will and is not a specific problem for CL, if it is a problem at all. Anyway, if we plug realization control into the argument, it seems that Mele is right: The agent has no control over which physical state realizes her current agential state. According to Mele, it follows from this that the agent has no control over whether her future acts are rationalizable or not. But realization control, rational control, and causal control come apart here. What Mele's objection shows is the lack of the type of control we described as causal control: Nothing accessible to the agent makes a causal difference for how the agential future (rationalizable vs. non-rationalizable) unfolds because that is fully determined by how her agential state is physically realized which is, in turn, already fixed and not up to her. Note, however, that this is not the kind of control List (2014) had in mind when talking about which future agential states are rationalizable. What List had in mind, or so we believe, is rather rational control. For this type of control, it suffices that the current or a past agential state provides a rational explanation for why the agent acts in a certain way in the future. This kind of control is about how the agent's future and past align and not about the agent being able to make a causal difference (rationalizable vs. non-rationalizable) to her future. The agent being able to rationalize her future actions based on her current or past agential states, thus, is perfectly compatible with the agent not having realization control or causal control.

This strategy open to CL to provide an agent with *rational control* mirrors a broadly event-causal libertarian strategy. The event-causal libertarian solution to the luck problem narrows down possible alternative actions to those actions which are consistent with the agent's desires, motives, aims, etc. For

example, on Kane's (1996) event-causal libertarian account, an agent has alternative possibilities in situations of divided will. In such situations the agent has incommensurable and incompatible motives at the same time, each pulling her in a different direction. One of these motives may be selfish, while the other motive may be altruistic, and the agent can choose one of them. According to Kane, at the moment of choice the agent had alternative possibilities and could have chosen otherwise. However, the outcome of the choice is not just a matter of luck: Whichever of these alternatives the agent chooses, she chooses rationally and for her own reasons (ibid., p. 127). Consequently, the agent has rational control over the outcome of her act because each possible outcome is consistent with the agent's intention and is later endorsed by the agent (ibid., p. 29).[6]

Similarly, CL can narrow down the set of agentially accessible worlds to those worlds where the acts of the agent are rationally controlled by the agent in the sense that they are consistent with the agent's intention, given that this intention is formed as the result of a choice between one of two or more different and incompatible motives, which are both parts of the same agential history. The moment of making a choice is the moment of branching of the agential history. Let us call such choices *decisive*, because the agent's decision to make one or the other choice immediately precedes the branching of the agential history. According to this strategy, an agent has alternative possibilities for an action only if before the moment of action the agent is undecided between two or more options, whether these moments of indecision are supposed to be rare and life-changing as in Kane's (1996, 2007) account of self-forming actions, or frequent and mundane, as in Balaguer's (2010) account of torn decisions. This answer will allow the compatibilist libertarian to maintain that the agent has rational control over the outcome and will block the unwelcome worry that her act is merely a random and irrational process. Since this answer is neutral about how often decisive choices must happen in the life of an agent, the compatibilist libertarian does not have to choose between Kane's and Balaguer's accounts. It suffices to assume that decisive choices sometimes happen.

[6] According to Kane (1996), each possible outcome is also caused by the agent's intention, so rational and causal control coincide. However, for CL this does not work, as we will show in due course.

This strategy, we think, suffices to provide agents with rational control over their actions and goes some way towards solving the luck problem for compatibilist libertarianism. We also believe that it is in the spirit of List (2014) (cf. section 3.1). However, as we saw above, agents still lack realization control and causal control. As we also saw above, an agent lacking realization control does not come too surprising. It fits our everyday life experience that we are unable to decide how exactly our mental states are physically realized. Therefore, it is not a problem specifically for CL and maybe, in the end, not a problem at all. The agents' lack of causal control, on the other hand, is problematic. As we will show in the next section, it is a consequence of CL that the agent cannot make a causal difference to how her future unfolds because the different agential futures seemingly open to the agent collapse to a single possibility.

Consequently, CL fails to provide agents with causal control which is necessary to solve the luck problem in a more complete way.

3.3 The collapse argument

The collapse argument was put forward by Gebharter (2020). In the original article, the collapse argument is formulated in terms of a probabilistic model, but for our endeavor we can avoid most of the technicalities and reformulate the argument to the background of List's (2014) own terminology introduced in section 2.

The argument starts by observing that **Determinism$_L$** and *Fixity* imply that at any point in time the world is in a particular physical state. Now assume there is branching at the agential level at a point in time t_j. According to CL this means that the agent has alternative possibilities available to her and, thus, can have free will. Because the physical state of the world at any earlier point in time t_i is fixed, it follows from **Determinism$_L$** that the world's physical state at t_j as well as at any later point in time is fixed too. But then it follows from **Supervenience & multiple realizability** that the agent's state at the agential level at t_j as well as at any later point in time is also fixed. Thus, the agent has no say at

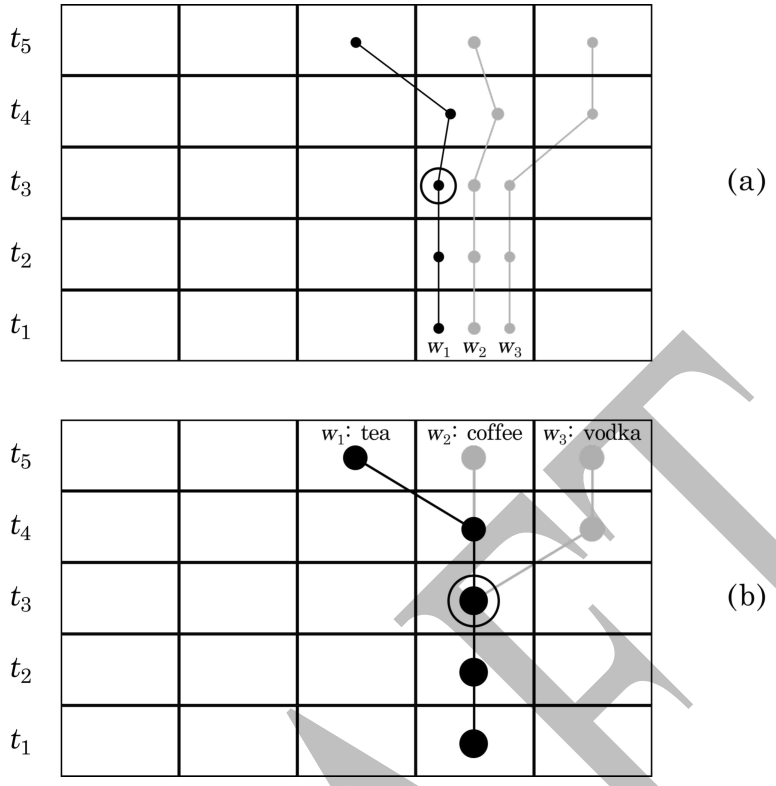

Figure 2: Physical (a) and agential (b) world histories. Actual histories are in black and merely possible (i.e., non-actual) histories are in grey. Circles indicate the actual physical state and the actual agential state at the present t_3.

all in how her agential future will unfold, regardless of the fact that there might be branching at t_j at the agential level. Which branch will be realized in any world is already fully determined by that world's physical past. The different possibilities the agent seems to have from the perspective of the agential level collapse into a single one. Thus, it follows from the actualist understanding of free will that an agent cannot have free will if CL is true.

This argument can be illustrated by having a look at Figure 2. Assume, for example, that the present agential state is the one marked by the circle in Figure 2(b). Let us further assume that this state includes an agent's deliberation about whether she should drink tea or coffee at t_5. For the agent it now looks as if she has at least two possibilities, either to move to the agential state in the third or to the one in the

fourth cell at t_5, depending on the outcome of her deliberation process. However, the actual agential state at t_3 is realized by a specific physical state at t_3. In the example we assume that there are three such possible physical realizer states. But which physical state is realized at t_3 is determined by the actual world's earlier physical state. Let us assume that the actual world is w_1, i.e., that the actual world was in the physical state represented by the left dot in the fourth cell at t_1 in Figure 2(a). But if so, then the different possibilities open to the agent at t_3 are clearly an illusion. Since we assume **Determinism**$_L$, there is only one present (marked by the circle in Figure 2(a)) and only one future possible at the physical level. If we trace the path describing the actual world's development at the physical level up to t_5, we end up in the third cell at t_5. Finally, due to **Supervenience & multiple realizability**, this means that the only state at the agential level the agent can be in at t_5 is the corresponding state in the third cell at t_5 in Figure 2(b). Hence, the agential possibilities collapse and the agent ends up drinking tea regardless of the fact that the agential plane looks indeterministic to her at the time of the deliberation taking place. She could not have done otherwise. It was all merely an illusion and the compatibilist libertarian's commitment to **(AP)** as a necessary condition for free will rules that the agent had no free will to begin with. Note that the physical trajectories in grey and, thus, also the corresponding agential trajectories in grey are not accessible to the agent due to *Fixity*. Also note that the collapse argument does not depend on the particular assumption that w_1 is the actual world. It holds regardless of how the agent's deliberation at t_3 is physically realized. If it had been realized by the physical state in w_2, then the agent would have been determined to drink coffee, and if it had been realized by the physical state in w_3, she would have ended up drinking vodka.[7]

Here we can observe an interesting mismatch between agentially accessible histories and physically accessible histories as defined by List (2014). In particular, given the definitions he provides (see step 2 of his three-step approach presented in section 2), only the actual physical history h (black line) in

[7] We take it that agential states involving a deliberation between several options can be physically realized in such a way that neither of these options results from the deliberation process.

Figure 2(a) is accessible from h at t_3 (for all h': if $hR_{t_3}h'$, then $h = h'$). But from the actual agential history $\boldsymbol{h}$ (black line leading to drinking tea) in Figure 2(b) also the other two histories $\boldsymbol{h}'$ (leading to coffee) and $\boldsymbol{h}''$ (leading to vodka) are accessible at t_3 ($\boldsymbol{h}R_{t_3}\boldsymbol{h}'$ and $\boldsymbol{h}R_{t_3}\boldsymbol{h}''$). This shows that List's definition of agential accessibility is inadequate. It allows for agential futures of possible worlds like w_2 and w_3 being accessible although the physical futures realizing these agential futures are inaccessible. But since agential states cannot be realized without also having one of the physical states in their supervenience bases realized, this is absurd. The only reasonable response to this observation is to conclude that agential accessibility as specified by List is ill-defined. The agential histories that are accessible are already fully determined by **Accessibility** (which is defined for the physical level) together with **Supervenience & multiple realizability**.

We believe that there is no easy fix to avoid the collapse argument. The argument conclusively shows an internal inconsistency of the original compatibilist libertarian account. From the agent's perspective, it only looks as if there were indeterminism at the agential level, but in truth there is only one future available to her. Thus, strictly speaking, this position is not a version of libertarianism. It only disguises itself as a proper libertarian account. A closer look reveals that the grip determinism has over the fundamental physical level due to the assumptions made by CL extends to the agential level. Because of this, the collapse argument also makes clear why Mele's (2020) luck objection cannot be completely resolved by the original CL account: Since the physical as well as the agential future is completely fixed by the laws and the physical past, the agent cannot have any causal control, not even over how the agential future unfolds.

The collapse argument also renders an interpretation of CL that only requires rational control for freedom impossible. In the original CL account, the agent seems to have various future agential trajectories accessible to her and all of them which are rationalizable constitute possible future paths of actions the agent can choose freely. What the collapse argument shows, however, is that there is only one single future agential trajectory accessible to the agent. Even if this single trajectory turns out to be

rationalizable, the agent would not be free according to CL, because CL requires more than one agential future accessible to the agent.

4 Compatibilist libertarianism as a variant of classical compatibilism

Does the existence of the two problems discussed in section 3 mean that CL, in the end, cannot deliver what it promised? What it was designed to achieve is to finally reconcile a fully-fledged actualist understanding of free will with determinism, which seems indeed impossible at this point. But CL was built on very intuitive and plausible assumptions about human agency and its place in the world as it is portrayed by the sciences (see section 2), which we believe all deserve to be preserved as far as this is possible. In this section we try to salvage as much as we can and formulate CL as a position that comes as close as possible to this ideal. To this end, in section 4.1 we reconsider how List (2014) argued for multiple agential possibilities and develop our classical compatibilist interpretation of CL. In sections 4.2 and 4.3 we then show how our modified version of CL can maintain consistency and overcome the two problems described in section 3.

4.1 Supervenient fixity and agential possibilities

As reviewed in section 2, the key claim which List (2014) uses to derive multiple agential possibilities is the modal claim that "the same agential state $\boldsymbol{s}$ in $\boldsymbol{S}$ may be realized by more than one physical state s in S" (ibid., p. 164). Since the analysis of alternative possibilities presupposes that we understand exactly what modal terms such as "may" mean, this claim itself should be analyzed in the framework of possible worlds. The graphics List gives in his (2014) and reproduces with slight modifications in his (2019a) show a possible world interpretation of different physical trajectories (Figure 1(a)) and separately a possible world interpretation of different agential trajectories (Figure 1(b)) linked together

by the mapping function σ. List argues that what can be interpreted, in agential terms, as one history branching into two, can be interpreted, in physical terms, as two separate, although very similar, worlds. But how exactly do these interpretations of different levels in terms of possible worlds work? In his (2019b), List answers this question:

> "We can define a *possible world at a particular level* as a full specification of the way the world might be *at that level*. Worlds at the physical level thus encode the totality of physical facts; worlds at the chemical or biological levels encode the totality of chemical or biological facts; worlds at the psychological or social levels encode the totality of psychological or social facts; and so on." (List, 2019b, p. 858).

Consequently, on the physical level there are no agents, only microphysical states that these agents supervene on. This gives us enough information to understand how CL must answer the intensely disputed question that most deeply divides classical compatibilists and incompatibilists: Does an agent in a deterministic world w ever have alternative possibilities? According to List (2014), she has alternative possibilities at a time t when there are possible worlds that have the same agential history as w at t. The same agential history is a trajectory constituted by the same agential states and "the same agential state $\boldsymbol{S}$ in $\boldsymbol{S}$ may be realized by more than one physical state s in S" (ibid., p. 164). But since the physical level realizing any agential state is deterministic, any other possible physical state s that is a realization of the agential state $\boldsymbol{S}$ will be a part of a world w' that either has a different physical past or different laws. Indeed, according to List, it is a consequence of **Determinism**$_{\mathrm{L}}$ that in any given world only one particular physical state s being a realization of the agential state $\boldsymbol{S}$ is possible. Therefore, if the same agential state $\boldsymbol{S}$ can be realized by more than one physical state s it follows that other possible realizations of this state exist in possible worlds where either the past or the laws are different. In effect, the multiple realizability assumption is ultimately committed to the classical compatibilist counterfactual analysis of possibility: What it means to say that agential state $\boldsymbol{S}$ can be

realized by more than one physical state S is to say that there are possible worlds where the agential state $\boldsymbol{S}$ is realized by a physical state s' different from S. Physical determinism is compatible with this claim. What is not compatible with it is the claim that in the actual world, given the laws, such a state s' could have been the continuation of the given past. Consequently, different agential possibilities being actually available to the agent require denying *Fixity*: An agent has alternative possibilities (given physical determinism) because if the past or the laws were different, then the agent would have done otherwise.

The foregoing shows that the only way to keep CL coherent is to understand it as a version of classical compatibilism. It ultimately needs to reject the most important incompatibilist principle: *Fixity*.[8] However, this might be the best approximation to an actualist account of free will that we can hope for (if determinism turns out to be true). Consequently, if *Fixity* is indeed important, as incompatibilists claim, then CL cannot give us everything that libertarianism promises, but it still might be the next best thing. Instead of the classical *Fixity* principle, a compatibilist libertarian could adopt the following weaker principle:

Supervenient Fixity: The agential past and the laws of nature are fixed, meaning that for any agent, there is nothing she can do such that if she did it, then the laws or the agential past would have been different.

[8] Cyr and Gilley (ms) and Mele (2020) also argue that List's (2014) account is compatibilist, because it rejects *Fixity*, but their arguments are different from the ones we propose. We agree with their conclusion, and we hope that our analysis explains why List himself does not classify CL as compatibilism, but as a version of libertarianism. List maintains that supervenience and multiple realizability are sufficient to guarantee alternative possibilities given the same agential past. Since determinism is assumed for the physical level and the agential past is fixed it seems that *Fixity* as demanded by incompatibilists is satisfied and, thus, that CL does provide the alternative possibilities that the incompatibilists are after. We have shown, however, that this is not the case, because multiple realizability given determinism only allows for a counterfactual analysis of possibilities, but not for an actualist one.

By replacing *Fixity* with *Supervenient Fixity*, CL receives the means to avoid the collapse argument and, because of that, also to avoid the lack of causal control which plagues the original version of CL. We will show how our modified compatibilist libertarian account (MCL) can overcome these two problems in sections 4.2 and 4.3 and then, in section 4.4, discuss how MCL compares to other compatibilist accounts.

4.2 Escaping the collapse argument

It is not hard to see how replacing *Fixity* by *Supervenient Fixity* allows MCL to overcome the collapse argument. To illustrate this, let us have another look at Figure 2. Let us, again, assume that the agent currently (i.e., at t_3) is in the agential state and in the physical state indicated by the circles. The collapse argument relied on the fact that *Fixity* rendered all the possible worlds with a different past than the actual world inaccessible. Thus, the grey physical trajectories and, hence, also the corresponding grey agential trajectories, turned out to be not realizable for the agent. Trading in *Fixity* for *Supervenient Fixity*, however, lifts this restriction. The latter renders all physical trajectories that give rise to the agential history (up to t_3) realized in the actual world accessible at t_3. Since all of the three possible worlds w_1, w_2, and w_3 depicted in Figure 2 share the same agential past up to t_3, also the grey future physical trajectories become accessible to the agent. Thus, also the corresponding grey future agential trajectories are accessible. As a consequence, **(AP)** is satisfied and the agent can have free will. Actually, she ended up drinking tea, but she would have ended up drinking coffee had the physical past been different in a specific way (in particular, had the physical past been like in w_2 rather than in w_1).[9]

4.3 Solving the luck problem

[9] For now we bracket the case where the agent ends up drinking vodka but will come back to it shortly in section 4.3.

To illustrate why MCL is better suited to solve the luck problem than the original CL account, let us take another look at Figure 2. Again, we assume that w_1 is the actual world. Thus, the agent is currently in the agential state in the circle in Figure 2(b). Currently, that is at t_3, she is considering whether to have a cup of tea or a cup of coffee at t_5. The microphysical states possibly realizing this particular agential state of deliberation are, again, the states indicated by the three dots in the fourth cell at t_3 in Figure 2(a). Depending on how exactly the agential state in the circle is physically realized, the agent ends up drinking tea, coffee, or vodka at t_5. And again, we assume that the agent's current state is actually realized by the physical state in the circle in Figure 2(a).

According to CL, all three agential futures (leading to drinking tea, coffee, and vodka) have the same agential past up to t_3 and, thus, seem open to the agent. Two of these futures are also rationalizable alternatives. Since both futures, the one in which the agent drinks tea and the one in which she drinks coffee, are rationalizable, it seems that the agent can freely choose between them at t_5. This, however, is an illusion: Even though the agent has rational control over these two outcomes, she has no access to any other possible world except w_1 where it is determined that she will have a cup of tea at t_5. Thus, according to CL, the agent has no causal control whatsoever. Nothing within the agent can make a difference for how her future unfolds and, hence, the agent is not free.

In MCL, on the other hand, this is not the case. Since MCL allows for counterfactual physical states compatible with the actual agential trajectory up to now, the grey trajectories are accessible as well. Since the agent's deliberation process at t_3 was actually realized by the physical state represented by the left dot in the corresponding cell in Figure 2(a), she ended up drinking tea. But if her deliberation had been realized by the physical state represented by the dot in the middle, she would have ended up drinking coffee. The different physical realizations of one and the same deliberation state at the agential level give different preferences to different possible outcomes. For MCL, both alternative outcomes are possible because both corresponding trajectories, the black and the grey one, are accessible. Therefore, MCL – in contrast to CL – can provide the agent with both causal and rational control over her actions. The agent has causal control over all her actions which are caused by the preceding state (in the example,

these are all three actions: drinking tea, drinking coffee, and drinking vodka). And she has rational control over the subclass of her actions which are non-deviantly caused by the agent's intention, where this intention is formed as the result of a decisive choice (in the example, these are the actions of drinking tea and drinking coffee, but not drinking vodka). The moment of making this choice is the moment of branching of the agential history. Consequently, MCL gives agents not only different agential futures to choose from, but also causal and rational control over these future agential paths.

Let us add a few more remarks on the kind of rational and causal control the agent has according to MCL. We start with rational control and the question of why the action that results from a decisive choice is not merely a matter of luck. Clearly, this action is rationalizable in terms of the agent's agential past and, thus, it is something that the agent did for her own reasons. To further emphasize how this helps to solve the luck problem, consider the case where the agent's deliberation at t_3 leads to her drinking vodka, though this possibility was not a result of her decisive choice. Recall that we assumed that the agent's deliberation process is about whether she should drink tea or coffee. It is physically and agentially possible that she ends up drinking vodka, because her agential state of deliberation could have been realized by the corresponding physical state in world w_3. But since drinking vodka was not among the agent's motives and she was not considering this option at all at t_3, this outcome would not be a free act, even if caused by the agent.

To see how this outcome could happen anyway, imagine that the physical states in worlds w_1 and w_2 at t_4 are physical realizations of psychologically normal processes of implementing the agent's intention: motor commands sent to motor neurons, muscles contracting in such a way that the agent's hand picks up the coffee or the tea from a tray (we can imagine that the agent is at a banquet). The physical state in world w_3 at t_4, on the other hand, is not a physical realization of a physiologically normal process of implementing the agent's intention formed at t_3. It is something external to the agent's intention: a physical realization of a sudden manifestation of an alien-hand syndrome, or of the interference of some evil neuroscientist who directly manipulates the agent's motor cortex. It leads

deterministically to the physical state at t_5 which is a realization of the agent's hand picking up a glass of vodka from another tray.

The crucial point to note here is that picking up a glass of vodka would not be something that the agent does freely because it does not align with her earlier deliberation in the right way. The introduction of the requirement of rational control, therefore, allows MCL to distinguish between two types of agential possibilities: those which are, and those which are not under the agent's rational control. For the example illustrated in Figure 2, the trajectories of w_1 and w_2 are both under rational control of the agent at t_3, while the trajectory of w_3 is not. Only those agential possibilities which are under the rational control of the agent can constitute free actions.

Finally, let us also say a few more words about causal control: One can object here that MCL is still partly vulnerable to the luck problem, because, on this account, even though the agent has causal control, the agent still does not have *antecedent control* over which of the rationalizable continuations she ends up with: All of them are agentially possible and nothing about the agent settles the outcome before the decisive choice is made. This, however, is not a problem particularly for MCL, but a direct consequence of the *Supervenient Fixity* requirement which was introduced precisely in order to capture the libertarian desideratum of an agent having alternative possibilities given exactly the same past. As soon as the agent has an alternative possibility to choose one way or another in exactly the same agential situation (given the same beliefs, motives, desires, character, etc.) it follows automatically that nothing about the agent settles which choice the agent will make. To demand that there must be something about the agent that antecedently settles the outcome is to deny the viability of any sort of libertarianism. In Robert Kane's words: "The lack of antecedent control is the price to pay for freedom" (Kane 1996, 144), because if there is something about the agent that determines the outcome before the choice is made by this agent, then this agent is not free to choose one way or another. The next best thing to go for, at least in our view, is causal control, which anchors control not in the agent's current agential state (which is fixed for any version of libertarianism), but still within the agent (more precisely: in the particular way how the agent's actual state can be realized physically) rather than in any agent-external

factor. Note that on MCL, causal control is not enough. For free will, MCL also requires rational control. If causal control is supplemented by rational control, this seems to be the best we can hope to get from an account committed to fixing the agential past.

4.4 A comparison with other compatibilist accounts

One of the main selling points of the original version of CL was its closeness to the scientific picture of the world. Accordingly, MCL still reflects the level-sensitivity demanded by **Supervenience & multiple realizability**. MCL fixes the laws of nature and everything on the agential level, while not fixing the subvening physical level. A supporter of MCL could argue that this position is the best analysis of free will in a deterministic world, because it is compatible with determinism and still close enough to what the incompatibilists want: alternative possibilities given the same (agential) past.

An incompatibilist might object regarding terminology: If MCL rejects *Fixity*, does it still deserve the name "libertarianism" simply qualified by the adjective "compatibilist"? Should it not be called "libertarian compatibilism" instead? This, however, is a purely verbal issue. The more important question is: Should MCL be preferred over other versions of compatibilism?

In order to answer this question, let us first consider how close MCL is to Kenny's (1978) account, which is the historical predecessor of CL. Kenny argued that "freedom involves the power to do otherwise: I do X freely only if I have the opportunity not to do X and the ability not to do X" (1978, p. 31). However, it is not clear whether this power to do otherwise is actualist or conditional. According to Kenny, physiological determinism does not deprive us of the power to do otherwise, because "[…] whatever story the physiological determinist tells about my present physiological state must contain a proviso that my brain state would be different from what it now is if I wanted something different from what I now want" (ibid., p. 31). This statement can be interpreted in terms of counterfactuals, later developed by the classical compatibilists (see references in fn. 3). However, Kenny himself did not offer a detailed interpretation of his conditional analysis of freedom, and it might be that he relied on

the difference between the physiological and the psychological level in order to explain how the determinism on the lower level is compatible with actualist alternative possibilities at the higher level:

> "It may be, for all we know, that for each individual case in which a human being can choose whether to do X or not to do X there is *a* difference between the state of the brain and of the central nervous system which goes with wanting to do X, and the state which goes with not wanting to do X; and this could well be the case without there being any general laws linking physiological states of a particular kind with psychological states of a particular kind. If this is so, there is no reason why physiological determinism should lead to psychological determinism, or why predictability at a physiological level should involve predictability at a psychological level." (Kenny, 1978, 31).

The suggestion that differences between the levels allow the agent to enjoy actualist freedom despite physical determinism has been developed by List (2014, 2019a), but it fails due to the collapse argument, as we have shown earlier. MCL can be seen as a development of Kenny's (1978) account along compatibilist lines, which preserves the difference between the physical and the agential level without claiming that this difference is enough to give the agent actualist freedom.

The analysis of agential possibilities proposed by MCL can also serve as a development of Susan Wolf's (1990) analysis of the abilities necessary for freedom and moral responsibility. According to Wolf, psychological determinism is incompatible with moral responsibility, while physical determinism is not. This distinction arises because what matters for free and responsible action is the ability to act in accordance with reason, i.e., with one's understanding of the true and the good. Such ability must ensure that if an agent performed a blameworthy act, she must have been able to do otherwise. In *Freedom Within Reason* (1990, ch. 5), Wolf suggests that this ability is compatible with physical determinism if the psychological level of explanation is irreducible to the physical level. However, she does not propose a detailed account of how this compatibility works. We believe that MCL provides a way to bridge this gap.

Finally, let's consider in what respects MCL resembles other classical compatibilist accounts and in what respects it differs from them. It is similar to modern versions of classical compatibilism in its definition of accessibility: It defines as accessible possible worlds where some agent-related factors are the same as in the actual world, although other physical or higher-level (and non-agent-related) factors are different. The difference between MCL and classical compatibilism lies in how many agent-related factors are held fixed. According to MCL, all agent-related factors are held fixed right until the moment of divergence of possible worlds from the agential point of view, whereas classical compatibilism typically holds fixed only some of the agent-related factors, such as an agent's character, abilities, or aims, but allows differences in some other agential states prior to the moment of divergence (see references in fn. 3). In other words, MCL includes in the set of accessible worlds only the worlds with different physical realizations of the same agential states. Classical compatibilists are willing to admit more possible worlds, for example, possible worlds where agents have different desires, provided that these worlds meet certain compatibilist criteria regarding the agent's psychology and the external circumstances. In particular, on a typical classical compatibilist account, the counterfactual claim "x could have done non-A at t_j in w, although in fact x did A at t_j in w" is true if there is a possible world w' sufficiently similar to w, where at t_i (with $i \leq j$) x forms a desire to do non-A at t_j, and deterministically proceeds to perform non-A at t_j in accordance with this desire. This act was free, on a compatibilist account, if this desire and the act caused by this desire corresponded to certain psychological and causal criteria, put forward by a particular compatibilist theory.[10]

What distinguishes MCL from classical compatibilism are the differences that are allowed. The restriction of agentially accessible possible worlds to the worlds with the same agential past, which we have captured under the label *Supervenient Fixity*, allows for an almost libertarian understanding of alternative possibilities: different outcomes given the same agential past. And as we argued in

[10] For general problems for agential states being causally efficacious see, for example, (Gebharter, Sekatskaya, & Schurz, 2022). In this article, we bracket all such concerns.

agreement with List (2014) in section 2, this understanding has advantages because it nicely fits the scientific picture of the world: It explains, for example, why higher-level sciences are largely perceived as autonomous vis a vis lower-level facts and how human beings perceive and experience themselves as autonomous and freely acting agents. An agent's rational choice, for example, can be explained by her actual agential past. No counterfactual agential states are required to that end and also the physical details of how the agent's past was realized are irrelevant.

Conclusion

We argued that the only way for CL to provide alternative agential possibilities in a physically deterministic world is to reject *Fixity*. Thus, CL should be interpreted not as an actualist account of free will, but rather as a version of classical compatibilism that resembles an actualist account to some extent. Such an interpretation of CL comes with several merits. Firstly, MCL can avoid the collapse argument that plagues CL. Secondly, by replacing *Fixity* with *Supervenient Fixity*, MCL provides at least part of what incompatibilists ultimately desire: alternative possibilities given the same agential past. Finally, as Mele (2020) showed, CL is vulnerable to the luck objection. We showed that CL can go some way towards solving the luck problem by introducing decisive choices: An agent has rational control over those agential possibilities which are possible continuations of her decisive choices. However, on CL the agent has no causal control over these possible continuations, because nothing within the agent makes a causal difference to the continuation of the agential history, which is determined only by the physical level which lacks alternative possibilities. MCL, by rendering different non-actual physical realizer states accessible to the agent, provides the agent with rational and causal control over different continuations of the same agential history. We conclude that MCL might well be the next best thing to a full-blown actualist account (if determinism is true). It can be motivated by the same plausible intuitions about human agency which List (2014) used to support the original version of CL and, in contrast to that version, can provide alternative possibilities given the same agential past while preserving a kind of control relevant for free will.

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