1. **Introduction**

 Consider Eve in the Judeo-Christian creation story, who sinned when tempted by a serpent in the garden. God could have brought it about that Eve was tempted by a toad instead. Had Eve in fact been tempted by a toad, would she then have chosen to sin?

 It is controversial whether, if human actions are undetermined, this question has an answer. Is it the case that: had Eve been tempted by a toad, she would have sinned or that: had Eve been tempted by a toad, she would not have sinned? Or are both “counterfactuals of creaturely freedom” false or truth-valueless?

 Molinists, following the 16th-century Jesuit Luis de Molina (2004), hold that there are true counterfactuals of creaturely freedom (hereafter CCFs), even though they are not determined (by God or anything else). Moreover, God knows what they are prior to creation and uses that knowledge in his choice of how to create. Molinists claim that this allows them to reconcile robust human freedom with providentially useful divine foreknowledge: since God knows what you *would* do if you were placed in such-and-such circumstances, regardless of whether he decides to create such circumstances (or you), he is able to use that knowledge to guide his choice of what circumstances to put you in.

 We argue that if Molinism were true, libertarian free will—the kind of free will Molinists are interested in preserving—would be impossible. In particular, we argue that Molinists are committed to there being facts that fully explain our actions, but that nothing we do even partially explains. Adams (1991) offers a similar “explanatory priority” argument against Molinism, which Craig (1994, 1998) disputes and Hasker (1997, 2000) defends. Our argument advances on these earlier discussions in employing formal machinery that motivates key assumptions about the structure of explanation and in making clearer in what way the explanatory relation of CCFs to human actions is incompatible with libertarian free will.

1. **Molinism and Explanation**

We use directed acyclic graphs (DAGs) to model the explanatory commitments of Molinism. There is a growing consensus among philosophers and scientists (e.g., Pearl 2000, Spirtes et al. 2000, Schaffer 2016a) that explanatory relationships such as causation and grounding are best modeled using DAGs. A DAG is a directed graph with no loops. It consists of a finite number of nodes, with arrows drawn from some nodes to other nodes, such that the arrows never form a loop. For example, Figure 1 is a DAG.



**Figure 1**

Here, we will interpret the nodes of our DAGs as representing whatever the relata of explanation are—e.g., facts, events, substances. They are to be understood as true, actual, real, etc.—if X is a node on our graph, this implies that X is true, actually happened, exists, etc. For ease of exposition, we will speak of the nodes as representing facts, but our fact-talk could be translated into talk about other kinds of explanatory relata.

Arrows represent *explanatory priority*. X is explanatorily prior to Y if X is an *ancestor* of Y (so that Y is a *descendant* of X): that is, there is a *directed path* from X to Y (either an arrow directly from X to Y or a series of arrows passing through other intermediate nodes). X is *directly* explanatorily prior to Y if X is a *parent* of Y: that is, there is an arrow directly from X to Y. In Figure 1, A is the parent of B, B and C the parents of D, and C and D the parents of F. Parents are ancestors of any descendants of their children: so A is an ancestor of not only B, but also D and F. Conversely, children are descendants of the ancestors of their parents. So F is the descendant, not only of C and D, but also A and B.

 So formalized, explanatory priority is a transitive and asymmetric relation. Intuitively, it represents *influence*—if X is prior to Y, then X is one of the facts that influences, or makes a difference, to whether Y is true. Explanatory priority is necessary but not sufficient for explanation. For example, the fact that Sally smokes is prior to the fact that she does not get lung cancer, because it is one of the factors that influences whether or not she gets lung cancer. But it does not even partly explain that fact, because it lowers its probability.

 We need not take a stand here on the further conditions for partial explanation. More important for our purposes are the conditions for *full* explanation. To say that a set of facts Γ fully explains Y is to say that Γ *determines* Y, or *makes it the case that* Y. (We will primarily talk about sets as explanations, although we will not bother to distinguish between an atomic fact X and the singleton set {X}.) If all members of Γ are prior to Y, and any ancestors of these members only influence Y by way of Γ (so that Γ *screens off* its ancestors from Y), then Γ fully explains Y just in case Γ entails Y. Suppose that in Figure 1, each child is entailed by the set of its parents. Then A fully explains B. Together, B and C fully explain D. {A, C} is another full explanation of D, however. Similarly, {D, C}, {B, C}, and {A, C} are all full explanations of F.[[1]](#footnote-2) They are not *competing* explanations because A is explanatorily prior to B, which is explanatorily prior to D. There can be non-competing full explanations that take place at different levels: for example, the initial conditions of the universe and the immediate conditions preceding a ball’s rolling down the hill could both explain the fact that it rolls, without competing with each other: the initial conditions explain the immediate conditions, and because the immediate conditions explain the rolling, the initial conditions do as well. There could also be non-competing full explanations at the same level in cases of overdetermination.[[2]](#footnote-3) If, in Figure 1, D is entailed by both B and C individually, then these would each be full explanations of D. To give a concrete example, if a condemned criminal is shot by 100 executioners simultaneously, and each shot entails that he dies, then each shot fully explains his death, and together they overdetermine it.[[3]](#footnote-4)

One possibility that we want to allow for is that some facts do not have full explanations (though they may have partial explanations). Suppose that in Figure 1, every child node is entailed by its parents, except for F, which is not entailed by anything. Then B and D would continue to have full explanations, but nothing would fully explain F (although C and D might continue to partly explain it).[[4]](#footnote-5)

We respond to criticisms of the model of explanation we have sketched here in Section 5. For now, we will provisionally assume it and use it to model Molinists’ views about the relation of divine foreknowledge and human actions. We’ll take Flint’s (1998) exposition of Molinism as our starting point. According to Flint, God’s providence and knowledge unfolds in four “logical moments.” In the first moment, we have God’s necessary knowledge: God’s knowledge of all necessary truths.

In the second moment, God acquires his first contingent knowledge: knowledge of CCFs. This is God’s “middle knowledge,” which comes between his necessary knowledge and his creative decision. The CCFs known at this second moment include counterfactuals specifying what each possible agent would do in any circumstances that it is possible for that agent to be in. Here the “circumstances” in which an agent acts should be understood as “complete,” so that the CCFs specify “how a free being would act given all, not just some, of the causal factors affecting her activity” (Flint 1998: 47).

 The discovery of the CCFs has a winnowing effect on the options open to God. Suppose it is true that Eve would sin if tempted by the toad. Then, although there is a possible world where Eve is tempted by the toad and does not sin, that world is “off-limits” for creation. Why? Because it contradicts a true CCF. Flint calls the worlds remaining after the CCFs have had their say “feasible” worlds. In the third moment, God chooses which feasible world will be actual.

 Finally, in the fourth moment, God fills in the details from the creation decision, learning which world is actual. This constitutes God’s free knowledge.

Figure 2 illustrates the explanatory relations among Flint’s four moments—God’s necessary knowledge, middle knowledge, creative act of will, and foreknowledge—along with the dependence of God’s middle knowledge on the CCFs. In choosing how to create, God utilizes his necessary knowledge and middle knowledge, and in creating, he sets the circumstances which, together with his middle knowledge, determine his foreknowledge. Figure 2 also illustrates the dependence of Eve’s action on the circumstances in which she finds herself: while libertarians will maintain that these circumstances do not fully explain Eve’s sin, that Eve is tempted by a serpent is nevertheless one of the factors directly influencing whether she sins.



**Figure 2**

Figure 2 is not yet a complete picture of the explanatory relations between the factors depicted. Some Molinists may want to add to the diagram in different ways. For example, Flint’s (1998: 63-65) “five moments” Molinism adds God’s conditional will between his necessary knowledge and creative act of will.

We take it, however, that all Molinists should agree that Figure 2 *partly* describes the explanatory relationships between God, the CCFs, and Eve’s sin. That is, while there may be nodes and arrows that need to be added for the diagram to be *complete*, no nodes or arrows need to be *removed* for the diagram to be accurate. It is essential to Molinism that the CCFs fully explain God’s middle knowledge, that this middle knowledge partly explain God’s actual will, and that God’s actual will, together with any prior free activity, determines the circumstances creatures act in; and that is all we need assume here. In the next section, we consider what nodes and arrows we need to add to Figure 2 to fill out the explanatory relations between the CCFs and Eve’s sin.

1. **Divine Providence: The Molinist DAG**

Molinists aim to reconcile a strong doctrine of divine providence with robust human freedom. This strong doctrine says that God specifically directs every event in the world, and takes no “risks” in doing so: in deciding how to create, he knows exactly what will follow from his decisions. According to Molinism, God can know exactly what will follow from his decisions to put creatures in particular circumstances by knowing the CCFs. God’s lack of control over the CCFs, in turn, is supposed to make room for libertarian free will:

Because he has middle knowledge and makes free choices concerning which creatures will exist in what circumstances, God both has complete knowledge concerning how these creatures will act and great control over their actions, in the sense that any act they perform is either intended or permitted by him. Yet because the knowledge which generates this foresight and sovereignty is not itself a product of free divine activity, our actions remain genuinely free, not the robotic effects of divine causal determination (Flint 1998: 44).

We will defend the following argument that if Molinism is true, our actions are not free:

1. If Molinism is true, then there is some set of facts Γ such that (a) Γ fully explains Eve’s action, and (b) nothing Eve does (even partially) explains Γ.
2. If Γ fully explains the fact that S φ-s, and nothing S does even partially explains Γ, S does not freely φ.
3. If Molinism is true, Eve does not freely sin. [from (1)-(2)]

But what goes for Eve’s sin goes for any action, and so there are no free actions.

In this section we will argue for premise (1) of this argument. We will begin by sketching our argument informally. Let’s abbreviate God’s Creative Act of Will “Creation.” Creation is prior to Eve’s sin, and the CCFs are prior to Creation. Moreover, the CCF, “were Eve tempted by a serpent, she would sin,” together with God’s creating Eve in those circumstances, entails that Eve sins. Since Eve’s sin is entailed by factors explanatorily prior to it, then either these factors determine Eve’s action, or there is some other full explanation of Eve’s action that includes common influences on both these factors and Eve’s action.

 

**Figure 3 Figure 4**

Figure 3 illustrates the first of these options. Figure 3 is just like Figure 2 except that the CCFs now help explain creatures’ actions. We’ve added an arrow from CCFs to Circumstances to indicate that which other CCFs are true makes a difference to which circumstances free creatures find themselves in. For example, if the serpent is a free agent, the CCF “were the serpent placed in the garden, it would tempt Eve” might partly explain the circumstances in which Eve finds herself. And we’ve added an arrow from the CCFs to Eve’s sin to indicate that the truth of the CCF, “were Eve tempted by a serpent, she would sin,” is one of the explanatory factors (together with the circumstances in which she finds herself) directly influencing whether Eve sins. Here, God’s Creative Act of Will partially explains Eve’s sin, by explaining the circumstances in which Eve finds herself, tempted by a serpent. The CCF, “were Eve tempted by a serpent, she would sin,” also partially explains that sin. Together they fully explain Eve’s sin. Consequently, (1a) is true. In addition, Eve’s sin is not explanatorily prior to either God’s Creative Act of Will or the CCFs, meaning that it cannot even partly explain either. Consequently, (1b) is true.

Figure 4 illustrates how (1) can be true even if the CCFs do not themselves directly influence creaturely action. Here the CCF “were Eve tempted by a serpent, she would sin,” is not brute, but grounded in more basic facts: namely, contingent facts about Eve’s essence (cf. Kvanvig 1986: 124). (These facts must be contingent because otherwise, either the CCFs would not be contingent or the facts would not entail the CCFs.) These facts take over the explanatory role Figure 3 assigns to the CCFs. In particular, they help explain Eve’s sin. {Creation, Contingent Facts about Creaturely Essences} is then a common full explanation of Eve’s action and of {Creation, CCFs}. Consequently, (1a) is true. And Eve’s sin is not explanatorily prior to either God’s Creative Act of Will or the Contingent Facts about Creaturely Essences, meaning that it cannot even partly explain either. Consequently, (1b) is true.

We do not claim that Figures 3 and 4 are the only ways the Molinist can develop these explanatory relationships. But we do claim that any way of developing these explanatory relationships will make (1) true. Our argument has three premises:

1. If Molinism is true, CCFs and Creation are both explanatorily prior to Eve’s sin.
2. {Creation, CCFs} entails that Eve sins.
3. If all members of a set of contingent facts Γ are prior to Y, and Γ screens off all ancestors of Γ from Y, then if Γ entails Y, Γ fully explains Y.

To say that Γ screens off all its ancestors from Y is to say that any set of arrows from an ancestor of a member of Γ to Y proceeds through a member of Γ. If there is some ancestor of Γ, X, that is not screened off from Y, then X is a *common influence* on Γ and Y. Now let Δ be the (possibly empty) set of all common influences on {Creation, CCFs} and Y. Since these influences are all prior to {Creation, CCFs}, it follows form (4) that if Molinism is true, all members of {Creation, CCFs}∪Δ are prior to Y. Since entailment is monotonic, it follows from (5) that {Creation, CCFs}∪Δ entails Y. And since any common influences on any members of Δ and Y are also common influences on {Creation, CCFs} and Y, they are already included in Δ. Consequently, {Creation, CCFs}∪Δ screens off all ancestors from Y. It follows that

1. If Molinism is true, {Creation, CCFs}∪Δ fully explains Eve’s action.

 (7) is entailed by (4)-(6). (4) follows from Figure 2, in which the Circumstances Eve finds herself in are prior to her sin, Creation is prior to these Circumstances, God’s middle knowledge is prior to Creation, and the CCFs are prior to God’s middle knowledge. And Figure 2 represents the minimal commitments of Molinism.

(5) is obviously true. {Creation, CCFs} entails that Eve is tempted by a serpent, and on any plausible semantics of counterfactuals, “Were Eve to be tempted by a serpent, she would sin” and “Eve is tempted by a serpent” will entail that Eve sins.[[5]](#footnote-6)

This leaves (6). We take (6) to be an *a priori* truth about full explanation. It is commonly assumed in the literature on causal inference that if one event raises the probability of another, there must be some explanatory connection between them: either the first explains the second, the second explains the first, or they have some common explanation.[[6]](#footnote-7) So if the first is prior to the second and they have no common explanation, then the first must explain the second. In this principle explanation is understood as (possibly) partial. (6) is an analogous principle for full explanation: if there is a *necessary* *connection* (and not merely a probabilistic correlation) between Γ and Y, then there must be some explanatory relation between them. If Γ is prior to Y, then this explanatory relation cannot consist even partly in Y explaining Γ. And if anything prior to Γ that influences Y only does so by influencing Γ, then it cannot consist even partly in Γ and Y having a common explanation. So it must consist in Γ explaining Y. And this explanation must be a *full* explanation, for otherwise we cannot account for Γ *entailing* Y, and not merely probabilifying it.

 Premises (4)-(6) entail (7). One way for (7) to be true is for {Creation, CCFs} to fully explain Eve’s action, as in Figure 3. If there are common influences on {Creation, CCFs} and Eve’s sin, then {Creation, CCFs} may not fully explain Eve’s sin, as in Figure 4. According to (7), in Figure 4, {Creation, CCFs, Contingent Facts about Creaturely Essences} is a full explanation of Eve’s sin. In this case this full explanation is not a minimal one, since {Creation, Contingent Facts about Creaturely Essences} is also a full explanation of Eve’s sin. (6) allows for the possibility that the Molinist could come up with some other common explanation of the CCFs and Eve’s sin that does not fully explain that sin when combined with Creation. But it implies that when we combine that explanation with Creation and the CCFs, we will then have a full explanation of Eve’s sin. So (1a) is true. Moreover, whatever fully explains Eve’s actions apart from Creation will be explanatorily prior to Creation. Since Creation will be prior to everything Eve does, Eve’s actions cannot help make true either Creation or any other part of this full explanation. So (1b) is true. The Molinist cannot avoid there being something that fully explains Eve’s sin but is not explained by anything Eve does. (1) is true.

1. **The Libertarian Premise**

Molinism’s primary attraction comes in its promise to reconcile a theory of divine providence guided by complete foreknowledge with a libertarian conception of creaturely freedom. We have already argued that:

1. If Molinism is true, then there is some set of facts Γ such that (a) Γ fully explains Eve’s action, and (b) nothing Eve does (even partially) explains Γ.

We will now argue that:

1. If Γ fully explains the fact that S φ-s, and nothing S does even partially explains Γ, S does not freely φ.

We will defend (2) with two arguments. Our first is a dialectical one, which assumes that our Molinist opponent is a libertarian. Libertarianism is the conjunction of the following theses:

 Incompatibilism

Determinism is inconsistent with free will.

 Free Will

We have free will.

So baked into the idea of libertarian free will is that it is incompatible with “determinism.” That requires a bit more precision. Usually, we find the following sort of formulation for determinism in the literature (e.g., Lewis 1981):

Determinism

There exists some proposition L, informally the laws of nature, and some proposition H, informally the history of the world up to t, such that H and L entail everything that will happen after t.

Implicit in this formulation is the assumption that the relevant form of determinism is nomic determinism. But we might wish to think about many kinds of determinism, such as causal determinism or determinism by divine decree, that libertarians think undermines freedom. We can schematize this to give a general definition of determinism (of a world at a time):

Generalized Determinism

A world is Δ-ish deterministic at t just in case there exist a set of facts Γ which entail everything that will happen after t.

We can then get tidy statements of various determinisms by filling in Δ. If Δ is facts about the past and laws of nature, we get nomic determinism. If Δ is the causal influences on the present, we get causal determinism. If Δ is the decree of the gods, we get theological determinism, and so on.

 Not all ways of filling in Δ will result in a determinism that is objectionable to libertarians. If we assume that the future is not open, then if Δ is facts describing the world’s future, we will have a form of determinism—call it veritaic determinism, since it is determinism by truth—that all but the staunchest libertarians (the ones who insist on an open future) will acknowledge as not undermining freedom.

 We have pointed out another way of filling in Δ: with facts that are *explanatorily* *prior* to the present moment. So it is reasonable to ask: is this version of determinism, call it explanatory determinism, freedom undermining? We contend that it is. Why? Because it completely removes the agent from the determinants of her actions. What divides causal, nomic, and theological determinism as freedom undermining from veritaic determinism, which isn’t? In veritaic determinism, the agent makes true the future facts which entail her action. The facts describing the future of the world are descriptions of what she does. But the other kinds of determinism don’t feature the agent in this way. They involve facts which the agent herself has no influence over. What unites freedom-undermining forms of determinism is that they involve entailment by facts which are explanatorily prior to anything the agent does. What unites them, in other words, is that they are all forms of explanatory determinism.[[7]](#footnote-8) The libertarian should thus hold that explanatory determinism is just as freedom-undermining as causal determinism or theological determinism. Just as our actions are unfree when they are determined by prior causal influences or divine decrees which we do not influence, they are unfree when they are determined by prior explanatory influences which we do not influence.

 Our second argument for (2) draws on a pattern of intuitions about cases in the free will literature that libertarians endorse. We will propose that the best explanation for this pattern of intuitions is the truth of the following claim, which is logically equivalent to (2):

1. If S φ-s freely, then if Γ fully explains the fact that S φ-s then something S does partially explains Γ.

(8) makes it a necessary condition on free action that something S does partially explain anything that fully explains that action.

 Through much of the 20th-century free will debate, the Principle of Alternative Possibilities (PAP) has been taken as definitive of libertarianism.

Principle of Alternative Possibilities

S freely φ-s at t iff it is consistent with H & L that S φ at t and that S refrain from φ-ing at t.

Purported counterexamples to PAP provide us with the first judgements to explain. Consider the following cases, the first from Frankfurt (1969) and the second a standard “luck” case:

Frankfurt

Black wants Jones to perform a certain action. Black is prepared to go to considerable lengths to get his way, but prefers to avoid showing his hand unnecessarily. So he waits until Jones is about to make up his mind what to do, and does nothing unless it is clear to him (Black is an excellent judge of such things) that Jones is going to decide to do something other than what Black wants him to do. If it does become clear that Jones is going to decide to do something else, Black takes effective steps to ensure that Jones decides to do, and that he does do, what Black wants him to do. Whatever Jones’s initial preferences and inclinations, then, Black will have his way. As it happens, today Jones decides to do what Black wants him to; Black in fact never intervenes, but would have had Jones been about to decide differently.

Radium

Garcia is a special kind of agent. Rather than the usual human mental system for making decisions, he has a stochastic Rube Goldberg Machine in its place. When he goes to make a decision, a radium atom is designated, and whether it decays within a set amount of time settles his decision. But in outward appearance, he seems normal. Albeit somewhat erratic.

 Frankfurt-style cases are purported counterexamples to the left-to-right direction of PAP, and have spawned a lengthy literature. It looks like Jones acts freely if he makes the choice to act, even though he would act unfreely if he chose not to act and was overridden by Black. In contrast, Cases like Radium are generally considered counterexamples to the right-to-left direction of PAP. Even though Garcia has alternative possibilities, it doesn’t look like anything he does is free. Using (8), we can shed new light on cases like Frankfurt and Radium.

 Start with Frankfurt. We will show that while (8) implies that on natural ways of filling out Frankfurt, Jones acts freely, it also implies that this freedom is dependent on Jones having freely acted in the past in a way that partially explains his actions now. Let us explain.

 One might initially think: Because Black is a merely counterfactual intervener, the explanation for why Jones acts is entirely Black-free. It is Jones who performs all necessary steps before taking the action. Black simply watches things. Jones acts freely.

 The problem is that there is not merely one explanation for Jones’s action. Black’s intention to intervene, combined with the circumstances in which Jones finds himself, entails that Jones act as he does. (8) tells us that, for Jones to be free, something Jones does must partially explain those facts as well. This will plausibly be the case. Perhaps, for example, Black chose to use Jones for his schemes because he had observed Jones freely acting in the past in a way that has now shaped his character to make him more likely to act in the way Black wants. Or perhaps Jones made choices in the past (before Black was on the scene, or over things which Black does not bother manipulating) which partially explain the situation in which Jones now finds himself—the situation which Black is prepared to intervene in if Jones does not act the way Black wants. Since the most natural filling out of Frankfurt does not involve Black having counterfactual control over Jones’s whole life, the most natural filling out of Frankfurt is one on which it is likely that Jones has done something in the past which partly explains either Black’s intention to intervene or Jones now being in the circumstances in which Black stands ready to intervene. In this case, (8) allows that Jones acts freely, in accordance with the standard Frankfurt intuition.

 But there are also many ways to exclude Jones from the facts that, together with Black’s intentions, entail that he act. Perhaps this is Jones’s first intentional action. Perhaps Black has been playing the long game, and has been manipulating Jones’s entire life to put Jones in a position to do this act. Perhaps Black is God, and has set up the universe so as to intervene whenever free creatures do not act the way he wants. (This situation is like Molinism, except that God avoids taking risks, not by knowing the CCFs prior to Creation, but by intervening whenever creatures are not going to act the way he intends.) In each of these cases, there will be some set of facts that fully explains Jones’s action, which nothing Jones does even partially explains. So in these cases, Jones is not free.

 (8) thus offers the libertarian an attractive response to Frankfurt. On this response, Jones is free in the most natural reading of Frankfurt, but only because Jones’s prior free actions play a partial role in explaining anything that fully explains Jones’s action. If those prior actions are absent or themselves fully explained by things Jones has no influence over, then Jones is no longer free. Jones’s freedom in the Frankfurt case is in this sense a second-rate, derivative affair, present only because of past actions where Jones had alternative possibilities.

 Cases like Radium raise what’s known as the luck problem for libertarianism. Because libertarians insist that there is indeterminism somewhere between agent and action (where exactly is disputed), opponents have charged them with advancing a theory of free will where it is only an accident that connects an agent with her actions. The libertarian must say how her agents are disanalogous from agents like Garcia, whose actions come at the whim of atomic decay and are clearly not free. In this, (8) can help.

 Why, according to (8), is Garcia not free? Because for each action he takes, we can find some set of facts that fully explains what he does, but nothing Garcia does even partially explains. This set includes facts about his cognitive architecture, the designation of the Radium atom, and whether the atom decays. All of these are beyond his influence, and together fully explain what he does. So, (8) suggests, in order to avoid luck problems, the libertarian must give her theory in such a way that she avoids allowing any Γ such that Γ fully explains what the agent does but nothing the agent does even partially explains Γ. Fortunately, the major libertarian theories already do this. Libertarian theories are generally split into two types: agent-causal theories, where agents stand in a causal relation to their actions, and event-causal theories, where the only causal relata are events and some story is told about how an agent relates to the events that cause her actions. It would be difficult to give an agent-causal theory of action where something interposes between the agent and her action that is not even partially explained by the agent’s choice, so the interesting question is whether event-causal libertarian theories satisfy (8).

 The most prominent versions of event-causal libertarianism are the ‘centered’ views defended by Robert Kane and Laura Ekstrom. For specificity, we will focus our discussion on the theories defended in Ekstrom (forthcoming), but the main point should generalize to other event-causal libertarian theories. On Ekstrom’s view, an agent’s core self is formed by mental states generated by what she calls *preferences* and *acceptances*. Both of these are technical terms. An Ekstromian preference is a desire formed or maintained in an effort to desire the good, while an Ekstromian acceptance is a belief formed in the aim of getting at the truth. In her earlier accounts of free will, e.g. her (2000), Ekstrom defined a free action as one caused (non-deviantly) by a preference that was formed indeterministically as a result of the agent’s deliberations. In later work, she allows other elements of an agent’s mental life such as desires, values, and more generally anything that would count as a reason to serve as the causal basis of a free act while then imposing an additional criterion that when the agent acts, the agent could have done some other act or no act at all. Neither version of Ekstrom’s event-causal theory runs afoul of (8). In both versions of the view, there is no full explanation of an agent’s free act that does not involve or is not at least partially explained by preferences, desires, reasons, acceptances, or values that the agent has formed in (indeterministic) deliberation. Since deliberation is something an agent does, anything that fully explains an agent’s action is partially explained by something that agent does.

 So (8) is helpful to libertarians in dealing with both Frankfurt cases and the luck objection. (8) also predicts the libertarian intuition in manipulation cases, providing yet another reason for libertarians to like it. Manipulation cases comprise one of the most recent arguments for incompatibilism. The classic is from Pereboom (1995):

Manipulation

A team of neuroscientists has the ability to manipulate Plum’s neural states at any time by radio-like technology. In this particular case, they do so by pressing a button just before he begins to reason about his situation, which they know will produce in him a neural state that realizes a strongly egoistic reasoning process, which the neuroscientists know will deterministically result in his decision to kill White. Plum would not have killed White had the neuroscientists not intervened, since his reasoning would then not have been sufficiently egoistic to produce this decision. But otherwise Plum’s decision meets the requirements set down by standard compatibilist accounts of free will (it is consistent with his character, reflectively endorsed by second-order desires, produced by a mechanism that is sensitive to reasons, moral and prudential).

In Manipulation, although Plum kills White and fulfills many popular proposed sufficient conditions on free will, it does not seem like Plum acts freely, or is responsible for his actions. Why? Because something fully explains Plum’s actions, but Plum and everything about him are explanatorily irrelevant to that thing.

Pereboom’s case is directed against compatibilists. But it can be easily modified to target incompatibilist conditions that do not entail (8). Since the most popular of these is the PAP, we give one designed to target its right-to-left direction.

Stochastic Manipulation

A team of neuroscientists has the ability to manipulate Plum’s neural states at any time by radio-like technology. In this particular case, they do so by pressing a button that will instantly cause Plum to kill White if a certain designated radium atom decays at the time the button is pressed. As it happens, the atom decays and Plum kills White. Plum would not have killed White had the neuroscientists not intervened. But otherwise Plum’s decision meets the requirements set down by standard compatibilist accounts of free will (it is consistent with his character, reflectively endorsed by second-order desires, produced by a mechanism that is sensitive to reasons, moral and prudential).

As in Manipulation, it seems in Stochastic Manipulation as if Plum does not act freely, and is not responsible for his actions. Yet, he has an alternative possibility.

 Manipulation and Stochastic Manipulation, we propose, interdict free will by providing some Γ such that Γ fully explains an agent’s decision to φ, and nothing she does even partially explains Γ. As a contrast, consider a manipulation case that fulfills (8):

Stochastic Manipulation II

A team of neuroscientists has the ability to manipulate Plum’s neural states at any time by radio-like technology. In this particular case, they do so by pressing a button that will instantly cause Plum to kill White if a certain designated radium atom decays at the time the button is pressed. Before they decide to do anything, Plum becomes aware of their ability. Plum very much desires the death of White, and afraid of losing his nerve at the last moment, he leaves a large sum of money for the neuroscientists and anonymous instructions telling them to press the button, which they subsequently do. As it happens, the atom decays and Plum kills White. Plum would have lost his nerve had the neuroscientists not intervened. But otherwise Plum’s decision meets the requirements set down by standard compatibilist accounts of free will (it is consistent with his character, reflectively endorsed by second-order desires, produced by a mechanism that is sensitive to reasons, moral and prudential).

Unlike in Stochastic Manipulation, Plum still seems responsible for the death of White. Since Stochastic Manipulation II is a minimal (8)-satisfying variant of Stochastic Manipulation, the best explanation for the change in intuition is the truth of (8).

 Thus, we present our case for libertarians to adopt (2)/(8). First: we argued that what standard forms of determinism recognized by libertarians as freedom-undermining have in common is that the facts which entail the future are explanatorily prior to the present. The libertarian should thus accept explanatory determinism as freedom-undermining. Second: we showed how (8) can help the libertarian navigate the treacherous waters of Frankfurt cases and objections. Third: we showed how (8) is confirmed by the pattern of judgements we find in manipulation cases, even showing how a minimal tweak to a manipulation case so that it now satisfies (8) reverses the judgement that the agent is not acting freely. Insofar as Molinists are libertarians, this also serves as a case for Molinists to adopt (2)/(8).

1. **Objections**

 In this section we will respond to two objections to our view, based on the most common objections to previous explanatory priority arguments against Molinism. The first objection is to premise (1), and the second to premise (2).

 Here is premise (1) again:

1. If Molinism is true, then there is some set of facts Γ such that (a) Γ fully explains Eve’s action, and (b) nothing Eve does (even partially) explains Γ.

Our argument for (1) proceeded by exploring what explanatory priority relations between different facts surrounding God’s providence and Eve’s sin are consistent with Molinism. The first objection says there is no unified transitive, asymmetric explanatory priority relation that relates all these facts.

 Flint (1998) gives this response to Adams’s (1991) explanatory priority argument, suggesting that there is no univocal sense of explanatory priority on which the Molinist should accept all of Adams’s premises. He supports this by examining various possible analyses of explanatory priority, and concluding that none get the results that Adams needs in his argument. For example, my action being explanatorily prior to a fact cannot be analyzed in terms of my having *causal control* over that fact, because we do not have causal control over past facts, and so this would make freedom inconsistent not only with Molinism but also with simple foreknowledge (and, we might add, simple facts about what will happen).

 This response to an explanatory priority argument is not a charitable one. As Morriston (2001: 25) points out, Flint’s suggested analyses of explanatory priority in terms of causal and counterfactual control have nothing to do with *explanation*. They are also not general *priority* relations because one of their relata must be an agent; but explanatory priority as we have been understanding it (and as Adams and Hasker understand it, for that matter) relates facts (or propositions, or events). A priority relation is a relation that puts an *order* on the things it relates. An explanatory priority relation is a relation that puts facts (propositions, events) in an *explanatory* order. Flint’s analyses do neither of these things, and so he has just changed the subject.

 A related way to defend the objection at hand would be to offer more specific priority relations to replace our general explanatory priority relation, hold that these more specific priority relations are the only ones there are, and argue that for none of these more specific relations are all our premises true (cf. Flint 1998: 174). We think the most promising way to pursue this strategy would be to distinguish *causal* and *metaphysical* priority, and hold that CCFs are *metaphysically* prior to God’s middle knowledge, and that God’s will is *causally prior* to Eve’s sin. One could then hold that Eve’s sin is *metaphysically* prior to the CCF that she would sin if tempted by a serpent—it is what grounds that CCF’s truth—and so metaphysically prior to God’s middle knowledge, and yet that knowledge is still *causally* prior to her sin.

 This same dialectic has played out in debates over the notion of ground (called by some *metaphysical explanation*). In response to theorists like Schaffer (2009), Fine (2001), and Rosen (2010) introducing a hyperintensional dependence relation that induces a weak partial order (transitive and asymmetric), Jessica Wilson (2014: 554) has argued that there is no general relation such as ground, only “small-g” grounding relations such as “type and token identity, functional realization, the classical mereological parthood relation, the causal composition relation, the set membership relation, the proper subset relation, the determinable/determinate relation, and so on.”[[8]](#footnote-9) In response, Schaffer (2016b) notes that merely showing that some species fall within a genus does not give us reason to eliminate the genus. Instead, when we are confronted with some philosophically interesting notion and debating whether to adopt a monistic theory about it (one unified notion), a pluralistic theory (many different notions), or a nihilistic theory (do away with it), we ought to build the best formalism we can for modeling and see what happens. If the formalism produces nothing useful, do away with it. If it turns out that using the formalism requires us to identify which species of the genus a given bit of formalism falls under, we need a pluralist theory. If the formalism is useful when it ignores species-level distinctions, then go monist. He then argues that the directed acyclic graph models that we have employed in this paper do provide a productive, useful formalism of a unified notion of ground.

 As Schaffer thinks with ground, so we think with explanation. We may not be able to give a reductive analysis of explanatory priority, but we can still understand it as the genus under which metaphysical, causal, and perhaps other kinds of priority relations fall; and doing so has several theoretical benefits.[[9]](#footnote-10) First, we are able to identify this genus as a necessary condition for explanation. When we try to explain one fact by citing another fact, some explanations are (literally) out of order, because the explanans is explanatorily downstream from the explanandum. That Sally develops lung cancer next year is not even a *candidate* explanation of the fact that she smokes now; whereas the fact she smokes now *is* a candidate explanation of the fact that she develops cancer next year. This is because her present smoking is explanatorily prior to her future cancer, and not vice-versa.

 Second, examples suggest that we sometimes need the more general notion to describe explanatory relations that are neither wholly causal nor wholly non-causal. Here is an example from Lange (2018: 1345):

Suppose I bet my friend, a teacher named Jones, that if he picks eight students at random from his class, then he will find that at least two of them were born on the same day of the week. Jones foolishly thinks this result unlikely, takes the $1 bet, loses, and pays me. Why did Jones pay me $1? There is a causal explanation involving Jones’s believing that he lost his bet (because he did lose it) and Jones’s desiring to honor his commitments. Why, in turn, did Jones lose his bet? There is a non-causal, distinctively mathematical explanation appealing to the pigeonhole principle: with seven days of the week and eight students, it is certain that two students’ birthdays fall on the same day of the week. The combination of these two explanations can explain why Jones paid me $1. This explanation is supported not just by causal relations and not just by distinctively mathematical relations, but rather by the two in combination.

In this example, the fact that Jones loses the bet is causally prior to the fact that Jones pays Lange $1, and the pigeonhole principle is non-causally prior to the fact that Jones loses the bet. It seems that the pigeonhole principle is then explanatorily prior to the fact that Jones pays Lange $1, and indeed, that this principle (partially) explains why Jones pays Lange $1. But this explanatory priority relation is neither wholly causal nor wholly non-causal, but a combination of both.[[10]](#footnote-11)

 The objector could at this point admit that different kinds of explanatory priority relations can legitimately be combined, but hold that explanatory priority is nevertheless not transitive or not asymmetric—perhaps because causal and metaphysical priority are not transitive or asymmetric.[[11]](#footnote-12)

 To this objection, we have two replies. First, the assumption of transitivity and asymmetry has borne theoretical fruit in analyzing explanatory relations—see, e.g., Pearl 2000 and Spirtes et al. 2000 on causation, Schaffer 2016a on grounding, and Climenhaga forthcoming and Bovens and Hartmann 2003: ch. 3-5 on the use of Bayesian networks[[12]](#footnote-13) to calculate probabilities. We should not give up theoretical fruits like these without strong reason.

 Second, we think that the assumptions of transitivity and asymmetry are built into our ordinary conception of explanatory priority. The term ‘explanatory priority’ is a technical one, but it captures a pretheoretic notion—that of “influencing,” or “making a difference.” X is explanatorily prior to Y if X is one of the factors that influences whether Y. And if X influences whether Y, and Y influences whether Z, it seems that X influences whether Z. For example, if the pigeonhole principle influences whether Jones wins his bet with Lange, and whether Jones wins his bet influences whether Jones pays Lange $1, then the pigeonhole principle influences whether Jones pays Lange $1. Similarly, nothing can influence itself: P being true cannot be one of the factors that influences whether P is true—that role has to fall to things other than P. So it appears to us that, quite apart from the theoretical work that a transitive, asymmetric relation of explanatory priority can do, our pretheoretic concept of ‘influence’ already commits us to the existence of such a relation.

 So much for explanatory priority. The second objection that we want to consider in this section is to our second premise:

1. If Γ fully explains the fact that S φ-s, and nothing S does even partially explains Γ, S does not freely φ.

This objection says that (2) is too restrictive, because so long as the CCFs about us are appropriately explained by our *essences*, then they are explained by *us* in an appropriate way to count as free. Even if they are not explained by anything we *do*, they can still count as free on a source-incompatibilist or agent-causal view of freedom.[[13]](#footnote-14)

 This objection relies on a Molinist view like that in Figure 4, on which the truth of CCFs about Eve is explained by contingent facts about Eve’s essence. These facts, in turn, are not fully explained by Eve’s essence itself—if they were, they would not be contingent—but they are partly explained by Eve’s essence. Eve’s essence is explanatorily prior to them. And inasmuch as Eve’s essence partly explains all the facts that fully explain Eve’s sin, she is the ultimate source of that sin, and so her sin is free.

 Like any libertarian view of free will, a view like this must navigate between the Scylla of random luck and the Charybdis of responsibility-undermining explanations. If the Molinist view of freedom is to remain libertarian, then the following had better be true:

1. the facts about Eve’s essence that explain both the truth of the CCF and her actions must not be fully explained by anything, and so must be contingent;
2. if the full explanation of Eve’s action were to be fully explained by Eve’s essence, then they would no longer be free; it must be important to Eve’s actions being free both that her essence is partially involved in the explanation, and that it is not the full explanation.

 Requirement (a) is to ward off the facts about Eve’s essence being determined by prior facts. If the facts about Eve’s essence were fully explained by Eve’s essence itself, then they would not be contingent. If they were fully explained by something besides Eve’s essence (like God), then whatever it was that fully explained them could combine with Creation to fully explain Eve’s sin, and so we would have a new X that fully explains Eve’s sin that facts about Eve’s essence play no role in explaining.

 And yet in warding off determinism, (a) raises the spectre of luck. The contingent facts about Eve’s essence cannot be fully explained, and there is certainly no agency explanatorily prior to them. The Molinist needs to see how these contingent facts come to be true, but not arbitrarily true, on pain of raising a nasty luck problem for herself.

 Requirement (b) is to ward off source compatibilism while maintaining the motivation for the view in the first place. A source compatibilist is okay with full determination of free actions, provided the agent is closely involved in the explanatory story. The relevant kind of source compatibilist will accept explanatory determinism so long as creatures’ actions have their ultimate explanation in creatures’ essences. This puts the objector in the somewhat odd position of needing there to be some involvement by the essence in the explanation, but not too much.[[14]](#footnote-15)

 It’s difficult to argue for both (a) and (b). The Molinist can’t just assert that the contingent facts about Eve’s essence aren’t arbitrary, even though they could have been different. The typical libertarian response to luck/arbitrariness objections is to point out that even though free actions are not settled deterministically, they are the product of end-directed processes (deliberation, agency, etc.). An agent influences them towards their destination, even though she could just as well have influenced them otherwise. But no agent settles the contingent facts about Eve’s essence. God can’t do it without acting like the neuroscientists in Pereboom’s manipulation cases, and at the moment when they are true there is no one else around. They are a mystery, and the only other things that have entered the explanatory story—God, God’s nature, God’s necessary knowledge, creaturely essences—have either already had their say or are explicitly barred from explaining anything by the structure of the view. It will be difficult for this Molinist to provide a compelling response to luck issues without compromising her libertarianism.

1. **Conclusion**

 Molinists seek to reconcile a strong doctrine of providence with libertarian human freedom. We have argued that the reconciliation they attempt cannot succeed. If there are true CCFs that guide God’s providential choice of what circumstances to put us in, then that choice and those CCFs, together with any common influences on them and our actions, determine what we will do. We must give up either robust human freedom or robust divine providence. There is no middle ground.

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1. If neither C nor D would fully explain F on their own, then {D, C}, {B, C}, and {A, C} are *minimal* full explanations of F, in that removing one of their members would make them not full explanations. {A, B, C} would be a non-minimal full explanation of F. [↑](#footnote-ref-2)
2. In overdetermination cases, the above screening off condition is not met. Hence, screening off is not a necessary condition for full explanation. Our subsequent argument requires only that we state sufficient conditions for full explanation. See the discussion of (6) in Section 3. [↑](#footnote-ref-3)
3. Full explanation should not be confused with *complete* explanation. A full explanation is only complete if it cites all explanatorily prior factors. In Figure 1, for example, {A, B, C, D} would be the complete explanation of F. Our argument only relies on claims about full explanations, not complete explanations. [↑](#footnote-ref-4)
4. While indeterministic events do not have full explanations, partial explanations of such events can still come more or less close to being full. D would be a less full explanation of F, and {C, D} would be a fuller explanation—in this case, as full an explanation as is possible. In general, as full an explanation as possible of an event will be one which cites all relevant explanatorily antecedent factors such that these factors screen off the event from any other factors prior to them. For deterministic events, the fullest explanation possible will be a full explanation *tout court*, entailing the event; for indeterministic events, the fullest explanation possible will nevertheless remain partial, probabilifying the event to some non-maximal degree.For example, the fullest explanation of the fact that a radium atom decays in a period of time may cite the environment in which it exists and the propensity it has to decay; but this explanation may still only make it (say) 90% probable that the atom decays in that time period. [↑](#footnote-ref-5)
5. See Lewis 1973, Stalnaker 1968, and Gillies 2007. Our assumption is simply that the counterfactual conditional respects Modus Ponens, which is common ground in the literature. [↑](#footnote-ref-6)
6. See, e.g., Climenhaga 2017. See also Sober 2001 for critical discussion of this principle, and Steel 2003 for a response. This principle follows from the Markov condition, discussed in Section 5 below. [↑](#footnote-ref-7)
7. Swenson (2016) advances a similar argument in defense of his ‘fixity of the independent past’ principle, which he uses to argue that divine foreknowledge need not be freedom-undermining. Swenson argues that we are able to do otherwise than we in fact do only if there is a possible world in which we hold fixed all the facts in the actual world that do not (at least partially) *explanatorily depend* on our choice, and yet we still do otherwise. Such facts will include causal determiners, divine decrees, and CCFs, but not facts about what will happen or facts about divine foreknowledge on a simple foreknowledge view. Apart from constraining ability to do otherwise rather than freedom, Swenson’s condition is very similar to our premise (2). The most important difference is that our principle allows that an agent can act freely at a time if something *else* they did explains any prior facts which entail their action. (See Stochastic Manipulation II below.) [↑](#footnote-ref-8)
8. A similar move has also been made by Humeans about natural law, who have used a distinction between “metaphysical explanation” and “scientific explanation” to respond to an explanatory circularity argument against Humeanism about laws (see Loewer 2012 and Hicks and van Elswyk 2015). [↑](#footnote-ref-9)
9. For further arguments that causation and grounding are of a kind, see Bennett (2017). Although Schaffer (forthcoming) himself critiques Bennett’s view, he does think that grounding and causation have analogous structure (Schaffer 2016a). See also Wilhelm (Ms) for a defense of a single unified relation that backs explanations. [↑](#footnote-ref-10)
10. Swenson (2016: 661) gives a similar argument for the claim that there is a unified notion of “explanatory dependence.” [↑](#footnote-ref-11)
11. Wilhelm (Ms) denies both transitivity and asymmetry, but he does so primarily to include mathematical explanation, which we do not need to include. [↑](#footnote-ref-12)
12. Bayesian networks are DAGs that obey the “Markov condition” that children are probabilistically independent of all non-descendants conditional on their parents. An intuitive example: if the only thing that makes a difference to whether or not I get lung cancer is the amount of tar in my lungs, and you know exactly how much tar I have in my lungs, then the only way you can get further evidence that I have lung cancer is by observing possible effects of lung cancer: e.g., shortness of breath. You can’t get evidence that I have lung cancer by learning that I smoke, because the only way that can make a difference to whether I get lung cancer is by making a difference to the amount of tar in my lungs, which you already know. For further discussion of the Markov condition, see Pearl 1988: ch. 3 and Hitchcock 2012. [↑](#footnote-ref-13)
13. See, e.g., Rogers 2008 and O’Connor 2000. [↑](#footnote-ref-14)
14. We have been assuming here that Molinists must be libertarians. But incompatibilism about free will does not strictly follow from the claim that there are contingent CCFs which God knows prior to creation but does not make true. If all it takes to be a Molinist is to endorse this claim, then Molinists can be compatibilists. Nevertheless, excepting Perszyk (2000), virtually all Molinists are in fact incompatibilists. We suspect this is because incompatibilism is a core part of the *motivation* most Molinists have for accepting the view. If free will is compatible with CCFs being determined, there is no clear reason to hold that they are undetermined. Perszyk argues that a Molinist could be a compatibilist but hold that God could not have determined CCFs because of the incompatibility of free will and manipulation. But this does not explain why CCFs could not be determined by our essences. So we are skeptical that endorsing compatibilism is a promising way to respond to our argument, although we are open to further exploration of this possibility. [↑](#footnote-ref-15)