

Lucretius on Swerves and Freedom

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Introduction

The *classic account* of the Epicurean doctrine of freedom has it that although the universe consists of atoms moving deterministically and causing everything from the bottom up, *sometimes* atoms move at random – they swerve – and bottom-up cause free volitions.¹ To which the objection, at least as old as Plotinus, runs as follows: aren't random motions as inimical to human freedom as deterministic motions?² I would like to suggest that in *De Rerum Natura*, the philosophical poem of Titus Lucretius Carus, we find an account that is much better than the *classic account*, one with real philosophical merit. On this *counterfactual account*, a requirement for freedom is that we could have done otherwise (thus the Principle of Alternative Possibilities, or PAP, holds). When someone freely does A, he is free because there could have been a swerve or swerves such that he would have done something else, B, and both A and B would be in character for him (a condition to be clarified in my last section).

Before I can show that Lucretius held the *counterfactual account*, I will have to consider the context of Lucretius' discussion of swerves and freedom. The context, as I will show, is that of a causal argument, namely, an argument that infers the existence of a hidden cause (the swerve) from the presence of a manifest phenomenon (freedom).

After I have established the context of the argument I will turn to three features of the argument, the significance of which has

1. Cyril Bailey equated the swerve simply and the "act of volition." Cyril Bailey, *The Greek Atomists and Epicurus: A Study* (Oxford: Clarendon, 1928) 320. Pierre Boyancé arrived at a similar account from the opposite direction, arguing that the act of volition is nothing more than the swerve. "La liberté ... ne se situe donc pas dans un monde proprement psychologique, ni dans une subjectivité, dont la notion est entièrement étrangère à Lucrèce, mais au sein même de la matière et elle lie étroitement décision de la volonté et faculté de se déplacer dans l'espace." Pierre Boyancé, *Lucrèce, sa Vie son Œuvre* (Paris: Presses Universitaires de France, 1963), 20.

2. Plotinus writes: "We must leave no room for vain slants or the sudden movement of bodies which happens without any preceding causation, or a senseless impulse of soul when nothing has moved it to do anything which it did not do before. Because of this very absence of motive a greater compulsion would hold the soul, that of not belonging to itself but being carried about by movements of this kind which would be unwilld and causeless." Plotinus *Enneads* 3.1.15-23 All translations are my own, unless otherwise indicated.

generally been overlooked. First, I will argue that for Lucretius, freedom is understood to require alternative possibilities. Second, I will show that for Lucretius, atomic swerves are not only random, but that nobody is ever certain when one occurs or has occurred. I will call this the *uncertainty thesis*. Recognizing the *uncertainty thesis* will allow me to put forward my final piece of evidence, the fact that Lucretius asserts both that *we* swerve, and that we are not aware of swerving. This seeming paradox is the central motor that drives the *counterfactual account*.

I will not address the intriguing question of whether the *counterfactual account* can be attributed to Epicurus. Few readers have ever had much that was good to say about Epicurus' doctrine of freedom. This is true of commentators inclined to the *classic account*,³ as well as of more recent suggestions to the effect that Epicurus' engagement with topics of interest to the contemporary free-will debate was confused,⁴ minimal,⁵ merely therapeutic,⁶ or even non-existent.⁷ One ingenious author goes so far as to defend the postulation of a swerve in Epicurean physics,⁸ yet even he does not think that it can lead to a coherent account of freedom.⁹ I suspect that Lucretius' defense of the *counterfactual account* will be of interest to someone trying to find out what Epicurus thought, but I limit my conclusions to the views expressed in *De Rerum Natura*.

Evidence of the Swerve

The discussion that is of interest to me runs from *De Rerum*

3. Bailey writes: "From the point of view of ultimate consistency, the 'swerve' is a flaw in Epicureanism" (Bailey *Epicurus* 320). Boyancé also has little praise for the view, and in their commentary Alfred Ernout and Léon Robin try to save the account by a textual interpretation which allows them to conclude, "Il ne s'agit pat de volonté libre au sens que la philosophie classique donne à cette expression." Pierre Boyancé, *Lucrece et L'Épicurisme* (Paris: Presses Universitaires de France, 1963) 115; Alfred Ernout and Léon Robin, *Lucrece: De Rerum Natura, Commentaire Exégétique et Critique*, 3 vols. 2nd ed. (Paris: Société D'Édition. «Les Belles Lettres,» 1962), vol. 1 251.

4. Jeffrey S. Purinton, "Epicurus on 'Free Volition' and the Atomic Swerve" *Phronesis* 44.4 (1999) 254-99.

5. Tim O'Keefe, *Epicurus on Freedom*. (Cambridge: Cambridge University Press, 2005); Daniel Russell, "Epicurus and Lucretius on Saving Agency" *Phoenix* 54.3/4 (2000) 226-243.

6. Lisa Wendlandt and Dirk Baltzly, "Knowing Freedom: Epicurean Philosophy Beyond the Swerve" *Phronesis* 49.1 (2004) 41-71.

7. Susanne Bobzien, "Did Epicurus Discover the Free Will Problem?" *Oxford Studies in Ancient Philosophy* 19 (2000) 287-337.

8. Claude Rambaux, Lucrece, "DRN. II, 216-291: le clinamen n'est-il qu'un artifice?" *Vita Latina* 130.1 (1993): 28-34, 30f.

9. Rambaux, "Clinamen" 33.

Natura, book 2 line 216 to line 293. The passage begins with an assertion that turns out to be Lucretius' conclusion: "[Atoms] veer away by a small amount at uncertain times and places."¹⁰ This indeterministic movement has come to be known as the atomic 'swerve.' The thesis that atoms swerve then receives two arguments in its support, running from 2.221-50 and 2.251-293, respectively. The arguments each adduce some piece of empirical evidence that, so it is argued, points to the reality of the swerve. The first piece of evidence is the very existence of the cosmos, for "unless [atoms] are wont to swerve... no collision would have arisen and no blow would have been produced among the first things [i.e. atoms]; thus nature would never have produced anything."¹¹ The second piece of evidence is freedom.

And so, if motion is always interconnected, and new motion comes from old motion in a fixed order, nor do the first things, through a swerve, effect some beginning of motion and break the laws of fate [*fati foedera rumpat*], so that cause should not follow cause from infinity, then whence comes the freedom [*libera*] of living things [*animantibus*] throughout the world, whence, I say, comes this will torn away from fate [*fatis avolsa voluntas*], by which we go each where pleasure leads, [and] swerve our motions, not at any given time or place, but where the mind itself leads?¹²

In both cases, Lucretius is pointing to things that could not be as they are without atomic swerves. Thus what we find here is fundamentally an empirical argument for something one might have thought un-verifiable: this is armchair microphysics.

Lucretius is not innovating here. Such arguments from apparent phenomena to the existence of hidden causes were common among Epicureans. By Epicurean standards, the cosmos and freedom count as evidence of a swerve only if the existence of the cosmos and of freedom cannot be accounted for without an explanation that makes reference to swerves.¹³

10. Lucretius, *De Rerum Natura*, 2.217-19. Lucretius does not say 'atoms,' but 'bodies', but the context makes it clear that these are bodies falling alone through the void before the formation of any compounds, i.e., atoms.

11. Lucretius, *De Rerum Natura*, 2.221-24.

12. Lucretius, *De Rerum Natura*, 2:251-60.

13. Philodemus, *On Signs* 1:12.

Thus the Epicurean approach was a weaker version of a Stoic doctrine. For the Stoics, a phenomenon had to *necessitate* a certain hidden cause in order to count as having established that such a hidden cause actually obtained.¹⁴ The Epicureans were willing to allow for contingent connections between phenomena and their hidden causes. But the connection, however contingent, had to be clear, and no outstanding doubts about it could remain.¹⁵

Lucretius is thus following a standard method, but even his choice of examples may have been Epicurean boilerplate. In his treatise, *On Signs*, Philodemus of Gadara presents the argument that Lucretius makes as something that will be familiar to the reader.¹⁶

[Critics of Epicurean physics] go very wrong in that they don't understand that we verify through appearances that there is nothing that opposes [our view]. For it is not sufficient to accept the very tiny swerves of atoms for the sake of chance and freedom, it is also necessary to show that no other clear fact opposes this analysis.¹⁷

Still, since Lucretius is not merely mentioning the argument but employing it, he owes us an explanation of why it is that freedom could not exist without a swerve, and he owes us a resolution to outstanding doubts.

We are especially entitled to such expectations because they are met in the case of the first phenomenon, the existence of the cosmos. There, Lucretius argues as follows. Given his assumptions about physics, the universe consists of an endless void filled with atoms, all dropping downward carried by their own weight.¹⁸ In their initial arrangement, falling atoms would never touch; they would fall alone like raindrops and never collide to form atomic compounds.¹⁹ However, they would collide – like raindrops in a gusting wind – if some atoms did not fall straight. Lucretius thus posits the swerve, a minimal deviation from an atom's downward

14. Sextus Empiricus, *Against the Mathematicians* 2:245-7.

15. Philodemus, *On Signs* 14:14-27.

16. It is of course conceivable that Philodemus assumes his reader would be familiar with the work of the slightly older Lucretius.

17. Philodemus, 36:7-17, I follow the reconstruction of the text suggested by Philip and Estelle de Lacy. Philodemus, *Philodemus: On Methods of Inference*, edited by Philip Howard De Lacy and Estelle Allen De Lacy (Philadelphia: American Philological Association, 1941), 79.

18. Cf. Lucretius, *De Rerum Natura*, 2.84-85.

19. Lucretius, *De Rerum Natura*, 2.221-222.

course, just sufficient to cause collisions and thus atomic compounds.

Lucretius then does just what Philodemus prescribes: he tries to show that no facts (*res vera*) raise any doubts.²⁰ He fixes on the fact that in the ordinary course of things, bodies don't look as though they swerve. Consider dropped weights: "weights, however heavy, are not able to move obliquely, when they fall from above."²¹ Weights appear to fall straight down, and we don't notice anything else swerving either. Such facts can be reconciled with the theory, Lucretius thinks, by stipulating that swerves are minimal, "nothing more than the least [*nec plus quam minimum*]" motion necessary to count as a change of direction.²² For all we know, we have all experienced many very slightly swerving bodies, and never noticed.

Lucretius' approach to the first phenomenon is formulaic. He establishes the phenomenon and the hidden cause which alone can explain it, ensures that the relation between them is clearly explained relative to the other assumptions of Epicurean physics and metaphysics, and then addresses any facts that seem difficult to reconcile with his analysis. Moving on to the second phenomenon which shows the existence of the swerve, freedom, we expect Lucretius to replicate this approach – and he does.

The second phenomenon that reveals the presence of swerves is the "freedom of living things" (for Lucretius, some non-human animals are free too²³), and our "will torn away from fate."²⁴ It is pretty clear why swerves are necessary to break away from fate, but it's less obvious how that frees us, especially as what Lucretius says he wants to show is merely that "each person's will provides a principle, and from this motions are sent out through the

20. Lucretius, *De Rerum Natura*, 2.245.

21. Lucretius, *De Rerum Natura*, 2.247-48. It's not obvious to me whether Lucretius thinks that dropped weights are a special case. Here is one way to interpret what he says. Imagine two equally heavy weights dropped from the same height. If atoms swerved up or to the side in one, we might expect the force of the swerve to slow the fall of that weight relative to the other. But we never observe this. Conclusion: atoms may swerve but barely change their downward direction.

22. Lucretius, *De Rerum Natura*, 2.244.

23. Lucretius, *De Rerum Natura*, 2.256. There is limited evidence that Lucretius here is taking a standard Epicurean view that includes some non-human animals in the community of free entities. Epicurus seems to have thought that some non-human animals could perform unjust actions, and was willing to praise and blame some of them. Epicurus *Key Doctrines* 32; *Nature* 34.25 LS 20j. And some sort of freedom appears to be necessary for praise and blame. Epicurus, *Nature* 34.26-30 LS 20c; Diogenes of Oenoanda Fr. 54 Smith.

24. Lucretius, *De Rerum Natura*, 2:257.

limbs."²⁵ He draws his example from the animal realm: when the stalls open to release the racehorses, there is a moment of stillness before they launch themselves forward. In this moment, Lucretius claims, the horses' forward motion is being initiated by their wills.

Lucretius is aware that his discussion of the second phenomenon will leave his reader with questions, and the question he addresses is exactly the right one. Someone might suppose that, by Lucretius' lights, the will is as deterministic as anything else. Lucretius replies that "[willing] is not like when we move forward pushed by a blow from another's great strength and by great compulsion."²⁶ But as explanation for why this is not right, Lucretius merely says that something in our chests (the location of the mind and thus of the will) that "is able to fight and resist."²⁷ As to how this fighting or resistance works, the reader is left in the dark.

The problem is that it is not obvious how a Lucretian will could function in anything but a deterministic way. In Lucretius' presentation, the mind is a fine atomic structure located in the chest,²⁸ where it mingles with the spirit, which extends and carries motion into the limbs.²⁹ Willing, reasoning, and sensing are all understood in terms of motion in this embodied consciousness.³⁰ When Trotsky the horse charges out of the gate at the races, Lucretius would say that Trotsky's will has been stimulated by the entrance into his senses of some images of motions (*simulacra meandi*),³¹ and Trotsky's will then initiates motion in other mental faculties which move his spirit which moves his limbs.³² The will is unable to initiate motion unless it is stimulated, "nor indeed does anyone ever begin to act before the mind has supplied what it wills, [and] *the object which it provides is the content of*

25. Lucretius, *De Rerum Natura*, 2.261-62.

26. Lucretius, *De Rerum Natura*, 2.272-73.

27. Lucretius, *De Rerum Natura*, 2.279-80.

28. Cf. Lucretius, *De Rerum Natura*, 3.177ff.

29. Lucretius, *De Rerum Natura*, 3.136-37, 3.140-44. One of Lucretius' arguments for the physicality of mind and spirit is the fact of interaction between the mind and spirit and the rest of the body. This can only be explained, he maintains, if the mind and spirit are understood as physical, since interaction requires touch (*tactu*), and "there can be no touch without a body." Lucretius, *De Rerum Natura*, 3.165-66.

30. DRN 3.145ff. In understanding the mind and spirit as thus embodied, Lucretius is faithfully representing Epicurean thought. See Christopher Gill, "Psychophysical holism in Stoicism and Epicureanism," in *Common to Body and Soul: Philosophical Approaches to explaining Living Behaviour in Greco-Roman Antiquity*, edited by Richard King (Berlin: Walter de Gruyter, 2006) 209-31.

31. Lucretius, *De Rerum Natura*, 4.881-82, see also 4.724-31.

32. Lucretius, *De Rerum Natura*, 4.886-888.

the image [my emphasis]."³³ Since the will does not choose the content of the image, the account seems thoroughly deterministic.

As the low opinion that most philosophers have of the *classic account* shows, fitting the swerve into Lucretius' account of the will is no easy task. Suppose that the swerve alters the image that stimulates Trotsky's will. In this case, his will is as determined as ever, it merely reacts to different stimulus. That doesn't seem like freedom. Or perhaps swerves occur in Trotsky's will, such that though Trotsky perceives A, he reacts as if to B. Again this seems less like freedom than like a malfunction in the will, and it just seems to be chance that Trotsky reacts as he does. Could it be that the object of Trotsky's will is a swerve, and thus that in acting he somehow initiates a swerve? This cannot be literally true, since no one perceives swerves directly, which is what necessitates the causal argument in the first place. Perhaps, though, we might say that Trotsky has an image of motion the bringing about of which requires a swerve to occur. Charity should prevent us from reading Lucretius this way, though, because then his causal argument would leave completely unexplained the crucial connection between the willing and the occurrence of a swerve, and would thus be a failure on its own terms.

Lucretius' second causal argument, in other words, is not so clear as we might wish. But it has three important and generally overlooked features, which will be the focus of my next section. It seems to me that when these are observed, the contours of the *counterfactual account* emerge.

Three Features

Three features of Lucretius' account seem to me to be of special significance. The first of these is Lucretius' insistence that the kind of freedom he has in mind is inconsistent with determinism. Our freedom, he explains, "violates the laws of fate [*fati foedera rumpat*],"³⁴ and we are in possession of a "free will torn away from the fates [*fatis avolsa voluntas*]."³⁵ Since the laws of fate presumably

33. Lucretius, *De Rerum Natura*, 4.883-85. My translation is free, but I think not unfair. The passage reads "*neque enim facere incipit ullam rem quisquam, quam mens providit quid velit ante; id quod providet, illius rei constat imago.*" Martin Ferguson Smith takes a stronger reading, translating this "no one can begin to do anything until the mind has foreseen what it wills to do; and what is foreseen is determined by the image." Lucretius, *On the Nature of Things*, translated by Martin Ferguson Smith, (Indianapolis: Hackett, 2001) 124.

34. Lucretius, *De Rerum Natura*, 2.254.

35. Lucretius, *De Rerum Natura*, 2.257.

prescribe that some single event must occur, and Lucretius writes that our freedom depends upon these laws being violated in respect of our actions, our freedom is dependent on the possibility of the occurrence of something other than what the laws of fate prescribe. If someone is free in respect of some action A, there must be a different action B, such that the agent could have performed B. This first constraint appears to me to be just what is today known as the ‘Principle of Alternative Possibilities,’ often abbreviated ‘PAP.’³⁶ PAP is an *incompatibilist* principle, for it implies that if anyone is free, then there are some events that are not characterized by determinism.

The second feature of Lucretius’ account is the intriguing way he describes the randomness of the swerve: he writes that the location and the time of swerves is *uncertain*. Given that Lucretius makes every effort to draw attention to this *uncertainty thesis*, it is surprising that so little attention has been paid it by commentators.³⁷ The *uncertainty thesis* opens and closes the causal argument (2.218-19 and 2.293), besides appearing once in the middle in the context of a discussion to which I will shortly draw attention (2.259-60). Moreover, the phrasing makes it clear that Lucretius is repeating a single principle, rather than saying something new. The occurrence of swerves is:

1. *incerto tempore ferme incertisque locis spatio*³⁸
2. *nec tempore certo nec regione loci certa*³⁹
3. *nec regione loci certa nec tempore certo*⁴⁰

What strikes me as significant is not merely that the swerve occurs at random, as it seems it must, if the laws of fate are to be broken,

36. The seminal statement of this principle is “a person is morally responsible for what he has done only if he could have done otherwise.” Lucretius, of course, is not narrowing his claim to *moral* responsibility. Harry Frankfurt, “Alternate Possibilities and Moral Responsibility” *Journal of Philosophy*, 66.23 (1969) 829-39, 829.

37. In his meticulous commentary on the first 332 lines of the second book of *De Rerum Natura*, Don Fowler does not see fit to mention any occurrence of this repeated claim, though his editors refer the reader to the discussion in Susanne Bobzien’s 2000 article, cited above. Don Fowler, *Lucretius on Atomic Motion*, edited by P. G. Fowler (Oxford: Oxford University Press, 2002) 347f. Ernout and Robin merely point out that Lucretius uses a similar formula to refer to heavenly phenomena – another area in which Epicureans did not wish to identify gods or fate as causes. Ernout and Robin, *Commentaire*, vol. 1 249f. Boyancé goes so far as to call Lucretius’ suggestion that the swerve appears at no certain time or place “l’objection la plus forte” against the theory of the swerve. Boyancé, *L’Épicurisme*, 115.

38. Lucretius, *De Rerum Natura*, 2.218-9.

39. Lucretius, *De Rerum Natura*, 2.259-60.

40. Lucretius, *De Rerum Natura*, 2.293.

but that Lucretius presents this randomness in epistemic terms.

One immediate implication of the *uncertainty thesis* is that the *classic account* cannot be attributed to Lucretius. The swerve cannot be, or even be correlated with human acts of will, because while we can be certain when and where we will, we cannot be certain when or where the swerve occurs.

The third feature of Lucretius' account is his suggestive use of the verb 'to swerve,' *declinare*, in describing free actions. He writes that we "go each where pleasure leads, [and] *swerve* [*declinamus*] our motions, not at any given time or place, but where the mind itself leads [my emphasis]."⁴¹ Lucretius combines the *uncertainty thesis* with the claim that we swerve, and if we take him seriously this implies that swerving is not an action that anyone consciously performs.⁴² The seemingly paradoxical implication is that even the agent is unaware of his action of swerving, *and yet* swerving follows (a) our most basic instinct, the pursuit of pleasure, and (b) is somehow mind-directed. In the next section, I am going to argue that there is no paradox, but rather that Lucretius has here revealed the heart of the *counterfactual account*.

Freedom

My suggestion, then, is that according to Lucretius we are free because we can swerve – even though we do not know when or where we swerve. It seems to me that he could argue this as follows. Suppose an agent has to make a choice between Red and Blue, and chooses Red. If we could somehow know that no swerves were involved, then we would know that the agent's will was stimulated by an image of Red that seemed most in keeping with his hedonic preferences. But since swerves do occur, it may be that the agent was fated to choose Blue, but certain atomic swerves occurred at some time prior to the agent's choice, setting him on a different causal trajectory such that he chose Red. Such a deviation from what determinism would otherwise produce, I think, is what Lucretius has in mind when he writes about our 'swerving.' A swerving is an action the occurrence of which is dependent on one or more atomic swerves. However, though swerves enable swerving, the internal structure of an act of swerving is unmarred by the occurrence of any swerves, allowing the deterministic mechanisms of the mind to function without interference. That is why swervings are both

41. Lucretius, *De Rerum Natura*, 2:258-60.

42. As we saw in the previous section, Lucretius' philosophical psychology would make it difficult to account for any such conscious ability anyway.

random (since they are dependent on a random occurrence for their existence) and mind-directed and orderly parts of the pursuit of pleasure. So long as an action could have been a swerving, it is correct to say of the agent that he has open to him alternative possibilities.

But wait – does the *counterfactual account* not face the same questions about exactly when the swerve takes place as the *classic account* did? I do not think so. Since the *counterfactual account* requires the mere possibility of a swerve, and every regular atomic motion could have been an atomic swerve, so long as any swerve or combination of swerves would have caused the agent to swervingly choose Red rather than Blue, it is correct to say that the agent could have chosen Red. Lucretius does not bother to single out some mechanism that would make this take place, because so many mechanisms would do. For example, perhaps the swerve that would have enabled the agent to choose Red would have occurred months before the choice in question, while the agent was dreaming, and would have subtly altered his hedonic preferences toward Red.⁴³ The actual occurrence of swerves is of no interest for the defender of the *counterfactual view*; if a swerve did orient the agent toward Red, his freedom would be established by the possibility of a second swerve to reorient him toward Blue.

Here is a second concern. Doesn't the *counterfactual account*, relying as it does on the random swerve, mean that an agent is free to do *anything* that could be considered mind-directed? This would be unwelcome; one wants to say that the agent is free to choose his red shirt or his blue shirt, but surely not that he is free to collapse in a fit prompted by the shirt's red colour. Some combination of swerves, however, will bring about all of these outcomes. Swerves such as the one that gives our agent a fit will, of course, be hazards for any entities living in the Lucretian universe, along with strokes and brain injuries and all the other misfortunes that seem to destroy or diminish a person's autonomy. But it would be good if Lucretius had some way of saying that it is not in virtue of such swerves that we are free.

43. Depending on when and where the swerve occurs, it might have detrimental effects on the agent's autonomy in other respects. The swerve or swerves the possibility of which enabled a free choice between Red rather than Blue might, if they had actually occurred, have damaged the integrity of the agent's other perceptions, willings, or reasonings. If Lucretius allows for random occurrences, though, he will have to allow that randomness might interfere with thinking (and anything else) in this way. But on the *counterfactual account*, Lucretius is not suggesting that any actual swerves occur in those instances where we are free, so *ex hypothesi* our autonomy remains intact.

He does, I think, because of his use of the verb *declinare*. Lucretius seems to me to be saying that just as swerves are slight deviations from an atom's trajectory (*nec plus quam minimum*⁴⁴), swervings are slight deviations from the directions our lives would otherwise take. If the agent is fated to choose the blue shirt, choosing the red shirt is a slight deviation. Being given a fit by his shirt is a great deviation, and so it is not *his* swerving. We might here employ the ordinary language distinction between things that we do and things that happen to us. Choosing a shirt is a good example of the former, and having a fit of the latter kind. Only swerves enabling us to do things are those in virtue of which we are free. Let us refer to this requirement by saying that a swerving must be 'in character.' A person's character will be conceived as consistent with a range of actions, only one of which will become actual, but none of which would deviate very far from what is normal for that agent.

I am not sure that the class of actions that are in character will have any analogue on the atomic level. Lucretius would have no justification for saying, for example, that actions in character require a smaller number of swerves than actions that are out of character. Even a rule of thumb, such as *Actions are in character so long as they would not arouse concerns about the agent's autonomy in one who knew him well* seem as though they could have counterexamples. Part of being free, I suppose, is that one can surprise one's friends. I think Lucretius ought to argue that the 'in character' requirement is in many cases (as in the case of the fit) very clear, but has a vague periphery. However, those clear cases will be sufficient for generating the causal argument.

I am now able to fully articulate Lucretius' *counterfactual account*.

An agent is free in respect of an action A iff (i) A was in his character, and (ii) there could have been a swerve or swerves such that he performed not A, but some different action B, and (iii) B would have been in his character.

It seems to me that the *counterfactual account* is a philosophically respectable way of connecting the possibility of randomness and freedom. Of course someone wishing to defend the account would need to answer many further questions on Lucretius' behalf, but I hope that I have shown that it has at least the promise of defensibility. Many philosophers might wonder whether it is worthwhile to posit a swerve for the sake of human freedom, but then Lucretius would say that he is doing just the opposite, and coming to understand what our freedom reveals about the nature of things.

44. Lucretius, *De Rerum Natura*, 2.244.