Vilnius University Press

Contents lists available at Vilnius University Press

Literatūra
2022, vol. 64(3), pp. 31–42

ISSN 0258-0802 eISSN 1648-1143
DOI: https://doi.org/10.15388/Litera.2022.64.3.3

Epicurus' Swerve and the Randomness Objection to Free Will

Matas Keršys

Faculty of Philosophy
Corpus Christi College, University of Oxford
E-mail: matas.kersys@philosophy.ox.ac.uk
ORCID ID 0000-0001-5530-2274

Abstract. Modern opponents of free will often aim to demonstrate its unviability by employing the standard argument against free will, which claims that either determinism or randomness is true, and that both options preclude free will. It is frequently assumed that Epicurus defended free will by positing the swerve as a third, uncaused type of atomic motion. This makes Epicurus vulnerable to criticism via the standard argument by seemingly committing him to randomness. This paper asks whether Epicurus can avoid the criticisms of the standard argument and seeks to show that he is not as vulnerable as first appearances indicate. A closer look at *De Rerum Natura* 2.251–293 reveals the important role of the independent deliberating mind in acts of free volition, while the claim that free volitions are a basic, sense-perceptible aspect of reality raises the question as to whether the swerve really was Epicurus' main defence of free will.
Keywords: free will, determinism, Epicurus, Lucretius, atomism, mind, emergence.

Atomo nukrypimas Epikūro filosofijoje ir iš atsitiktinumo kylantis prieštaravimas laisvajai valiai

Anotacija. Standartinis argumentas prieš laisvąją valią yra toks: a) jei determinizmas teisingas, tai visi veiksmai nulemti iš anksto ir laisvos valios bei moralinės atsakomybės nėra; b) jei egzistuoja atsitiktinumas, o mūsų veiksmai sukelti atsitiktinumo, tai mes nieko nekontroliuojame ir laisvos valios bei moralinės atsakomybės nėra. Kaip nurodo Ciceronas, Epikūras gynė *laisvos valios* sąvoką teigdamas, kad egzistuoja trečia – atsitiktinė – atomo judėjimo rūšis – nukrypimas. Iš pirmo žvilgsnio ši mintis atveria Epikūrui b punkto kritiką. Straipsnyje keliamas klausimas, ar tai tiesa.

Priežasties ir loginį determinizmą Epikūras laikė dviem tos pačios tezės dalimis. Daugiausia nerimo jam kėlė priežasties determinizmas, atimantis galimybę elgtis kitaip ir paneigiantis moralinę atsakomybę. Tai, kad galimybė elgtis kitaip yra būtina moralinės atsakomybės sąlyga, vadinama *alternatyvių galimybių principu*. Straipsnyje pateikiama argumentų, kodėl, nepaisant šiuolaikinių filosofų prieštaravimų, šio principo atsisakyti negalima.

Epikūro siekis ginti *laisvos valios* sąvoką analizuojamas kaip bandymas užtikrinti galimybę elgtis kitaip. Įsigilinus į *De Rerum Natura* 2.251–293 eilutes, matyti, kad Lukrecijaus argumentas yra „laisvas veiksmas, vadinasi, nukrypimas", o ne „nukrypimas, vadinasi, laisvas veiksmas". Tai leidžia daryti išvadą, kad nukrypimas – pamatinė valingų veiksmų sąlyga, bet ne tiesioginė jų priežastis. Tiesioginė priežastis yra svarstantis protas. Minėtą svarstančio proto pobūdį laiduoja Epikūro neredukcinis atomizmas, traktuojantis svarstantį protą kaip kylantį reiškinį, kurio neįmanoma tiesiogiai redukuoti į atomus. Straipsnyje įrodoma, kad *iškilimo* sąvoka ne tik suderinama su Epikūro atomizmu – ji yra ir atomizmo pasekmė.

Straipsnyje aptariami du *iškilimo* sąvokos prieštaravimai: aiškinamasis fizinės sferos uždarumas ir epifenomenalizmas. Aiškinamasis fizinės sferos uždarumas leidžia daryti iškilimo šalininkams nepriimtinas prielaidas, o epifenomenalizmą paneigia Epikūro filosofija, atkreipdama dėmesį į tai, kad laisvoji valia yra plačiai paplitęs

Received: 07/09/2022. **Accepted:** 27/10/2022.

jutiminis suvokimas, o determinizmo alternatyva paneigia save. Straipsnyje prieinama prie išvados, kad pastarieji du teiginiai – laisvos valios jutiminis suvokimas ir determinizmo savęs paneigimas – sudaro tikrąjį Epikūro argumentą už laisvąją valią. Bet koks argumentas, paremtas nukrypimu, yra retrospektyvus ir leidžia daryti prielaidą, kad *laisvos valios* sąvokos teisingumui buvo pritarta dėl kitų priežasčių. Tokį argumentą įmanoma apginti kaip retrospektyvųjį.
Reikšminiai žodžiai: laisva valia, determinizmas, Epikūras, Lukrecijus, atomizmas, svarstantis protas, iškilimas.

1. Introduction

Modern opponents of free will often aim to demonstrate its unviability by employing the standard argument against free will (henceforth, SA). It proceeds in two stages. The first stage (the determinism objection) says that if determinism is true, then all actions are pre-determined and there is no free will or moral responsibility. The second stage (the randomness objection) says that if chance exists and our actions are caused by chance, then we lack control and thus there is no free will or moral responsibility. Kane summarises the challenge that this poses to the proponent of free will through his "Incompatibilism Mountain":

> *Imagine that the task for libertarians in solving this dilemma is to ascend to the top of a mountain and get down the other side. <…> Getting to the top consists in showing that free will is incompatible with determinism. (Call it the Ascent Problem.) Getting down the other side (call it the Descent Problem) involves showing how one can make sense of a free will that requires* ***indeterminism***. (Kane 2005, 34)

In antiquity, Epicurus was the most prominent advocate of human freedom[1]. Cicero reports that he did so by positing that atoms could randomly swerve by a minimal interval (ἐλάχιστον) and thus break the universal chain of cause and effect implied by Democritus' atomist physics[2]. It is clear how such reasoning makes Epicurus vulnerable to criticism via SA. Although the swerve renders hard determinism false, its immediate implication is randomness, which cannot be equated with free will. The ancients had not properly formulated SA[3], but there are echoes of it in Cicero's criticisms. E. g., in *De Fato* 46–48 he complains about the arbitrary nature of the swerve. It appears that Epicurus' denial of necessity is merely an affirmation of randomness, not free will. However, *Letter to Menoeceus* 133–134[4] distinguishes between things that are a) necessitated, b) random and c) up to us (παρ' ἡμᾶς). The fact that Epicurus distinguished παρ' ἡμᾶς from both necessity and randomness suggests that he anticipated the pitfall of substituting randomness for determinism (Long & Sedley 1987, 107). The question that I want to ask is whether Epicurus' defence of free will can withstand the randomness objection. I will use Kane's

[1] Although Epicurus is often credited with discovering the free will problem, the concept of human freedom that the Hellenistic philosophers had cannot exactly be equated with the modern notion of free will. Thus, I use the term "free will" in this paper solely for the sake of convenience. Frede (2011, 1–18) summarises how the notion of will developed in antiquity.

[2] *De Natura Deorum* 1.69; *De Fato* 22.

[3] This was first done by David Hume in his *Treatise on Human Nature* ("As objects must either be conjoin'd or not, and as the mind must either be determin'd or not to pass from one object to another, 'tis impossible to admit of any medium betwixt chance and an absolute necessity").

[4] All references to Epicurus' letters and *On Nature* follow the notation of Long & Sedley (1987).

"Incompatibilism Mountain" as my model. In the first part of this paper, I will address the sort of determinism that Epicurus was dealing with and the kind of human freedom that he sought to secure. In the second part, I will discuss whether the swerve can successfully establish παρ' ἡμᾶς actions and whether this is truly its main purpose. In the course of this paper, I hope to show that although an account of free will on the basis of the swerve is one of Epicurus' arguments, it is not the primary one, since it is ultimately grounded in two more prior claims about the self-refuting nature of determinism and the ubiquity of free will as a sense-perceptible phenomenon.

2. The notions of determinism and free will in question

The two deterministic theories that were common in Epicurus' time were the causal determinism of Democritus and the logical determinism of Diodorus Cronus[5]. It seems that Epicurus was mainly concerned with Democritean causal determinism[6], but some deny this (Bobzien 1998, 83–84). However, *Academica* 2.97 says that Epicurus invoked the "nature of things" (i.e. the physical argument that is the swerve) to justify his rejection of the law of the excluded middle for disjunctions involving future contingents (i.e. a logical move that evades logical determinism). This is evidence enough that Epicurus saw logical and causal determinism as two aspects of a single thesis (Long & Sedley 1987, 111–112). Moreover, if logical determinism is to have consequences in the physical world and not just be a formalism, it can only do so as causal determinism. If some future contingent p is already true or false, then it implies that all the conditions in the present state of affairs are such that they determine with certitude the future state of affairs. So, the future state of affairs is causally determined by the present[7].

In antiquity, an attempt to separate logical and causal determinism was made by Carneades. Cicero reports in *De Fato* 19 that he did so by distinguishing between chance causes and necessary causes. Some events are brought about by chance causes (which are presumably unpredictable) and are not pre-determined like an event that is the result of necessary causes and is inherent in the order of things[8]. Future contingent propositions have a contingent truth value that turns necessary with the occurrence (or non-occurrence) of the actual event. I will not discuss the effectiveness of Carneades' solution, but even if he reasoned correctly, then chance causes are possible only if we posit an element of randomness in the physical world (e.g., the mind's inherent power of free volition or an atomic swerve). Causal determinism inevitably re-enters the picture, and for this reason I will focus my own discussion on Democritus' causal determinism.

---

[5] O'Keefe (2005, 10–18) offers a comprehensive summary of the types of determinism, the things that determinism threatens and the ways in which it all affects us, and my own discussion owes a great deal to his summary.

[6] *Letter to Menoeceus* 133–134 speaks of the "fate" that is associated with the φυσικοί; *DRN* 2.251–260 explicitly states that an unbroken causal nexus is incompatible with the existence of free will.

[7] Cf. O'Keefe (2005, 140–142), who offers similar reasons for why the Epicureans (and the Stoics) would have maintained the interentailment of logical and causal determinism.

[8] Yon (1933): "Il y a des propositions vraies comme celle-ci: *Caton viendra au Sénat*, exprimant des événements qui ne sont pas inhérents à l'ordre du monde, et découlent de causes purement fortuites."

Letter to Menoeceus 133–134 and *On Nature* 34.26–30[9] show that Epicurus saw the possibility of παρ' ἡμᾶς actions as a pre-requisite for moral responsibility, so it is reasonable to assume that he was preoccupied with determinism insofar as it threatens moral responsibility. A common moral intuition is that a human agent is morally responsible for an action only if they could have acted otherwise – this is the Principle of Alternative Possibilities (henceforth PAP). Determinism precludes PAP by positing that there is only one possible future which is causally determined by the current state of affairs, so it is plausible that Epicurus sought to secure a kind of free will that preserved PAP. Under this interpretation, we can define παρ' ἡμᾶς as a term which denotes a situation where a human agent a) has a choice between several courses of action, b) is truly free to choose any course over the others and c) the ultimate outcome of the situation (i.e., which course of action shall be taken) rests with the human agent. It is easy to see how causal determinism threatens each condition, and the swerve is supposed to invalidate this determinism.

The necessity of PAP for moral responsibility has been famously challenged by Frankfurt's cases[10]. They have led some thinkers to replace PAP with the principle that an agent is morally responsible for their action if the ultimate responsibility for this action lies with the human agent, and they have influenced readers of Epicurean philosophy too. Bobzien claims that for Epicurus, moral responsibility did not hinge on the human agent's ability to have done otherwise but rather on their "autonomy", meaning that the ultimate cause of the agent's action was their internal disposition at the time of performing the action, and that they were not coerced to act in this way (Bobzien 2000, 291–292). O'Keefe (2005, 21–24) argues that securing PAP makes no sense considering the nature of Epicurean ethics, and that Epicurus was rather concerned with the freedom to control one's beliefs and desires.

I find neither of these readings convincing. Firstly, Frankfurt's cases either imply an absolute determinism which absolves the agent of moral responsibility, or, in a genuinely indeterministic scenario, the coercive mechanism cannot effectively exercise control without intervening in a manner that absolves the agent of moral responsibility[11]. My own objection is that Frankfurt's cases fail to disprove PAP because they themselves implicitly presume PAP. Having a coercive mechanism which ensures that the agent does X and only X makes sense only if it is possible that the agent can wish and actually attempt to do otherwise (i.e., PAP is true). It just so happened that the agent did X of their own accord and the coercive mechanism was not triggered. Had the agent done other than X, then the coercive mechanism would have been triggered and the agent would have been absolved of moral responsibility (Van Inwagen 1983, 164). It can be argued that the distinction between doing X of one's own accord and doing X is artificial, since PAP requires the possibility of actually doing or not doing X (Kane 1996, 41–42). However, the fact that

[9] Edited as book 25 since Masi (2006).

[10] Frankfurt (1969). Frankfurt cases are hypothetical situations where there is a coercive mechanism which ensures that a human agent does X and only X but plays no role in the agent's decision to do X. Since the decision to do X originated from the human agent, it is argued that the human agent is morally responsible for doing X even if he did not have the possibility to act otherwise.

[11] Widerker 1995; Ginet 1996; Kane 2005, 87.

the agent's moral responsibility hinges on this distinction is enough to show that it is not artificial, and that is does in fact demonstrate the truth of PAP. We only need to remind ourselves that having a coercive mechanism would not make sense if PAP was false. It is there precisely because the agent's wish to do or not to do X has the consequence of the agent actually doing or not doing X (i.e., even though the coercive mechanism ensures that PAP does not reach full fruition by preventing the agent from actually doing other than X, PAP is nevertheless true).

The same goes for O'Keefe's and Bobzien's readings. O'Keefe claims that according to Epicurus, a) we are psychologically predisposed to seek pleasure and avoid pain; b) we cannot do otherwise but to opt for things that promise to bring the most pleasure and the least pain; c) that this does not entail psychological determinism because we are free to modify our ideas of what is truly pleasant, which in turn modifies our actions[12]. This reading itself not incorrect, since the account of human psychological development in *On Nature* 34.26–30 (1) seems to support this picture. However, the truth of c) requires that PAP also be true. If our doing A or B is determined by attitude C_1 (resulting in action A) or attitude C_2 (resulting in action B), and the development of our character is truly up to us, then the choice between C_1 and C_2 must be a truly free choice between alternate possibilities (i.e., it cannot be causally determined by one's present mental disposition). PAP is still operational, except it has been moved from the level of actual decision-making to the mental level, and instead of directly choosing between A or B, we now choose between adopting attitude C_1 and consequently doing A or adopting C_2 and consequently doing B.

However, O'Keefe goes on make the compatibilist claim that causally determined reasoning does not fail to be causally efficient or genuine[13]. Causally determined reasoning is indeed causally efficient as a link in the chain of cause and effect. If X causes my reasoning Y, which in turn causes my doing Z, then Y is causally efficient as the cause of Z. However, claiming that causally determined reasoning is genuine begs the question against the libertarian. For a libertarian, reasoning is genuine only if it subjects us to moral responsibility, and causally determined reasoning fails to do this. If my doing Z resulted from my reasoning Y, and my reasoning Y was caused by some X, then the ultimate cause of my doing Z is this X, and thus I am not morally responsible for doing Z. And *On Nature* 34.26–30 (1) explicitly denies that human reasoning is causally determined, saying that although environmental influences are beyond our control (τὰ ἐκ τοῦ περιέχοντος κατ' ἀνάγκην <…> εἰσρέοντα), it is up to us how we respond to them (παρ' ἡμᾶς ποτε γείνεσθαι καὶ παρὰ τὰς ἡμετέρας ἐξ ἡμῶν αὐτῶν δόξας).

Bobzien argues for a "one-sided causative" interpretation of παρ' ἡμᾶς, claiming that it indicates actions for which we as human agents bear causal responsibility, but that it does not imply free choice (Bobzien 2000, 293–298). We are both causally and morally

[12] 16 supra.

[13] *Ibid.*, 86–87. In 145–147 he gives a compatibilist account of deliberation that presupposes epistemic openness (i.e., a person deliberates because they do not yet know what they will do) but not causal openness (i.e., what the person will actually do is already causally determined). But a libertarian could simply respond that this misses the point of deliberation, since we deliberate precisely because we perceive genuine alternate possibilities and feel no compulsion to choose one over the others.

responsible for actions that are predetermined by our character, but free will is preserved because we are also causally responsible for the changes in our soul, and these changes are not necessary[14]. But if this is to be the case, then PAP must be valid for the changes in our soul. If we do not have alternate possibilities in how we develop our soul, then it is hard to see how we can be responsible for the nature of our soul and for the actions that stem from the nature of our soul[15].

PAP remains an indispensable moral intuition whether we aim to secure a freedom to do otherwise or a freedom to start thinking otherwise and subsequently alter one's choices. Therefore, I will analyse the swerve with the aim of securing PAP in mind.

3. Free will and the swerve

Considering this, the swerve is there to break the causal nexus implied by Democritean physics and subsequently make genuinely open choices between alternate options possible[16]. A description of how it achieves this is provided by Lucretius – a Roman poet who expounded Epicurean doctrines to a Latin audience in his didactic epic *De rerum natura* (henceforth, *DRN*). At first glance, *DRN* 2.251–260 seems to be saying just that – namely that the swerve is what breaks the causal nexus and allows one to choose freely between alternate possibilities. However, 2.292–293 describes the swerve as a random and unpredictable motion (*nec regione loci certa nec tempore certo*), sufficient to break the causal nexus but hardly an account for the phenomena of deliberation and purposefulness that we associate with a genuine free choice. Nevertheless, some scholars have argued that the swerve is a direct cause of voluntary actions. Bailey simply proposes that this is what *DRN* 2.251–293 says without responding to the randomness objection (Bailey 1928, 433–437). Asmis argues that Epicurus, like Aristotle, thought that any voluntary action must genuinely originate from the agent, and this is made possible by the swerving of atoms which occurs at the beginning of every voluntary action (Asmis 1990, 277). Purinton claims that all macroscopic phenomena must have a cause on the atomic level; since free will is a macroscopic phenomenon, it has the swerve as its atomic-level cause; likewise, each individual volition is caused by the mind's atoms swerving (Purinton 1999, 272–274).

My objection to the above-mentioned views is that a closer look at *DRN* 2.251–293 reveals that the connection between the swerve and free actions is not direct and simple. The first thing to note is that Lucretius' argument takes the form of "free action therefore swerve", not "swerve therefore free action". Lucretius is probably employing the doctrine that sense perceptions ought to be the basis for our reasoning about what is not directly perceived (*Letter to Herodotus* 39) to argue for the swerve based on our perception of voluntary actions. This only means that it is reasonable to posit the swerve as an under-

[14] *Ibid.*, 323–324.

[15] *Ibid.*, 306, this is accepted as a viable objection.

[16] Furley (1967, 232–233) says that swerves are rare events which are there only to save *voluntas* from necessity, but that they do not feature in every act of *voluntas*. This is a risky argument. Rare swerves do deny a universal causal nexus but may still result in causal nexuses that are long enough to encompass an entire lifetime and make a person's existence effectively pre-determined.

lying condition that accounts for such phenomena, but it does not suggest that the swerve directly causes every voluntary action.

2.263–271 describes what could be deemed a παρ' ἡμᾶς action thus: 2.263–265 presents us with the image of horses that want to but cannot surge forward the moment that the starting gates open, 2.266–267 claims that this delay is caused by the time required to stir the body into motion, and 2.268–271 says that this motion originates from the agent (*a corde creari*; *ex animique voluntate*) and subsequently proceeds to stir the limbs (*inde dari porro per totum corpus et artus*). Let us apply this to humans: a) we experience a sense impression that stirs up the mind; b) the mind deliberates (since humans possess reason) whether to assent to the impression or not; c) the mind stirs (or not) the body into motion (this motion originates from the mind since it depends upon the deliberating mind whether the impression is assented to or not)[17]. Considering this, we can say that the randomness of the swerve is mitigated by the deliberation in stage b).

The image of the jostled man in 2.272–284 brings up two further points. Firstly, 2.274–276 states that we are capable of resisting external impulses, and it is our free will that gives us this capacity (*nam tum materiem totius corporis omnem / perspicuumst nobis invitis ire repique / donec eam refrenavit per membra voluntas*). This together with the image of the horses demonstrates that free will entails a two-sided power to either assent or resist an impression, thus affirming PAP. Secondly, this precludes a compatibilist understanding of *voluntas* as a causally determined faculty that merely allows us to attribute the origin of certain actions to the agent.

My reading is challenged by 2.288–293, which states that the mind is freed from internal necessity by the swerve (*ne mens ipsa / necessum intestinum habeat <…> id facit exiguum clinamen*), implying that a swerve is the direct cause of every voluntary motion (Asmis 1990, 282). This may be reconciled with my interpretation if we understand *id facit* in a lighter sense. That is to say, the swerve is not directly involved in each voluntary action but is rather a physical *sine qua non* of free will (Long & Sedley 1987, 110–111). The swerve adds an element of randomness which is necessary to make PAP possible, but which of the alternate possibilities will be taken is left up to the deliberating agent. *De Fato* 22–23 and *De Natura Deorum* 1.69 support this reading, claiming that Epicurus invoked the swerve to deny a fully deterministic causal nexus, but making no mention of him using the swerve to explain free actions themselves.

The argument that the deliberating mind mitigates the randomness of the swerve answers the randomness objection only to have it return in a different form. Epicurus held the view that the soul (which we may identify with the deliberating mind), was also a composite of atoms. The atomic soul should also be subject to the laws of atomic motion, which are either deterministic or random. As a response, scholars have invoked, in one form or another, the idea of emergence. Emergence is a concept in the philosophy of mind which posits that complex systems, when studied holistically at the macroscopic level, display properties and governing laws that cannot be deduced from or reduced

[17] Cf. Englert (1987, 121–122), where he develops a similar model of voluntary action based on *DRN* 4.877–891.

to the properties and governing laws of the components which make up these complex systems on the microscopic level. Accordingly, Sedley argues that Epicurus espoused a non-reductionist atomism whereby references to the atomic level are necessary to explain macroscopic phenomena, but these phenomena themselves are not straightforwardly reducible to the atomic level (Sedley 1983, 33–35). Mitsis similarly claims that different explanatory levels have their own specific properties and that there is no reason to suppose that a strict analogy should be made between random atomic swerves and free human actions (Mitsis 1988, 154). In light of this, the mind's capacity to deliberate and choose between alternative possibilities is an emergent property, and the swerve is the underlying physical condition that makes this possible. My own reading of *DRN* 2.251–293 supports this claim, and similar conclusions can be drawn from *On Nature* 34.21–22 – a passage discussed extensively by Sedley (Sedley 1983, 36–40).

Purinton argues, *contra* Sedley, that the notion of emergent volitions cannot be reconciled with Epicurus' atomism because it entails universal bottom-up causation with no exceptions (Purinton 1999, 285–288). We can respond to this by jointly employing the ideas of strong emergence (whereby a macroscopic phenomenon arises from the microscopic level, but truths concerning that phenomenon are not deducible even in principle from truths in the microscopic level) and strong downward causation (whereby the causal impact of a macroscopic phenomenon on microscopic processes is not deducible even in principle from initial conditions and microscopic laws)[18]. Strong emergence does not deny ontological reduction (that all entities belong to a subclass of the class physical entities), but it does deny explanatory reduction (that all truths can be explained in principle in terms of broadly physical truths)[19]. Fundamentally, volitions are not independently existing immaterial entities, and the destruction of the atomic mind would entail the destruction of volitions. So, the doctrine that void and atoms are the only *per se* existents (*DRN* 1.445–446) is not contradicted. However, volitions *qua* strongly emergent entities cannot be satisfactorily explained solely in terms of the mind's atoms' motions. Insofar as the macroscopic level is concerned, they are *per se* existents too[20], and we need to posit new fundamental laws operational on the macroscopic level to properly explain how they function (e.g., the mind's capacity of strong downward causation, which would account for effective deliberation).

Epicurus did not explicitly formulate any theory of strong emergence, but it is implied by his non-reductive atomism. Besides the void and atoms, there are no other *per se* existents. However, *Letter to Herodotus* 68–73(1) says that although the properties of complex bodies are not *per se* substances or some incorporeal things (οὔθ' ὡς καθ' ἑαυτάς εἰσι φύσεις <...> οὔθ' ὡς ἕτερ' ἄττα προσυπάρχοντα τούτῳ ἀσώματα), they are not entirely non-existent either (οὔθ' ὅλως ὡς οὐκ εἰσίν). If properties do not enjoy independent existence, it means that they are ontologically reducible to the true existents that are the

[18] Chalmers (2008, 244–250). See Stephan (2010, 233–237), for a discussion of strong emergence in relation to the free will problem.

[19] See Crane (2010, 26–33), for more on this account of strong emergence.

[20] See Sedley (1987, 303–316), for more on this view. Although I broadly agree with Sedley's argument, I do not think he is right to claim that macroscopic entities are fully-fledged *per se* existents.

atoms. That properties are not entirely non-existent suggests that they are not reducible to the atoms to the degree that they could be considered purely in terms of atoms[21]. So, properties are explanatorily irreducible despite being ontologically reducible, thus satisfying the two conditions for strong emergence. Strong downward causation is implied by *On Nature* 34.21–22 (5–6):

> οὕτως ἐπειδὰν ἀπογεννηθῇ τι λαμβάνον τινὰ ἑτερότητα τῶν ἀτόμων κατά τινα τρόπον διαληπτικόν, <...> ἰσχάνει τὴν ἐξ ἑαυτοῦ αἰτίαν, εἶτα ἀναδίδωσι εὐθὺς μέχρι τῶν πρώτων φύσεων καὶ κανόνα πᾶσαν αὐτὴν ποιεῖ.

διαληπτικόν is the adjectival form of διάληψις, which in an Epicurean context means "separating or distinguishing in thought". The mind is causally efficacious because it can distinguish novel occurrences on the atomic level and harness them in order to set a standard (κανόνα) for future behaviour. So, *contra* Purinton, the notion of emergent volitions that can exercise top-down causation is not irreconcilable with Epicurus' atomism.

Strong emergence and strong downward causation have not gone unchallenged. Strongly emergent properties might be merely epiphenomenal, supervening on some underlying physical structure but remaining causally inert (Kim 2010, 21–22). Strong downward causation is precluded by the explanatory closure of the physical domain, which claims that if a physical event has a cause, it has a physical cause, and if a physical event has an explanation, it has a physical explanation (Kim 2008, 199–200).

Epicurus is vulnerable to both criticisms. It is not hard to see how his doctrine that only atoms and void are true *per se* existents invites the explanatory closure of the physical domain. If mental phenomena such as volitions are ontologically reducible to the mind's atoms, as such they ought to be limited by the laws of atomic motion and fully explicable in terms of them too. Invoking new laws that allow volitions to transcend these limits would entail that they are in some sense truly non-physical and ontologically irreducible to the mind's atoms, violating the doctrine that atoms and void are the only true *per se* existents. Conceding to this would entail accepting that mental phenomena are reducible to the microscopic level, which would in turn force the conclusion that volitions are merely epiphenomenal, and that our perception of free will is just a by-product of our minds' atoms randomly swerving.

However, this begs the question against the proponent of strong emergence and strong downward causation. The explanatory closure of the physical domain entails reductivism only if it is presumed from the outset that strong emergence and strong downward causation are false. The emergentist is allowed to simultaneously maintain the theses of ontological reduction and strong downward causation precisely because they accept strong emergence and strong downward causation as true and explanatorily basic facts. The emergentist only needs to point out macroscopic phenomena that resist reduction to the microscopic level (e.g., consciousness), whereas the reductionist, if his criticism is to be valid, needs to demonstrate that these phenomena are in fact reducible.

[21] Cf. Long & Sedley (1987, 36): "Heat is essential to fire, and colour to visible body – although neither of these is an attribute of the underlying atoms themselves."

Epicurus applied a similar strategy too, since his argument for free will in *On Nature* 34.26–30 aims to demonstrate that the determinist thesis is self-refuting and thus untenable[22]. He only needs to point out that free will is a ubiquitous sense perception (we may call it a sense perception because *DRN* 2.251–293 uses sense-perceptible cases of free will being exercised as its examples), and to demonstrate that the alternative – determinism, is self-refuting, whereas the determinist needs to mount an attack that would prove free will to be false without refuting itself. This is not unexpected considering Epicurus' doctrine that all sense perceptions are true. One could still claim that our opinion about free will being genuine is misguided like Orestes' opinion that the Furies chasing him were solid bodies (Sextus Empiricus, *Against the Professors* 8.63). However, our opinion that we genuinely have free will withstands rational evaluation since the alternative of determinism is self-refuting.

In fact, this *a priori* argument from self-refutation and *a posteriori* case from the ubiquity of our perception of free will is what constitutes Epicurus' primary argument for free will. We only need to remind ourselves that the argument in *DRN* 2.251–293 takes the form of "free action therefore swerve", not "swerve therefore free action". Free will is a self-evident phenomenon and a reason to posit a third kind of atomic motion that adds an element of randomness and makes free will physically viable. This subsequently serves as a basis for the sort of theory of mind that we get a glimpse of in *On Nature* 34.21–22.

Since I commit myself to the epistemic irreducibility of the mind's volitions, I will not offer a precise account of how swerves could possibly be utilised in choosing between alternate possibilities. Nevertheless, I feel that a few remarks should be made. I agree with Sedley's conclusion that Epicurus posited an emergent autonomous self that could not be straightforwardly reduced to patterns of atomic motion, and that the swerve was a physical condition which made this possible (Sedley 1983, 45–46). However, I do not agree that the mind can obtain leverage on its own atoms and cause them to swerve in the desired direction, and that the famous causelessness of swerves is only a result of Epicurus' critics misreading his philosophy (*ibid*., 42–43). *DRN* 2.293 says that swerves occur *nec regione loci certa nec tempore certo*, so pro-Epicurean sources also assert that swerves are uncaused. And if swerves are caused by calculated and deliberate volitions, then this does not accord with Lucretius' description. My own view would be similar to that of Fowler or Englert, both of whom claimed that the mind makes use of randomly occurring swerves to initiate a voluntary action[23].

4. Conclusion

The randomness objection is avoided by pointing out that the swerve is not Epicurus' true basis for free will. It is rather the *a priori* argument that determinism is self-refuting

[22] Sedley 1983, 25–27; Morel 2014, 229–233.

[23] Fowler (1983), argues that swerves precede volitions by allowing us to focus on images of desirable actions, but volitions themselves proceed mechanistically; Englert (1987, 127–128) says that we first decide on a course of action and then wait for a swerve to initiate bodily motion.

and *a posteriori* case of free will being a ubiquitous sense perception through which we explain the equally ubiquitous phenomena of praise and blame. They justify both the swerve as a third kind of atomic motion and any subsequent account of free will which makes use of the swerve as its basis. Any such account is retrospective and involves a prior acceptance of free will for different reasons. Claiming that effective deliberation and the capacity to choose between alternate possibilities is an emergent property of the mind is a retrospective account, and as such, it is a defensible argument. Now whether we ought to accept Epicurus' main arguments remains an open question that can only be resolved by resolving the free will problem itself.

Abbreviations

DRN – De rerum natura

References

Asmis, Elizabeth. 1990. Free Action and the Swerve. *Oxford Studies in Ancient Philosophy* 8, 275–290.

Bailey, Cyril. 1928. *The Greek Atomists and Epicurus: a Study*. Oxford: Clarendon Press.

Bobzien, Susanne. 1998. *Determinism and Freedom in Stoic Philosophy*. Oxford: Clarendon Press.

Bobzien, Susanne. 2000. Did Epicurus Discover the Free Will Problem? *Oxford Studies in Ancient Philosophy* 19, 287–337.

Chalmers, David John. 2008: Strong and Weak Emergence. *The Re-emergence of Emergence: the Emergentist Hypothesis from Science to Religion*. Philip Clayton & Paul C. W. Davies, eds. Oxford: Oxford University Press.

Crane, Tim. 2010: Cosmic Hermeneutics vs. Emergence: the Challenge of the Explanatory Gap. *Emergence in Mind*. Graham Macdonald & Cynthia Macdonald, eds. Oxford: Oxford University Press.

Englert, Walter G. 1987. *Epicurus on the Swerve and Voluntary Action*. Atlanta, GA: Scholars Press.

Fowler, Don. 1983: Lucretius on the Clinamen and Free will. *Syzētēsis: studi sull'epicureismo greco e romano offerti a Marcello Gigante*. Marcello Gigante, ed. Napoli: Macchiaroli.

Frankfurt, Harry G. 1969. Alternate Possibilities and Moral Responsibility. *The Journal of Philosophy* 66(23), 829–839.

Frede, Michael, Anthony Arthur Long. 2011. *A Free Will: Origins of the Notion in Ancient Thought*. Berkeley, CA; London: University of California Press.

Furley, David J. 1967. *Two Studies in the Greek Atomists: Study I, Indivisible Magnitudes; Study II, Aristotle and Epicurus on Voluntary Action*. Princeton, NJ: Princeton University Press.

Ginet, Carl. 1996. In Defense of the Principle of Alternative Possibilities: Why I don't Find Frankfurt's Argument Convincing. *Philosophical Perspectives* 10, 403–417.

Kane, Robert. 1996. *The Significance of Free Will*. New York; Oxford: Oxford University Press.

Kane, Robert. 2005. *A Contemporary Introduction to Free Will*. New York; Oxford: Oxford University Press.

Kim, Jaegwon. 2006: Being Realistic about Emergence. *The Re-emergence of Emergence: the Emergentist Hypothesis from Science to Religion*. Philip Clayton & Paul C. W. Davies, eds. Oxford: Oxford University Press.

Kim, Jaegwon. 2010. *Essays in the Metaphysics of Mind*. Oxford: Oxford University Press.

Long, Anthony Arthur, David Neil Sedley. 1987. *The Hellenistic Philosophers*. Cambridge: Cambridge University Press.

Masi, Francesca Guadaloupe. 2006. *Epicuro e la filosofia della mente: il XXV libro dell'opera Sulla Natura*. Sankt Augustin: Academia Verlag.

Mitsis, Phillip. 1988. *Epicurus' Ethical Theory: the Pleasures of Invulnerability*. Ithaca, NY: Cornell University Press.

Morel, Pierre-Marie. 2014: The Epicurean 'Up to Us': not to be Proved. *What is Up to Us? Studies on Agency and Responsibility in Ancient Philosophy*. Pierre Destrée, Ricardo Salles, & Marco Antonio Zingano, eds. Sankt Augustin: Academia Verlag.

O'Keefe, Tim. 2005. *Epicurus on Freedom*. Cambridge: Cambridge University Press.

Purinton, Jeffrey Stephen. 1999. Epicurus on "Free Volition" and the Atomic Swerve. *Phronesis* 44(4), 253–299.

Sedley, David Neil. 1983: Epicurus' Refutation of Determinism. *Syzētēsis: studi sull'epicureismo greco e romano offerti a Marcello Gigante*. Marcello Gigante, ed. Napoli: Macchiaroli.

Sedley, David Neil. 1987: Epicurus' Anti-reductionism. *Matter and Metaphysics: Fourth Symposium Hellenisticum*. Jonathan Barnes & Mario Mignucci, eds. Napoli: Bibliopolis.

Stephan, Achim. 2010: An Emergentist's Perspective on the Problem of Free Will. *Emergence in Mind*. Graham Macdonald & Cynthia Macdonald, eds. Oxford: Oxford University Press.

Van Inwagen, Peter. 1983. *An Essay on Free Will*. Oxford: Clarendon Press.

Widerker, David. 1995. Libertarianism and Frankfurt's Attack on the Principle of Alternative Possibilities. *The Philosophical Review* 104(2), 247–261.

Yon, Albert. 1933. *Cicéron. Traité du destin*. Paris: Les belles lettres.