

Changing our minds: Democritus on what is up to us

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Some of the most influential studies of Democritus' ethics have accused the Abderite of "naïveté" in mishandling the so-called "great problem" of the compatibility of free will and determinism. The same studies seem to ignore his treatment of the problem of what is 'up to us' (*eph' hēmin*), a problem that relates to virtually all the most important maxims and fragments attributed to Democritus that have survived.¹ Other studies that have concentrated not on what Democritus failed to say about free will and determinism, but on what he did say about agency and responsibility, character formation and reformation, autonomy and compulsion, seem to me to have produced more charitable, more interesting and more satisfactory interpretations of Democritus' philosophy as a whole, especially with respect to the issue of the relationship between his physics and ethics.²

Determinism is a doubtful concept in application to Democritus' natural philosophy, especially if one has in mind a quasi-Laplacean picture,³ as do most of those contemporary philosophers who address the ethical implications of determinism.⁴ Further, it has been shown that the metaphysical problem of free will in relation to

¹ Bailey: "by the time of Democritus this great question was apparently not even simmering and he proceeds to lay down his directions for the moral life with a simple naïveté, unconscious of the problem which he himself had raised by insistence on the supremacy of 'necessity' in the physical world. His moral precepts are given on the assumption that man is free to act as he will" (1928: 188). After quoting this, Barnes comments: "But by Democritus' time the 'great question' was simmering. [...] I incline to the somber conclusion that physics and ethics were so successfully compartmentalized in Democritus' capacious mind that he never attended to the large issues which their cohabitation produces" (1979: 535). See also: Greene 1936: 125-126; Luria 1964: 7; Huby 1967: 353-362; Edmonds 1972: 357; and Brumbaugh 1981: 83-85.

² I have found the following studies most useful for the issues discussed in this paper: Natorp 1893, Langerbeck 1935, Stella 1942, Vlastos 1945 and 1946, Havelock 1957, Guazzoni 1969, Zeppi 1971, Ferwerda 1972, Kahn 1985 and 1998, Konstan 1987, Farrar 1988, Salem 1996, Morel 1996 and 2003, Warren 2002, and Annas 2002.

³ See, e.g., Sfendoni-Mentzou 1983: 220-231. Balme 1941 argues correctly that the early atomists' failure to understand inertia rules out for them any commitment to determinism of a Laplacean sort. Morel 2003: 21-35, rightly distinguishes between Democritus' commitment to the thesis that every effect has a cause, and the Laplacean thesis that all causes past, present, and future are fixed and can in theory be predicted or computed.

⁴ Dennett and Taylor 2001 suggest that "the average educated person's causal working assumptions about the cosmos still resemble the Democritean account, and philosophers traditionally rely on nothing more sophisticated when exploring the implications of determinism and indeterminism, causation and probability" (274). But many working philosophers seem to have in mind a Laplacean conception that defines determinism in terms of a given state of the universe (usually in the remote past) combined with the laws of nature (e.g. Quine 1969; Dennett 2003: 29; Van Inwagen 2003: 39, 45).

determinism has its origin in much later ancient philosophical concerns.⁵ It is possible that as early as Epicurus Democritus' emphasis on necessity was criticized for threatening human agency and implying fatalism.⁶ Nevertheless, there is a risk of anachronism in interpreting and evaluating Democritus as a philosopher by means of the highly problematic categories of free will and determinism.⁷

In the present essay I focus instead on developing a positive interpretation of Democritus' theory of agency and responsibility, building on previous studies that have already gone far in demonstrating his innovativeness and importance to the history and philosophy of these concepts. I do not claim originality for my interpretation of the individual fragments. The interpretation will be defended by a synthesis of several familiar ethical fragments and maxims presented in the framework of an ancient problem that, unlike the problem of free will and determinism, Democritus almost certainly did confront: the problem of the causes of human goodness and success. I summarize his view as follows. Luck and the gods are causal factors not up to us, but they are not decisive causes of doing well or poorly. (Democritus may go so far as to eliminate luck as a cause of good or bad things altogether.) Nature is not fixed but docile. An individual human's nature is not re-ducible to its genetic or congenital or racial nature, but is largely a function of his or her mind and way of thinking, and can thus be reformed by learning and argument. (In fact, Democritus envisions using the plasticity of human nature to reform his auditors by "changing our minds", in a quite literal sense.) Training, thought, and education play the most important role in most human success. In particular, Democritus emphasizes teaching (*didachê*, B33, B172), thought or judgment (*gnômê*, B35, B119, B175, B191, B223), intellect or understanding (*nous*, B35, B175; *dianoia*, B191), intelligence (*phronesis*, B119), wisdom (*sophia*, B197); right thinking (*euthugnômos*, B181, B191), and reasoning (*logismos*, B181, B187, B290) as the keys to human goodness and success.⁸ Democritus also lays great stress on deliberation: "For humans, bad grows out of good, if one does not know how to guide and drive it smoothly. It is not right to judge such things in terms of their bad effects, but in connection with their good ones. And if someone deliberates (*boulomenôî*), good instruments can be used as a safeguard against bad things" (B173).⁹ Ignorance and

⁵ Bobzien 1998: 133-175; cf. 2000: 287-337.

⁶ Bailey 1928: 318; Sedley 1983. The key primary evidence is Diogenes of Oinoanda 33.2 and *Ep. Menoec.* 134. I agree with Furley, who remains "not quite convinced. [...] I doubt if Democritus was really a 'fatalist' in any recognizable sense: his ethical views do not seem to me consistent with a belief in fatalism. Epicurus may, however, have thought that fatalism followed from Democritus' physical theories. But it is possible he had others in mind" (1967: 175).

⁷ In response to those critics who have suggested that these concepts are trans-historical and present a unique problem for Democritus, I have (2009) defended what I take to be a plausible account of the compatibility of agent responsibility with Democritean causal necessitation. I went so far as to argue that, given the threat of causal indeterminacy to personal responsibility, something like a Democritean view of "spontaneity" might be more of an ally than an enemy to a robust account of human responsibility and freedom.

⁸ See also Kahn 1998: 35, quoted below. Fragments of Democritus are cited by reference to Diels/Kranz section 68.

⁹ Stobaeus 2.9.2. "It is better to deliberate (*probouleuesthai*) before action than to regret it afterwards" (Democritus 31 = B66); "One's enemy is not the man who does wrong, but the one who delib-

its associated vices are represented as failures to properly deliberate or reason, and are blamed on those he calls “fools” or “senseless” (*anoêmones*, literally “those acting without *nous*”), who are treated as the causes of their own misery, failures, and doing of bad things (e.g. B197, cf. B119). Given this network of evidence, Democritus’ account of the virtues and success is naturally interpreted as an intellectualist one, as I will argue. His focus on our intellectual powers as the source of our own agency and cause of our success led him to remarkable breakthroughs in moral psychology, including the development of a kind of cognitive-behavioral therapy for stress and anxiety, and the proposal of an autonomous source of moral sanction.

An *aporia* about the possible causes of goodness and success

Since we lack any context for the fragments and maxims of Democritus’ ethics, it is necessary to look elsewhere for a framework in which they can be interpreted as a whole. Aristotle supplies the least anachronistic and most directly comparable framework for interpreting Democritus’ ethics. Early on in both versions of the *Ethics*, he raises the “*aporia* of whether *eudaimonia* comes about by learning (*mathêton*), habituation (*ethiston*), or some other kind of training (*allôs pôs askêton*) or whether it comes in accordance with some divinity (*kata tina theian*) or through luck (*dia tuchên*)” (*EN* I 10, 1099b9-11). In the *Eudemian Ethics*, he treats it first among “the controversies about the nature and causes of *eu-daimonia*” (1214b24).

First we must investigate in what the good life consists and how it is acquired, and whether it is by nature (*phusei*) that all those men to whom the term is applied come to be happy (as we become tall people and short people and different colored people), or due to learning (*dia mathêseôs*) so that happiness will be a kind of knowledge, or due to some kind of training (*dia tinos askêseôs*). For many things happen neither in accordance with nature nor learning (*oute kata phusin oute mathousin*), but by habituation (*ethistheisin*) for humans; poor things if they are habituated poorly, good if well. Or do men become happy in none of these ways, but either, like those humans the nymphs and deities possess, by being looked after by a some personal destiny (*epipnoiai daimoniou tinos*), like those who are inspired, or due to luck (*dia tuchên*), since many people say happiness and good luck to be the same thing? What is clear is that it is in all or some of these ways that people become happy. (*EE* I 1.1214a14-26, tr. Kenny, adapted)

For Aristotle, any and all of these causes can influence whether or not one becomes happy. But they are not all equally important causes, nor are they all causes in the same way. The role of luck, in particular, is highly problematic: Aristotle seems to conclude that not only may bad luck undermine happiness, but also that some people may turn out happy as a result of a kind of moral luck.¹⁰ The extent to which learning could possibly be a cause of happiness also presents enormous

erates about it (*boulomenos*)” (Democrates 55 = 89); “A man is reputable not only on the strength of what he does, but also of what he deliberates about (*bouletai*)” (Democrates 33 = B68). “Democrates” refers to a collection of maxims collected under that misnomer (= DK B35-115).

¹⁰ Johnson 2015. Cf. Kenny 1988 and 1992.

difficulties. At the end of the *Nicomachean Ethics*, Aristotle argues that although teaching can influence and exhort certain kinds of people to become good, for the majority teaching is not sufficient, because many are motivated by fear, not shame (*EN X 9, 1179b4-13*). Aristotle does not deny that teaching can influence the development of moral and intellectual virtues – but he does call attention to the limitations of teaching, something Isocrates had previously accused the sophists of failing to admit to their students and clients.¹¹ For Aristotle, only some students have the talent and aptitude such that their character can be shaped by teaching, and this natural talent or aptitude seems to be what is meant by regarding nature as a cause of success, whether in the learning of skills, or in other kinds of activities, including living well in general. Aristotle directly says that what is due to nature is not up to us, in contrast to argument and teaching, which unfortunately work only on certain kinds of students.

Some think we become good by nature (*phusei*), some by habit (*ethei*), and others by teaching (*didachēi*). Nature's contribution is clearly not up to us (*ouk eph' hēmin*), but it can be found in those who are truly fortunate (*eutuchesin*) due to some divine cause (*dia tinas theias*). Argument and teaching, presumably, are not powerful in every case, but the soul of the student must be prepared beforehand in its habits, with a view to its enjoying and hating in a noble way, like soil that is to nourish seed. (*EN X 10, 1179b20-26*)

From the gloss on how nature is a cause in *EE I 1* (“as we become tall people or short people or differently colored people”), we can see that Aristotle is referring to genetic or congenital endowment, particularly with reference to the capacity to use reason and to control one's appetites.¹² Being born with a superior nature of this kind happens to the fortunate or lucky (*eutuchesin*) due to some divine cause (*dia tinas theias*) and is therefore not up to us (*ouk eph' hēmin*), which also shows that luck and divine providence are not up to us. The same causes determine the limits of personal responsibility:

Since virtue and vice and the works that are their expressions are praised or blamed as the cause may be (for blame and praise are not given on account of things that come about by necessity or luck or nature (*ex anagkēs ē tuchēs ē phuseōs*), but on account of things that we ourselves are cause of, since if someone else is cause of something, it is he gets the blame and praise), it is clear that virtue and vice have to do with matters

¹¹ On the limits of exhortation according to Aristotle, see Hutchinson and Johnson 2014. Isocrates says: “These capabilities – both for speeches and all the other works – have come about in those with natural talent (literally: “those with a good nature”, *tois euphuesin*) and who have been exercised by experience. And education makes these people more skillful and more resourceful at research; for it teaches them to take from a handier source that which they now happen upon fortuitously. But education cannot produce good debaters or speechmakers out of those that have a relatively inadequate nature (*tous katadeesteran tēn phusin exhontas*), although it can guide them towards these skills, and make them more intelligently disposed in many respects (*polla phronimōterōs diakeisthai poiēseien*)” (Isocrates, *Adv. Soph.* 14-15).

¹² “One of our natural sources of action is reason, which is present is development proceeds without being stunted and another is appetite, which is an attribute present from the moment of birth. Roughly speaking, these are the two marks by which we define what is natural to us; it is either an attribute of everyone at birth, or something that comes to us if development proceeds normally, such as grey hair and old age and the like” (*EE II 8, 1224b29-35*, tr. Kenny)

where the man himself is the responsible source of his actions. (*EE* II 6, 1223a9-15, tr. Kenny, adapted)

Aristotle later mentions these causes in making an almost desperate plea for recognition of the reality of human agency:

If a noble life is something that comes to be due to luck (*dia tuchên*) or due to nature (*dia phusin*), it would be a hopeless dream for many people; its acquisition would be beyond their powers no matter how strenuous their endeavors. But if it is something in their own power and in accordance with their own activities (*ei en tôi auton poion tina einai kai tas kat' auton praxeis*), then it will be a good both more widespread and divine. (*EE* I 3, 1215a12-17, tr. Kenny, adapted)

This point is further supported by what Aristotle says in his attempt to define the objects of deliberation (*bouleusis*) in terms of actions that are ‘up to us’:

We deliberate (*bouleuometha*) about what actions are up to us (*tôn eph' hêmin praktôn*), what we can do; these things are what remains to be done. For nature (*phusis*), necessity (*anagkê*), and luck (*tuchê*) do seem to be causes, but so also do sense or intellect (*nous*) and everything that occurs through human agency (*to di' anthropou*). (*EN* III 5, 1112a30-34)

Democritus' ethical maxims and fragments discuss each and every one of these causes (nature, necessity, luck, the gods, training, teaching, intellect) as causes of “becoming good” (B242), “doing good things” (B35), and of *euthumia* (*euthumiê*, B191). It has been established that such fragments are best interpreted as part of a eu-daimonistic or teleological account similar to the kind presupposed by Democritus' peer Socrates, and their successors Plato, and Aristotle,¹³ as already suggested by Arius Didymus, who wrote: “Democritus and Plato agree in placing happiness (*eudaimonia*) in the soul. Democritus writes like this: ‘Happiness does not dwell in flocks or gold; it is the soul which is the home of a person's *daimon*’ (=B171). He also calls it *euthumia*, *euestô*, *harmonia*, *summetria*, and *ataraxia*. He says that it consists in distinguishing and discriminating pleasures, and that this is the finest and most advantageous thing for humans”.¹⁴ This laundry list of terms for Democritus' end indicates, however, that *eudaimonia* was not the only term, and probably not even the focus, of Democritus' ethical writings.¹⁵ It is significant that the term more frequently found in our fragments, and in the most important one (B191), is *euthumia*, because this refers to a good state of something internal to the human body (the *thumos*), and thus something suitable for treatment by materialist psychology. One should compare not only the term *eudaimonia*, preferred by Plato and most subsequent moralists, but also the term *eutuchia*, preferred by popular thought (as Aristotle tells us).¹⁶ Both *eutuchia* and *eudaimonia* are terms that, etymologically at least, refer to causes that Aristotle, as we have just seen, considers

¹³ Zeppi 1971 interprets Democritus' ethics as eudaimonistic (508, 511, 525); cf. Stella 1942: 245. Dudley 1984 argues that *eudaimonia* is the fundamental term of Democritus' ethics (377). Annas 2002 presents the strongest case for reading Democritus' ethics as eudaimonistic. For concerns about the anachronism of the eudaimonistic interpretation, see: Kahn 1998: 36-37.

¹⁴ Stobaeus, *Ecl.* 2.52.13-53.20, tr. Annas 2002: 172.

¹⁵ The only other fragment directly referring to *eudaimonia* is Democrates 6 (= B40).

¹⁶ Von Fritz 1963: 34-35; Farrar 1988: 230.

not up to us, whereas Democritus explicitly connects *euthumia* with something that is up to us, namely changing one's mind. So although it seems clear that Democritus' ethics is in some way teleological, there is a very good reason not to neglect those aspects in it that are not particularly eudaimonistic.

Nevertheless, Aristotle does say that "most people agree about what it is called, since both the masses and sophisticated people call it *eudaimonia*, understanding *eudaimonia* as equivalent to living well and doing well" (*EN* I 2, 1095a17-20, tr. Crisp, adapted), and this is certainly strong evidence that Democritus can be interpreted along eudaimonistic lines. In the opening *aporia* of *EE* I 1, Aristotle treats the two questions, of what the good life consists in, and of what the causes of the good life are, as part of one and the same inquiry. If Democritus explicitly addressed the question of the causes of the good life (operationally defined as living well and doing well), then he will have necessarily answered the question of what the good life consists in.

Democritus' approach to the *aporia* of the causes of the good life

Let us begin the examination of Democritus' position on the *aporia* raised and discussed by Aristotle with the following statement: "More people become good (*agathoi ginontai*) out of training (*ex askêsios*) than from nature (*apo phusios*)" (B242).¹⁷ The claim brings to mind the encouragement of the athletic trainer, who has every reason to say that more people become good runners or wrestlers due to exercise, training, and practice (i.e. following the advice of the trainers), than as a result of some inherited nature, such as body, strength, and reflexes given by genetic endowment. Democritus is a kind of moral coach or even physician who encourages us to overcome our natural deficiencies with training and practice: "medicine heals diseases of the body, but wisdom removes the sufferings of the soul" (B31).¹⁸ What is this "training" that Democritus (and later Aristotle) refers to? The answer is that it is a kind of teaching which aims to reform the very nature of the student. "Nature and teaching (*hê phusis kai hê didachê*) are nearly like. For teaching also reforms (*metarusmoi*) the person, and by reforming it produces a nature (*phusioipoiei*)" (B33).¹⁹ On this view, a human nature is not fixed or determinate, but can be reformed by teaching and reasoning.

Democritus is not talking about a radical transformation from the nature of a human being to some other kind of animal or god along Pythagorean or Empedoclean lines, but rather a more prosaic and limited transformation from one kind of human being to another, that is, a change of personality or character. This is made clear by the following thought: "The senseless (*anoêmones*) are formed (*rusmountai*) by the gains of luck, but those who are experienced in these things by the gains of wisdom (*sophiês*)" (B197).²⁰ Numerous fragments of Democritus discuss the

¹⁷ Stobaeus 3.29.66.

¹⁸ Clement, *Paed.* 1.6; cf. B36, B187, B290.

¹⁹ Clement, *Misc.* 4.15; cf. Stobaeus 2.31.65.

²⁰ Stobaeus 3.4.71.

unfortunate behavior of the foolish, and such diatribes set the stage for a fragment which appears to advertise Democritus' overall purpose for issuing ethical precepts in the form of thoughts (*/judgments, gnomai*): "These thoughts of mine (*gnômeôn*), if anyone follows them with sense (*tis epaioi zun noôti*), he will do many things worthy of a good man, and not do many bad things" (B35).²¹ The purpose of the ethical fragments of Democritus is thus to counteract the foolish tendencies that he so frequently decries by reforming the auditor and improving his nature, creating a different nature that will then go on to do many good not bad things.

These claims about the power of education to reform the students' natures utilize terminology native to Democritus' physics.²² According to the now standard interpretation of the fragment (originally advanced by Vlastos), the idea is that the cluster of soul atoms that animate the human body may be physically reconfigured, "formed" (*rusmountai*) or "re-formed" (*metarusmoi*) through training and education, and the rearrangement constitutes a new individual nature. Thus the idea that one's nature is fixed or determinate at birth by genetic or congenital factors is rejected by Democritus, who holds that one's individual nature may be reformed, and not only into a single "second nature" but more or less constantly reformed.²³ This rejection does not exclude, but rather embraces the much more obvious point that our individual nature influences the extent to which we are susceptible to being reformed by teaching, as Aristotle stresses. But Democritus' radical idea of creating new natures through education is his own original application of the profound idea that the mind and its material configuration exhibit "plasticity", permitting the modification of habits, as is possible to a much more limited extent in some other animals but not at all in inanimate matter. The atomistic origin of this idea was recognized by William James when he defined the term "plasticity" in his *Principles of Psychology*.²⁴ Plasticity is by now a major hypothesis of cognitive psychology. It has important therapeutic implications for stress-reduction and anxiety relief. A fascinating recent study, for example, has shown that "mindfulness training" (a form of meditation) can alter the grey matter of the brain in regions associated with "emotional regulation" and "perspective taking".²⁵ Democritus seems to

²¹ Democrates 1.

²² Vlastos 1945/1946; Luria 1964; cf. Tortora 1984. Taylor 1967 rejected this, but reconsidered his reservations in 1999.

²³ Tortora 1984: 395.

²⁴ "The habits of an elementary particle of matter cannot change (on the principles of the atomistic philosophy), because the particle is itself an unchangeable thing; but those of a compound mass of matter can change, because they are in the last instance due to the structure of the compound, and either outward forces or inward tensions can, from one hour to another, turn that structure into something different from what it was. [...] *Plasticity*, then, in the wide sense of the word, means the possession of a structure weak enough to yield to an influence, but strong enough not to yield all at once. Each relatively stable phase of equilibrium in such a structure is marked by what we may call a new set of habits. Organic matter, especially nervous tissue, seems endowed with a very extraordinary degree of plasticity of this sort; so that we may without hesitation lay down as our first proposition the following, that the phenomena of habit in living beings are due to the plasticity of the organic materials of which their bodies are composed" (James 1890: 104-105).

²⁵ "Mindfulness-Based Stress Reduction (MBSR), one of the most widely used mindfulness training programs, has been reported to produce positive effects on psychological well-being and to ameliorate symptoms of a number of disorders. Here, we report a controlled longitudinal study to investigate

have understood the fact that certain ways of thinking could influence the physical configuration of the mind and body, thus: “it is fitting for humans to produce reasoning (*logon poieisthai*) about the soul more than about the body. For perfection of soul corrects badness of dwelling (/body), but strength of dwelling without reasoning does not make the soul any better” (B187).²⁶

Plasticity, in fact, is essential to any theory of habit, and specifically to the idea of reforming the habits of a living thing. Although Aristotle must accordingly accept the theory of plasticity in his own account of habituation, he is surprisingly pessimistic about the power of teaching to reform people (or at least certain kinds of people). This reserved or conservative position, expressed also by Isocrates and Plato, may have been justified in response to the excesses of the so-called sophists in advertising the benefits of their teachings. But Aristotle probably has Democritus specifically in mind when he uses unmistakably atomistic terminology in reiterating the point: “what argument could reform (*metarruthmisai*) people like this? For displacing by argument what has long been entrenched in people’s characters is difficult if not impossible” (*EN X 10*, 1179b16-18, tr. Crisp).²⁷

Democritus, by contrast, is much more optimistic about the power of education to reform: if you follow his ethical advice, he promises, you will do many things worthy of a good person and not do many things worthy of a bad one. But if learning the sayings of Democritus “with sense” (*zun noōi*) is up to us, and if in doing this one may reform one’s nature, then doing many good or bad things would be up to us. Thus the issue of what is up to us turns out to be central to Democritus’ philosophy, as Charles Kahn recognized when he wrote that, for Democritus, “moral wisdom is conceived essentially as psychological prudence. He is the first proponent of what is known today as cognitive therapy”²⁸.

Nature, then, is not the only cause of whether one does good or bad things, because human nature is docile, and individual nature may be reformed by teaching so that, in combination with certain acts of attention, good sense, and right reasoning, the agent will do many good things and not do many foolish things. What about luck? Democritus harps on the unreliability or insufficiency of luck in several fragments: “Luck provides an extravagant table, but temperance a self-sufficient one” (B210); “Luck gives great gifts, but it is unreliable, while nature is self-sufficient. For this reason it defeats the greater object of hope by being lesser but reliable” (B176).²⁹ This implies that Democritus accepts that luck is, in some cases or to some extent at least, a factor in human success and failure. But Democritus harshly criticizes those who offer bad luck as an excuse for lack of intelligence:

pre-post changes in brain gray matter concentration attributable to participation in an MBSR program. [...] The results suggest that participation in MBSR is associated with changes in gray matter concentration in brain regions involved in learning and memory processes, emotion regulation, self-referential processing, and perspective taking” (Hölzel et al. 2011: 36-43).

²⁶ Stob. *Flor.* III t. 1; cf. B36.

²⁷ Luria 1964: 16.

²⁸ Kahn 1998: 35.

²⁹ Stobaeus 3.5.26 and 2.9.5.

Humans have fashioned an idol of luck (*tuchês*) as an excuse for their own lack of sense (*anoiês*). For by nature thought (*gnômê*) and luck conflict. And this very enemy of intelligence (*phronêsi*) itself they say to be in control (*kratein*). Moreover, repudiating and erasing intelligence, they set down luck in its place. For they do not sing the praises of intelligence as good luck, but of luck as the most intelligent of things. (B119)³⁰

Thought, intelligence, good sense, and so forth are considered causes up to us, and so the failure to reap their benefits is considered blameworthy; the excuse that luck is the cause of one's failures is accused of being an appeal to a false idol. Intelligence and thought should be considered to be in control instead of luck. This is an extremely important point, because it is reasonable to see moral luck as a greater threat to personal responsibility than causal necessity. For this very reason, Democritus may have tried to eliminate luck as a cause of good and bad things.³¹ Democritus takes a similar position with respect to the gods.

The gods have given to humans all the good things, both in olden times and now. But not bad and harmful and unprofitable things: these the gods have given to humans neither in olden times nor now, rather *they bring them upon themselves* through blindness of sense and ignorance (*dia nou tuphlotêta kai agnômosunên*). (175)³²

Humans pray to the gods to cause them to be healthy, not realizing *they have the power for this in themselves* (*tautês dunamin en eautois*). But through weakness of will, acting contrary to this by excessive indulgence, they give up their health to their own desires (*epithumiêisin*). (B234)³³

Humans destroy their own health and bring bad things upon themselves “through blindness of intellect and ignorance” – causal factors that we have seen are considered up to us. Democritus explicitly says that these causes, unlike the will of the gods or luck, are “in their own power” (*tautês dunamin en eautois*). But as with luck, humans attribute bad things to false causes by blaming the gods for disease, and by appealing to them as the cause of health, when the cause of one's own ill health is actually in oneself. The same example is used by Democritus to make a different point about human responsibility.

If the body were to bring a suit against the soul for all the pain it felt and bad things it had suffered while alive, and one were to become a judge of the complaint, one would happily vote against the soul, on the grounds that the soul had destroyed part of the body through negligence, and dissolved others with strong drinks, and corrupted and ripped it up through the love of pleasures, just as if holding responsible (*aitiasamenos*) the careless user of an instrument or tool in a bad condition. (B159)³⁴

This fragment resonates with the idea that “perfection of soul corrects badness of dwelling, but strength of dwelling without reasoning does not make the soul any better” (B187, discussed above). As Kahn noticed, “what is characteristic of Democritus is to make the soul causally responsible for the condition of the

³⁰ Eusebius, *Praep. Evangel.* XIV.27.5; cf. Stobaeus 2.8.16.

³¹ If it is right to interpret Democritus, as many commentators do, as the object of Aristotle's criticism in *Physics* II 5, 196a1-6; e.g. Simplicius' commentary on this passage 330.14-20.

³² Stobaeus 2.9.4.

³³ Stobaeus 3.18.30.

³⁴ Plutarch, *De libid. et aegr.* 2; cf. *De sanit. praec.* 24.

body”.³⁵ Democritus’ soul has ultimate agency, and the report of Arius Didymus (quoted above), that “Democritus places happiness in the soul”, indicates not so much Democritus’ commitment to eudaimonism, as his commitment to the power up to us as individual agents that can cause our own living well and doing well.

With these fragments, we have now seen Democritus take a position on each and every one of the causes mentioned by Aristotle as candidates for causes of human goodness and success. Democritus downplays luck and the gods as causes, much more so than Aristotle (who accepts that luck is a major factor in causing *eudaimonia*, and who even accepts by the end of the *Eudemian Ethics* that some people are happy as a result of a certain kind of luck and divine oversight). Democritus holds human nature to be docile and modifiable by training and learning, and he is notably more optimistic about teaching as a cause of human improvement than Aristotle. On the Democritean picture, anyone’s nature may be transformed by thought (provided they pay attention, think with sense, etc.) so that one avoids senselessness and becomes wise. Thus Democritus downplays precisely those causes Aristotle (later) said not to be up to us, at the same time that he emphasizes those causes that Aristotle (later) said are up to us.

The power to change your mind

The account I have just presented has been at the very general and abstract level of causes like nature, luck, the gods, training, teaching, and intellect. But now I want to look at a concrete case of how Democritus thinks that by changing the way we think about things – changing our minds, so to speak in literally materialist terms – we may affect whether we lead a tranquil and placid life, or one full of painful emotional instability and unsatisfied desires.

The first example deals with an analysis of the causes of two different outcomes: whether we remain satisfied with what we have, or resort to criminal activities motivated by jealousy and greed. The example is contained in the longest continuous fragment of Democritus’ ethics and is of paramount importance for the interpretation of his moral psychology. The fragment is well known, and I will only briefly discuss it, divided into two parts (a-b).³⁶

(a) For humans, *euthumia* comes about with moderate joy (*metriotēti terpsios*) and a balanced way of life (*biou summetriēi*); excesses and deficiencies (*elleiponta kai hyperballonta*) like to fluctuate (*metapiptein*) and induce great changes in the soul; and among those souls that change over great intervals (*diastēmātōn*) there is neither stability (*eustathees*) nor *euthumia*. Therefore upon the things that are in one’s power (*epi tois dunatois*) one should hold the thought (*dei echein tēn gnomēn*), and be content with what one has, having few memories or thoughts (*oligēn mnēmēn echonta kai tēi dia-noiai*) of those who are admired and envied and not paying attention to them (*mē prosedreuonta*). (B191)

³⁵ Kahn 1998: 34.

³⁶ B191 = Stobaeus 3.1.210.

The expression *epi tois dunatois* (“the things in one’s power”) is here used conventionally with reference to one’s capabilities or powers relative to those of others, especially rivals. It is only because I am not able to do certain things that others are capable of doing (e.g. possess more wealth, power, or beauty) that my dwelling on such things causes psychic distress, afflicting my soul with unrealistic desires and appetites that I cannot fulfill and that would be harmful if I could. Thus the expression “in our power” is not used universally, as above when Democritus insisted that those who blame the gods for their poor health ought to consider “the power over this to exist in themselves” (*tautês dunamin en eautois*, B234). However, the imperative in B191 for the students to consider carefully the things “in their power” (*epi tois dunatois*) implies that at least this re-commended thought process is up to us (any of us) to do so, at least any of us who listen to what Democritus is saying with *nous*. The prescription is part of Democritean cognitive-behavioral therapy, a piece of concrete advice: do not obsess about (“have little thought or memory of”) your rivals – do not even pay attention to them (*mê prosedreuonta*). If one only changes the focus of one’s attention, one can influence one’s psychic tranquility and even bodily health. In line with this, the continuation of the Democritean fragment goes into much greater detail about how one should think, and what about, and suggests that those changes of mind (of soul) will have positive affects on the body (or remove harmful affects).³⁷

(b) But one should observe (*theôreîn*) the lives of those who are in distress, concentrating (*ennooumenon*) on the grievous things they suffer, so that the things one has and already possesses will seem great and enviable, and no longer would you be afflicted in the soul by appetites (*epithumeonti*). For the man who admires those who have and are deemed blessed by others, and in his thought and memory at all hours is dwelling upon them, is always compelled (*anagkazetai*) to find new opportunities and to overshoot, and because of the appetite (*epithumiên*) to do wrongs which the laws forbid. That is why by not dwelling so as to doubt certain things, but dwelling upon such things so as to have *euthumia*, by comparing one’s own life with those who do worse, and by deeming oneself blessed (*makarizein eôuton*) by keeping in mind (*enthumeumenon*) the things they suffer, one does and fares much better than they do. For by holding fast to this thought (*gnômês*), you will live with more *euthumia*, and will drive away those not small distresses in one’s life: jealousy, envy and malice. (B191)

This part of the fragment is important not only because of what it says is up to us, but also what it says by way of contrast: that some kinds of misdirected thinking can constrain or compel (*anagkazetai*) one to act in a certain way. By dwelling on those who have more money and power, our minds are deformed by excessive

³⁷ A condensed version of the same argument appears in another fragment: “The person trying to have *euthumia* needs neither to do many things (whether in public or private) nor, whatever he undertakes, to chose beyond his capabilities and nature; but he must be on guard so as to – when struck by luck and his thoughts run to getting more for himself – put it down and not apply himself beyond what he is capable of. For the right amount is safer than a huge amount.” (Stobaeus 4.39.25 = B3; cf. Plutarch, *Tranq.* 465c).

desires we are likely unable to fulfill, causing continual psychic distress or anxiety. These desires produce intense appetites that become compulsive, in effect forcing or compelling (literally “necessitating”) one to engage in vicious or criminal behaviors in order to fulfill those desires. This very appearance of the idea of an agent being “compelled” into a set of criminal or vicious behavior by a certain way of thinking implies that the same agent is *not* compelled to embrace that very way of thinking that caused this state of affairs – on the contrary, the whole point of the fragment is to encourage the student to reject that way of thinking and embrace a different, more realistic, more tranquil, more moderate way of thinking and living. In his view *euthumia* is ultimately up to us, since it is in our power to turn our attention away from the causes of envy and jealousy that cause psychic turbulence, towards objects of moderate desires which when obtained (and even when not obtained) do not cause significant psychic disturbance. Our *euthumia* is up to us because what we think about, including what we deliberate about, is up to us.

The misapprehension of necessity

The plasticity of human nature allows us to improve ourselves by choosing what thoughts we seize on, and then focus or dwell on, and finally act on. But it is equally possible for plasticity to work in a harmful way, since it allows not only for a reformation to a better nature, but also a deformation to a worse one. Thus there arises the possibility of misunderstanding one’s own nature, for example one’s natural needs: “The needy animal knows how much it needs, but the needy man does not realize this” (B289); “It is irrational not to yield to the necessities in accordance with one’s way of life” (B198).³⁸ The other animals, not being capable of acting rationally, are not capable of acting irrationally in this particular way – failing to yield to necessities or knowing what is really needed. This kind of confusion is entirely a product of human agency.

Democritus thus assumes that thinking rationally or irrationally, and realizing the real extent of our needs, is up to us. If even things that really are necessary we need not accept as necessary (as madness and delusion show), then the mere appearance of necessity cannot necessitate a certain way of thinking, much less of acting. Psychological necessitation, in the strict sense, is impossible. We may be inclined to interpret the purpose of the imperative to “yield to the necessities in accordance with one’s way of life” to be to impress on the student the importance of undertaking necessary work that one might otherwise be inclined to slack on, and there are some fragments that function in this way: “those who undertake work voluntarily (*ekousioi*) prepare themselves more easily for involuntary work” (B240).³⁹ But in the long fragment B191 above, Democritus’ emphasis is not really on the failure to perceive things that are needful, but rather on the misapprehension of things as necessary or compulsory that in reality are not: “that which the habitation (/body) needs is readily available for everyone, without trouble and toil; but

³⁸ Stobaeus 4.44.64 and 3.4.72.

³⁹ Stobaeus 3.29.63.

the things needing trouble and toil, and which bring hardship to life, these the habituation does not crave, but the bad habituation of thought does (*hê tês gnômês kakoêthiê*)” (B223).⁴⁰ Therefore the misapprehension of necessity is due to a certain way of thinking that can be changed and is thus up to us.

A suite of fragments offers a very concrete example of the kind of changeable thought process that Democritus describes as up to us. Consider the decision whether or not to have children. Democritus points out that, despite appearances, this is not in fact a necessity. “It does not seem to me that one needs (*chrênai*) to have children; for in having children I see many and great risks, and many pains, but few fruits and these poor and feeble” (B276).⁴¹ But it appears to many to be a necessity, and a certain flawed way of thinking about this has by now become customary.

To humans, it seems to be one of the necessities (*tôn anagkaiôn*) to produce children, by nature and some original instinct. And it seems clear also from the other animals. For they produce offspring in accordance with nature but in no way for the sake of any advantage. But when they are born they endure hardship and struggle to nourish them as much as each is able, and they are very fearful when they are small and if the children suffer anything they grieve. This is the nature of every kind of thing that has life. But among humans a custom (*nomizon*) has been made up so that some people even expect to gain from their offspring. (278)⁴²

The apparent necessity to have children undoubtedly compels many people to have children, but this is not in reality a necessity, at least not absolutely or for any particular agent. But by changing how one thinks about these things, for example by dwelling not on how successful my neighbors’ children are, but instead on the pains and risks of rearing children, I become the cause of whether or not I have children. As Aristotle says in his own discussion of voluntary human action: “the human is a first principle or begetter of his actions as he is of his children” (*EN* III 6, 1113b18-19). The decision whether or not to have children is a paradigm of something that should be considered up to us, even though it customarily is not. The unexamined assumption that I must have children, so that I can gain prestige and pride from their successes, is a kind of deformation or perversion of nature (as the contrast with the instinctual actions of the other animals shows). Fortunately there is a remedy in changing my mind about these things by reasoning about the real nature and extent of my needs.

If this interpretation of Democritus is right, then thinking, intelligence, and good sense should be understood as causes of individual decisions such as whether to have children. These causes are not in turn determined by other causes like nature, luck, or the gods. We have seen concrete examples of how changing one’s thinking can transform one’s nature, one’s desires and passions, and then one’s actions as a result: by focusing on the less instead of the more fortunate I may

⁴⁰ Stobaeus 3.10.43. Accepting the reading *kakoêthiê* (Wilamowitz-Moellendorff 1925: 306) instead of *kakothigiê* (as in the text of Diels).

⁴¹ Stobaeus 4.24.31.

⁴² Stobaeus 4.24.33

avoid excesses of desire and surfeit that cause psychic disturbance; by recognizing that the natural necessity to have children is illusory I may avoid many pains and risks. All of this is within our power, and should be considered up to us.

Self-government, shame and law

The above fragments show Democritus concerned to limit the power of necessity over us: the second part of B191 shows that the psychological compulsion to commit criminal acts may be avoided by changing what one thinks about and concentrates on; the fragments about children show how what is conventionally viewed as compulsory can be understood as a matter of individual choice following Democritus' thought. In some other fragments, Democritus also suggests that compulsion in the form of the law has limited power. For example, "oaths which were taken under compulsion (*en anagkêisin*) by the base are not upheld once they escape" (B239).⁴³ Compulsion can make one take an oath, but nothing can compel the inner conviction of the agent. For this reason moral exhortation is said to be more effective than political laws:

For the sake of virtue, utilizing exhortation (*protropêi*) and persuasion by argument (*logou peithoi*) is evidently stronger than law and necessity (*nomôi kai anagkêi*). For he will likely do wrong in secret who is kept from injustice by law, but he who is led to what must be done by persuasion will not likely do something wrong, whether in secret or in broad daylight. That is why by comprehending (*sunesei*) and also by knowing (*epistêmêi*) of right actions one becomes courageous and right thinking (*euthugnômos*). (B181)⁴⁴

This point of view is directly contradicted by Aristotle, as we saw, when he denies that exhortation and teaching are sufficient, asserting that laws and especially punishments are inevitably necessary to habituate the majority to virtue (*EN X 9, 1179b4-13*). A crucial point of contention is about the relative effectiveness of external psychological necessitation arrived at through a process of legislation, and persuasion arrived at through a process of education. Even the law itself, Democritus argues, is most effective when it persuades the agent to do something as being beneficial for his way of life: "The law intends (*bouletai*) to benefit the way of life of human beings. And it is able to do so, when they intend to be affected well. For to those who are persuaded (*peithomenoisi*) it indicates its unique virtue" (B248).⁴⁵

Recognizing that plasticity of human nature allows for reform and habituation, and that not only compulsion but also persuasion shapes people and changes behavior, and in general that one can change one's own fortune by changing one's thinking and reasoning, Democritus made an enormous breakthrough by conceiving of an autonomous source of moral sanction. Commentators have rightly credited him with anticipating a notion that we find returning to a prominent place in ethics in Immanuel Kant.⁴⁶

⁴³ Stobaeus 3.28.13.

⁴⁴ Stobaeus 2.31.59.

⁴⁵ Stobaeus, *Flor.* IV 1, 33.

⁴⁶ Natorp 1893; Kahn 1985, 1998.

No one should feel more shame in front of other people than himself, nor be more prepared to do bad things whether no one or everyone will know; but he should be most ashamed of himself, and institute this law for his soul (*touton nomon tēi psuchēi kathēstanai*), with the result (*hōste*) that he will do nothing unseemly. (B264)⁴⁷

I read the last clause as a result of the institution of the law, and not a specification of the content of the law. If the latter reading were required, then the fragment would issue into an empty imperative that one do nothing unseemly. On the proposed reading, the fragment is another expression of Democritus' conception of thought itself as a cause of actions. The law that should be self-imposed is the imperative: feel no less shame before oneself than before others. The result of this thought (/judgment) is that one's nature will be transformed in such a way that one will not desire to do things that are bad or ugly. Democritus argues that this inner source of moral sanction is necessary for moral reform: "The man who does shameful things must first feel shame before himself" (B84).⁴⁸ Self-sanctioning is more effective than compulsion by another agent or the law. In support of this interpretation is the fact that Aristotle expresses skepticism about being able to reform most people's natures through argument and teaching specifically because people are motivated by fear, not shame. According to Aristotle, the sense of shame cannot possibly be used to habituate people into being good, much less a self-imposed sense of shame.⁴⁹

Democritus, to the contrary, considers the self-imposed sanction of shame to be potentially so effective that conventional laws would be unnecessary provided one's actions do not harm others. "The laws or conventions (*nomoi*) would not prevent each one living according to his own will (*kat'idiēn exousiēn*), if one man did not harm another. For envy prepares a source of strife (B245)."⁵⁰ The second sentence expresses the concern to avoid envy or jealousy as a motivation for criminal activity, by shifting one's own thought from a focus on the more fortunate towards the less fortunate, as we read in fragment B191. Since that act of attention or exercise of thought is up to us, the whole sequence of actions that follow from either adjusting one's thought or not is understood to be up to us.

The person who follows Democritus' teaching with *nous* can autonomously enact the moral sanction of shame on themselves, and thus avoid bad actions all together. The moral sanction is a law, but one imposed on us by us, because it is our own thought, and so is up to us. For such an autonomous person, conventionally or externally imposed laws are redundant and irrelevant. By living freely, such a person voluntarily does good things. This seems to be the meaning of the somewhat cryptic remark attributed to Democritus that "the laws are a bad invention (*epinoian*), and it is not needed for the wise man to obey laws but to live freely (*eleutheriōs*)" (A166).⁵¹

⁴⁷ Stobaeus 4.5.46.

⁴⁸ Democritus 50.

⁴⁹ *EN X 9*, 1179b4-13; cf. in general *EN IV 9*.

⁵⁰ Stobaeus 3.38.53.

⁵¹ Epiphanius of Salamis, *Adv. Haer.* 3.2.9.

Bibliography

- Annas, J. 2002, 'Democritus and Eudaimonism', in V. Caston/D. Graham (eds.), *Presocratic Philosophy: Essays in Honour of Alex Mourelatos*, Aldershot: Ashgate : 169-181.
- Bailey, C. 1928, *The Greek Atomists and Epicurus*, Oxford: Clarendon Press.
- Balme, D. 1941, 'Greek Science and Mechanism II: the Atomists', *Classical Quarterly* 35 : 23-28.
- Barnes, J. 1979, *The Presocratic Philosophers*, London: Routledge.
- Bekker, I. (ed.) 1831, *Aristotelis Opera*, vol. II, Berlin: Verlag Georg Reimer.
- Benakis, L.G. (ed.). 1984, *Proceedings of the 1st International Congress on Democritus*. 2 vols. Xanthi: International Democritean Foundation.
- Bobzien, S. 1998, 'The Inadvertent Conception and Late Birth of the Free-Will Problem', *Phronesis* 43 : 133-175.
- Bobzien, S. 2000, 'Did Epicurus Discover the Free Will Problem?', *Oxford Studies in Ancient Philosophy* 20 : 287-337.
- Brumbaugh, R.S. 1981, *The Philosophers of Greece*, Albany: State University of New York Press.
- Crisp, R. (tr.). 2000, *Aristotle: Nicomachean Ethics*, Cambridge: Cambridge University Press. Note that I retain the chapter numbers in Bekker 1831.
- Dennett, D. 2003, *Freedom Evolves*, New York: Viking.
- Dennett, D./Taylor, C. 2001, 'Who's Afraid of Determinism?', in R. Kane (ed.), *The Oxford Handbook of Free Will*, Oxford: Oxford University Press : 257-280.
- Diels, H./Kranz, W. 1952, *Die Fragmente der Vorsokratiker*, vol. II, 6th ed., Zürich/Berlin: Weidmannsche Verlagsbuchhandlung.
- Dudley, J.A. 1984, 'The Ethics of Democritus and Aristotle', in Benakis 1984, vol. I : 371-385.
- Edmunds, L. 1972, 'Necessity, Chance, and Freedom in the Early Atomists', *Phoenix* 26 : 342-57.
- Farrar, C. 1988, *The Origins of Democratic Thinking: the Invention of Politics in Classical Athens*, Cambridge: Cambridge University Press.
- Ferwerda, R. 1972, 'Democritus and Plato', *Mnemosyne* (fourth series) 25 : 337-378.
- Greene, W.C. 1936, 'Fate, Good, and Evil in Pre-Socratic Philosophy', *Harvard Studies in Classical Philology* 47 : 85-129.
- Guazzoni, V.F.v. 1969, 'Per la sistematicità interna dell'etica Democritea', *Giornale di Metafisica* 9 : 532-537.
- Havelock, E.A. 1957, *The Liberal Temper in Greek Politics*, New Haven/London: Yale University Press.
- Hölzel, B.K., et al. 2011, 'Mindfulness Practice Leads to Increases in Regional Brain Gray Matter Density', *Psychiatry Research: Neuroimaging* 191 : 36-43.
- Huby, P. 1967, 'The First Discovery of the Free Will Problem', *Philosophy* 42 : 353-362.
- Hutchinson, D.S. and M.R. Johnson, 2014, 'Protreptic Aspects of Aristotle's *Nicomachean Ethics*', in R. Polansky (ed.) *The Cambridge Companion to Aristotle's Nicomachean Ethics*, Cambridge: Cambridge University Press: 383-409.
- James, W. 1890, *The Principles of Psychology*, vol. I, New York: Henry Holt & Co.
- Johnson, M.R. 2009, 'Spontaneity, Democritean Causality, and Freedom', *Elenchos* 30 : 5-52.
- Johnson, M.R. 2015, 'Luck in Aristotle's Physics and Ethics', in D. Henry/ K. Nielsen (eds.), *Bridging the Gap between Aristotle's Science and Ethics*, Cambridge: Cambridge University Press.
- Kahn, C. 1985, 'Democritus and the Origins of Moral Psychology', *American Journal of Philology* 106 : 1-31.

- Kahn, C. 1998, 'Pre-Platonic Ethics', in S. Everson (ed.), *Ethics*, Cambridge: Cambridge University Press : 27-48.
- Kenny, A. 1988, 'Aristotle on Moral Luck', in J. Dancy/J.M.E. Moravcsik/C.C.W. Taylor (eds.), *Human Agency*, Palo Alto: Stanford University Press : 105-119.
- Kenny, A. 1992, *Aristotle on the Perfect Life*, Oxford: Oxford University Press.
- Kenny, A. (tr.), 2011, *Aristotle: The Eudemian Ethics*, Oxford: Oxford University Press. Note that I retain the chapter numbers in Bekker 1831.
- Konstan, D. 1987, 'Democrito sulla responsabilità dell'agente', in *Quaderni dell'istituto di filosofia dell'Università degli studi di Perugia* 6 : 11-27.
- Langerbeck, H. 1935, *Studien zu Demokrits Ethik und Erkenntnislehre*, Berlin: Weidmann.
- Luria, S. 1964, *Zur Frage der Materialistischen Begründung der Ethik bei Demokrit*, Berlin: Akademie Verlag.
- Morel, P.-M. 1996, *Democrite et la recherche des causes*, Paris: Klincksieck.
- Morel, P.-M. 2003, 'Democrito e il problema del determinismo', in C. Natali/S. Maso (eds.), *La Catena della cause: determinismo e antideterminismo nel pensiero antico e contemporaneo*, Amsterdam: Hakkert, 21-35.
- Natorp, P. 1893, *Die Ethika des Demokritos: Text und Untersuchungen*, Marburg: N. G. Elwert'sche Verlagsbuchhandlung.
- Quine, W.V.O. 1969, *Ontological Relativity and Other Essays*, New York: Columbia University Press.
- Salem, J. 1996, *Democrite: Grains de poussiere dans un rayon de soleil*, Paris: Vrin.
- Sedley, D. 1983, 'Epicurus' refutation of determinism', in *SYZHTHSIS. Studi sull'epicureismo Greco e romano offerti a Marcello Gigante*, Napoli: Macchiaroli : 11-51.
- Sfendoni-Mentzou, D. 1984, 'Determinism and Indeterminism in Ancient Atomic Theory and in Modern Physics', in Benakis 1984 vol. I: 232 (English abstract; 1.221-231 in modern Greek).
- Stella, L.A. 1942, 'Valore e posizione storica dell'etica di Democrito', *Sophia* 10 : 207-258.
- Taylor, C.C.W. 1967, 'Pleasure, Knowledge, and Sensation in Democritus', *Phronesis* 12 : 6-27.
- Taylor, C.C.W. (ed., tr., comm.) 1999, *The Atomists: Leucippus and Democritus*, Toronto: University of Toronto Press.
- Taylor, C.C.W. 2007, 'Nomos and physis in Democritus and Plato', in D. Keyt/F.D. Miller (eds.), *Freedom, Reason, and the Polis: Essays in Ancient Greek Political Philosophy*, Cambridge: Cambridge University Press : 1-20.
- Tortora, G. 1984, 'Physis and Didachē in Democritus' Ethical Conception', in Benakis 1984, vol. I : 387-397.
- Van Inwagen, P. 2003, 'An Argument for Incompatibilism', in G. Watson (ed.), *Free Will*, 2nd ed., Oxford: Oxford University Press : 38-57.
- Vlastos, G. 1945, 'Ethics and Physics in Democritus', *Philosophical Review* 54 : 578-92.
- Vlastos, G. 1946, 'Ethics and Physics in Democritus: Part Two', *Philosophical Review* 55 : 53-64.
- Von Fritz, K. 1939, *Philosophie und sprachlicher Ausdruck bei Demokrit, Plato und Aristoteles*, New York: Stechert.
- Warren, J. 2002, *Epicurus and Democritean Ethics: an Archeology of Ataxaria*. Cambridge: Cambridge University Press.
- Wilamowitz-Moellendorff, U. v. 1925, 'Lesefrüchte', *Hermes* 60 : 280-316.
- Zeppi, S. 1971, 'Significato e posizione storica dell'etica di Democrito', in *Atti dell'Accademia delle Scienze di Torino*, Classe di Scienze morali, storiche e filologiche, Torino : 499-540.