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# Parmenides and Empedocles on *Krasis* and Knowledge

**Abstract:** Making mental phenomena to depend on certain elements or organs of the body is famously recognized as a distinctive feature of *physiologia* both in the so-called “autobiography” of Socrates in the *Phaedo* and in a further “doxographic” passage in the dialogue, where Simmias develops the argument that the soul is like “a blending and an attunement” of the bodily elements. While no earlier thinker is mentioned here, one can easily identify Parmenides and Empedocles as two of the main supporters of the notion that thought and perception depend on the various blendings of the physical constituents of the body. That they had such a view is indeed well known thanks to a few fragments, for whose discussion Aristotle’s and Theophrastus’ comments prove to be particularly helpful. What neither Plato nor Aristotle acknowledge, though, is that no such specific bearer of mental functions as *psyche* is needed in this kind of account. As a matter of fact, both Parmenides and Empedocles share with the epic and lyric tradition the idea of the precariousness of human knowledge, due to the constant exposure of human beings to change. Yet they “translate” the *topos* of human existence and thought subjected to the divine into a vision where the physical *krasis* of the body (not by chance, a medical notion) is all that *matters*.

**Keywords:** Parmenides; Empedocles; cognition; mind-body problem

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## Introduction

I will focus in this paper on a number of well known and studied testimonia and fragments that allow us to ascribe to Parmenides and Empedocles a materialistic account of mind and its functions which, for the sake of clarity, I shall

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call the *krasis* “theory”.<sup>1</sup> My main, and twofold, aim is to argue that i) the notion – central to this theory – of the human condition being exposed to continuous change is indebted to the epic and lyric traditions in which both Parmenides and Empedocles, being poets, are deeply rooted; ii) with respect to this tradition, Parmenides and Empedocles make a crucial move in shifting the focus of interest on the *physical* conditions of human knowledge, and, what is more, in exploiting to this end such notions as *krasis* and *physis*, with their strong biological and medical connotations. As a whole, I intend in this essay to argue for a vision of early Greek philosophy and science as a “fluid field”, characterized by a “substantial overlap” between the areas of work of *physiologoi* and doctors (to say nothing of the poets).<sup>2</sup>

The inescapable starting point of this discussion is the “doxographical” passage within the so-called autobiography of Socrates in the *Phaedo*, where the philosopher’s interests in the study of nature as a young man are recalled, along with a few examples of Presocratic tenets. After reporting an opinion concerning the origin of living beings (92a), Plato introduces a set of views on how *phronein* is produced according to various anonymous representatives of the *peri physeos historia*. The context makes clear that the word *phronein* covers both areas of perception and intellectual understanding, as it usually does in archaic Greek (*Phaedo*, 96b3–8):<sup>3</sup>

πότερον τὸ αἷμά ἐστιν ᾧ φρονοῦμεν, ἢ ὁ ἀήρ ἢ τὸ πῦρ; ἢ τούτων μὲν οὐδέν, ὁ δ’ ἐγκέφαλος ἐστιν ὁ τὰς αἰσθήσεις παρέχων τοῦ ἀκούειν καὶ ὄραν καὶ ὀσφραίνεσθαι, ἐκ τούτων δὲ γίνονται μνήμη καὶ δόξα, ἐκ δὲ μνήμης καὶ δόξης λαβούσης τὸ ἡρεμεῖν, κατὰ ταῦτα γίγνεσθαι ἐπιστήμη;

Is blood what we think with, or is it air, or fire, or none of these, and is it the brain that provides the senses of hearing and sight and smell, and from these come memory and opinion, and from memory and opinion that has become stable comes knowledge?

**1** I fully agree with Gábor Betegh’s claim that it is legitimate to describe Heraclitus and the “Presocratics” generally as having a materialistic or physicalist “philosophy of mind”, although a dualistic option is not yet in the theoretical scenario (cf. Betegh 2013, reiterating Betegh 2007). Likewise, Singer 1992 pointed out that the Hippocratic writers usually establish a continuous transition from the physical to the mental domain, precisely because they are not committed to any dichotomous system of thought.

**2** So van der Eijk 2008, esp. pp. 386–88. I made a similar case in Sassi 2009, esp. pp. 202–250, for including archaic poetry in this landscape.

**3** There is increasing agreement in the scholarship on the notion that perception and thought were treated by most of the *physiologoi* as similar *activities*, and in this sense Aristotle and Theophrastus were right in saying that to early philosophers they were “the same thing”. Lucid assessments on this issue are Mansfeld 1999; Bredlow 2011.

Identifying the authors to whom Plato may allude here is not my aim,<sup>4</sup> although I would like to mention that among the supporters of the view that blood is “what we-perceive-and-think with” was Empedocles, as we shall see very soon. I prefer to remark what emerges from this passage as a whole, namely, that Plato shows to be fully aware of the fact that making cognitive activities to depend on corporeal substances and processes was distinctive of the approach of the *peri physeos* tradition. What is more, in this passage he does not make any mention whatsoever of an entity such as the *psyche*. In fact, the periphrasis “what we think with” rather indicates that most *physiologoi* must be content with identifying a sensing and thinking principle in an element or part of the *body*, thus reminding us that the definition of the soul as the fundamental principle of life and knowledge was the outcome of a gradual process of integration of the various functions of living beings. This process was fulfilled only in the second half of the fifth century, when the *psyche* firmly achieved its status as a unitary principle of the cognitive and of the vital functions; in Diogenes of Apollonia, Democritus, and the author of *De victu*,<sup>5</sup> for example, it is distinct from the body (and yet still conceived as a physical substance).

Since this notion has become shared ground of the interpreters only in relatively recent times, it is worth reminding as well that in Parmenides’ fragments the word *psyche* is not attested at all, whereas in its only occurrence in Empedocles it designates the soul as the principle of *life* – see B 138, whose wording suggests that the Homeric notion of psychic breath is implied. Setting aside the concept of “soul” will indeed prove helpful in addressing the theory of cognition of these two thinkers: for it will enable us to focus our attention on a central point they share, namely, the assumption that any cognitive process (both sensible and intellectual) is determined by the various ways in which the physical constituents of the body are blended together.

## Empedocles’ “growing intelligence”

If we bear in mind that a concept of soul was not as much of a requirement in early Greek psychology as we might expect within a dualistic framework, we

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4 Mansfeld 2000 is invaluable for the analysis of the “doxographical” passages in the *Phaedo*.  
5 Laks 1999 sharply made this point, although one might qualify his picture by noting, on the one hand, Heraclitus’ early construction of the *psyche* as a unified center of vital, cognitive, and emotional functions (on which see, e.g., Schofield 1991), and, on the other hand, that a plurality of models of mind persisted in the Hippocratic writings next to that elaborated in the *De victu* (cf. Hankinson 1991; van der Eijk 2005, pp. 119–135).

will be better equipped to face another long passage from the *Phaedo* that is of utmost importance for the reconstruction of a significant piece of this horizon. Earlier in the dialogue, Simmias expressed his doubts about the immortality of the soul by referring to a doctrine “accepted by most people” (as he puts it at 92d1–2), according to which *psyche* “is” a *krasis* and a *harmonia*, i.e., a blending and a right proportion of the constituents of the body (*Phaedo*, 86b5–c6):

καὶ γὰρ οὖν, ὦ Σώκρατες, οἶμαι ἔγωγε καὶ αὐτόν σε τοῦτο ἐντεθυμῆσθαι, ὅτι τοιοῦτόν τι μάλιστα ὑπολαμβάνομεν τὴν ψυχὴν εἶναι, ὡσπερ ἐντεταμένον τοῦ σώματος ἡμῶν καὶ συνεχόμενον ὑπὸ θερμοῦ καὶ ψυχροῦ καὶ ξηροῦ καὶ ὕγρου καὶ τοιούτων τινῶν, κρᾶσιν εἶναι καὶ ἄρμονίαν αὐτῶν τούτων τὴν ψυχὴν ἡμῶν, ἐπειδὴν ταῦτα καλῶς καὶ μετρίως κραθῆ πρὸς ἄλληλα - εἰ οὖν τυγχάνει ἡ ψυχὴ οὔσα ἄρμονία τις, δῆλον ὅτι, ὅταν χαλασθῆ τὸ σῶμα ἡμῶν ἀμέτρως ἢ ἐπιταθῆ ὑπὸ νόσων καὶ ἄλλων κακῶν, τὴν μὲν ψυχὴν ἀνάγκη εὐθὺς ὑπάρχει ἀπολωλέναι, καίπερ οὔσαν θειοτάτην ...

For I think, Socrates, that you too must have realized that we believe the soul to be something like this: it is as if our body was tuned and held together by hot and cold and dry and wet and other things of this kind, and our soul is a blending and a harmony of these same things, when they have been mixed with each other rightly and in due measure. Now if the soul turns out to be a sort of harmony, it is clear that when our body is relaxed or stretched beyond measure due to diseases or other evils, the soul must perish at once, even though it is most divine ...

I find it natural to think that by saying “we” Simmias is referring to himself and his friend Cebes, the two main interlocutors of Socrates in the dialogue. Since they were plainly said to have “heard” Philolaus at Thebes (61d–e), it would be unfair to deny that the report includes any allusion to some view on the nature of the soul entertained by their teacher: a view to which he must have applied to some extent the concept of *harmonia* of limiters and unlimiteds that is central to his philosophical system.<sup>6</sup> Nevertheless, it seems clear that the overall theory is the product of Plato’s construction. For the critical purposes of the discussion on the immortality of soul that runs throughout the dialogue, he is combining many diverse tenets supported by a number of previous thinkers: on the one hand, the reflections about the *harmonia* of cosmic elements found in Philolaus as well as in Heraclitus (and Empedocles), and, on the other hand, a doctrine saying that thought and sense-perception are a direct product of the mixing (*krasis*) of the physical opposites in the body. While this doctrine could do without any concept of soul, as we will see soon, Plato could not resume it if not by importing *his* concept of *psyche* into the picture.

<sup>6</sup> As, for instance, it is argued in Huffman 1993, 327–332; Huffman 2009, 33–34.

A similar method of dialectical appropriation is adopted by Aristotle, who introduces the same theory in the fourth chapter of the first book of the *De anima* (407b 27–31) as a *doxa* found “plausible by many people” (πιθανή ... πολλοῖς), which has already “given an account of itself in published discussions as if to judges” (λόγον δ’ ὡσπερ εὐθύνοις δεδωκυῖα κἀν τοῖς ἐν κοινῷ γεγενημένοις λόγοις). Aristotle probably refers to discussions present in his own *Eudemus* as well as in the *Phaedo*,<sup>7</sup> whose wording he closely reprises: “According to this view, the soul is a kind of harmony, harmony being a blending or composition of opposites, and the body consisting of opposites” (ἁρμονίαν γάρ τινα αὐτὴν λέγουσι· καὶ γὰρ τὴν ἁρμονίαν κρᾶσιν καὶ σύνθεσιν ἐναντίων εἶναι, καὶ τὸ σῶμα συγκεῖσθαι ἐξ ἐναντίων). In any case, it is clear that the *krasis* theory offers to Aristotle a promising model for his account of the soul – and thus a model that deserves to be criticised. Amongst other objections, the following is most interesting to our discussion (*De anima* I 4.408a 13–20):

ὁμοίως δὲ ἄτοπον καὶ τὸ τὸν λόγον τῆς μίξεως εἶναι τὴν ψυχὴν· οὐ γὰρ τὸν αὐτὸν ἔχει λόγον ἢ μίξις τῶν στοιχείων καθ’ ἣν σὰρξ καὶ καθ’ ἣν ὀστοῦν. συμβήσεται οὖν πολλὰς τε ψυχὰς ἔχειν καὶ κατὰ πᾶν τὸ σῶμα ... ἀπαιτήσεται δ’ ἂν τις τοῦτό γε καὶ παρ’ Ἐμπεδοκλέους· ἕκαστον γὰρ αὐτῶν λόγῳ τινὶ φησὶν εἶναι·

It is equally absurd to hold that the soul is the proportion of the mixture, for the proportion of the mixture of the elements constituting flesh is not the same as that constituting bone. Thus it will follow that there are many souls all over the body ... This is an objection one might bring against Empedocles, who says that each of the parts is determined by a certain proportion.

Empedocles is finally mentioned here as a supporter of what I decided to call the *krasis* theory of cognition, namely, a theory that explains the cognitive processes through the blending of the bodily constituents – remember that the equivalence of *krasis* and *psyche* is inferred by Aristotle in the wake of Plato. Moreover, Aristotle adds the important specification that for Empedocles different proportions in the blending, varying from one part of the body to another, cause different cognitive abilities. This point is confirmed and expanded in the detailed testimony of Theophrastus in the *De sensibus*, on whose context it is worth dwelling here at some length.<sup>8</sup>

In chapter 10 of *De sensibus* (31 A 86 DK) Theophrastus says that, according to Empedocles, both thought (φρονεῖν) and perception come about “through

<sup>7</sup> Cf. Mansfeld 2000, 2–3.

<sup>8</sup> Jaap Mansfeld, again, provides an invaluable analysis of the testimonia of Aristotle and Theophrastus (Mansfeld 1996), and more generally of the principles of arrangement of the topic in Aristotle’s and Theophrastus’ doxographical contexts.

the like”, meaning that each element entering into the composition of the object perceived in the outside world is “recognised” by the subject insofar as they are made up with the same elements, combined in diverse proportions (ἐκαστον ἐκάστωι γνωρίζομεν).<sup>9</sup> That is why, in Empedocles’ view, on the one hand, “all things”, being variously composed of and “fitted together with” the four “roots”, “thanks to these think and feel pleasure or pain” (B 107.2: τούτοις φρονέουσι καὶ ἡδοντ’ ἠδ’ ἀνιώνται); on the other hand, human beings owe their superior intellectual abilities to the fact that they possess a corporeal tissue, namely, blood, where the elements “are most fully mingled in respect to any other of our parts” (τῶι αἵματι μάλιστα φρονεῖν· ἐν τούτῳ γὰρ μάλιστα κεκρᾶσθαι τὰ στοιχεῖα τῶν μερῶν).

Hence not just the living beings, but all natural things (as Empedocles implies also in B 103 and B 110.10), are endowed with *phronesis* (a word which we may translate as “consciousness”), presumably passing through gradually higher degrees in correspondence with the increasing complexity of their physical organization. Nevertheless, Empedocles’ model seems to have been sophisticated enough to trace the highest grade of thinking that is peculiar to the human beings to the blood around the heart, where the mingling is most even (as he famously states in B 105).<sup>10</sup> He even established a causal link between the diversity of mental temperaments and cognitive skills and the various kinds of arrangement of the mixing elements, respectively, all over the body and in some specific parts of it. This is also what Theophrastus informs us about at *De sensibus* 10-11, thus confirming how the concept of *krasis* is central to Empedocles’ theory of intelligence.<sup>11</sup>

ὄσοις μὲν οὖν ἴσα καὶ παραπλήσια μέμικται καὶ μὴ διὰ πολλοῦ μῆδ’ αὖ μικρὰ μῆδ’ ὑπερβάλλοντα τῶι μεγέθει, τούτους φρονιμωτάτους εἶναι καὶ κατὰ τὰς αἰσθήσεις ἀκριβεστάτους, κατὰ λόγον δὲ καὶ τοὺς ἐγγυτάτω τούτων, ὄσοις δ’ ἐναντίως, ἀφρονεστάτους, καὶ ὧν μὲν μανὰ καὶ ἀραιὰ κείται τὰ στοιχεῖα, νωθροὺς καὶ ἐπιπόνους· ὧν δὲ πυκνὰ καὶ κατὰ μικρὰ τεθραυσμένα, τοὺς δὲ τοιούτους ὀξεῖς φερομένους καὶ πολλὰ ἐπιβαλλομένους ὀλίγα ἐπιτελεῖν διὰ τὴν ὀξύτητα τῆς τοῦ αἵματος φορᾶς· οἷς δὲ καθ’ ἓν τι μόνιον ἢ μέση κρᾶσις ἔσται, ταῦτη σοφοὺς ἐκάστους εἶναι· διὸ τοὺς μὲν ῥήτορας ἀγαθοὺς, τοὺς δὲ τεχνίτας, ὡς τοῖς μὲν ἐν ταῖς χερσὶ, τοῖς δὲ ἐν τῇ γλώττῃ τὴν κρᾶσιν οὖσαν· ὁμοίως δ’ ἔχειν καὶ κατὰ τὰς ἄλλας δυνάμεις.

<sup>9</sup> This idea is famously expressed in Empedocles’ Frg. 109, quoted twice in Aristotle (*De an.* I 2.404b 8; *Metaph.* III 4.1000b 5, a context discussing the *similia similibus* principle).

<sup>10</sup> Cf. as well B 98 on the composition of blood. On the issue of what I would call the “psychic character” of bodily tissues in early Greek philosophy, Solmsen 1950 is still unsurpassed.

<sup>11</sup> See Jouanna 2007 for an accurate assessment of the parallels which the author had detected in a former essay (Jouanna 1966) between this passage and the treatment of the different degrees of intelligence at *De victu* I 35.

Those in whom [*i.e.*, in whose blood] the mixture is of equal or similar amount of elements, neither too far apart nor too small or too large, are most intelligent and extremely perceptive, then come those who are proportionately closest, while those in whom the mixture has opposite characters are the least clever. Again, individuals in whom the elements lie loose and rare are slow and laborious; while those who have them compact and finely divided are impetuous, throw themselves into many a project, and yet accomplish little, because of the impetuous flow of their blood. But when the blend lies in the mean in some single part of the body, in this part the individual is skilful. For this reason some are good orators and others good artisans, for in one case the best blend is in the tongue, in the other is in the hands. And the same thing happens for the other abilities.

We understand that the same notion underlies Empedocles' consideration of the differences observed in the field of perceptual capabilities. In *De sensibus* 8 Theophrastus tells us that Empedocles observed the phenomenon whereby certain animals have keener vision during the day, while others see better at night. He explains this phenomenon with the theory that the eyes of the former contain a lesser amount of fire, which is outweighed during the day by the external light, whereas the eyes of the latter have less water, and the right balance for a better vision is found at night, when the air is humid. Moreover, bad vision occurs either during the day in individuals with excessive ocular fire, which is increased (*epauxethen*) by daylight and thus occludes the pores of water, or during the night in those whose eyes contain more water, to which atmospheric moisture is added, thus clogging the pores of fire. Of course, optimal vision occurs in those subjects in whose eyes fire and water are present in equal measure, and thus are "perfectly blended" (ἄριστα κεκρασῆσθαι).<sup>12</sup>

I would like to stress a point that is not often remarked in this description, namely, that the qualities of the environment are included, along with the constituents of sense organs, among the ingredients of the mixture of elements that determines different cognitive states from a subject to another. It is clear that in the visual process the external fire (or water) is added to the internal one and thus "increases" it, and the resulting product of this mixture, which is different according to the initial physiological conditions of the eye, is ultimately responsible for the perceptive process. It is likely that Empedocles let a similar mechanism be at work in all of sense perception, yet what I want to point out is that even in the process of thinking – since this was conceived by Empedocles as a sort of "sixth sense" – as Tony Long put it half a century ago, "external elements cause internal elements to grow".<sup>13</sup>

<sup>12</sup> On the essentials of Empedocles' account of perception and vision, see Sassi 1978, pp. 18–25, 82–91.

<sup>13</sup> Long 1966, p. 270 (my Italics). As far as I know, Long's happy suggestion has not been adequately exploited, except for Andropoulos 1972, which is, unfortunately, as insightful as

I consider this remark to be most helpful in explaining the intriguing notion found in B 106 (quoted by Aristotle in two significant contexts that we will examine soon): “In humans, intelligence grows in relation to what is present” (πρὸς παρεὸν γὰρ μῆτις ἀέξεται ἀνθρώποισιν). In my view, the phrase πρὸς παρεὸν is a significant indication that Empedocles, in analysing the corporeal conditions of the cognitive processes, considered not only the variance of capabilities among different individuals, but also the changing of cognitive states within the same subject, as determined *from time to time* both by the constitution of the body and by the material effluences from the objects entering into it through the pores, and thus producing ever new mixtures. In other words, the single perceptive event takes place in/coincides with the encounter of the external material flow and the corporeal tissues. Nevertheless, one’s *intelligence* may grow (μῆτις ἀέξεται) to the point of reaching a reflecting level if, and when, numberless consecutive events accumulate in that stabilizing substance that is the blood in certain predisposed subjects.

This reading is confirmed by B 110, where Empedocles promises that his pupil will attain with due effort of the mind (l. 1: σφ’ ἀδινῆσις ὑπὸ πραπίδεσσιν ἐρείσας) a stable and permanent knowledge (l. 3: ταῦτά τέ σοι μάλα πάντα δι’ αἰῶνος παρέσσονται) through transcending the perturbing mobility and particularity of the physical reality within which the poor humans are imprisoned (ll. 6–7: εἰ δὲ σύ γ’ ἀλλοίων ἐπορέξῃ, οἷα κατ’ ἀνδρας μυρία δειλὰ πέλονται ἅ τ’ ἀμβλύνουσι μερίμνας ...). It is crucial to note that this higher level of knowledge is not achieved by a route separate from that of the senses, but it is rather due to the fact that the “material constitution” of things is so well integrated that it makes the subject’s mind, again, materially *grow* (ll. 4–5: αὐτὰ γὰρ αὔξει ταῦτ’ εἰς ἦθος ἕκαστον, ὅπη φύσις ἐστὶν ἐκάστωι).<sup>14</sup>

All in all, Empedocles’ stance can be assimilated to a form of non-reductive physicalism, according to which the cognitive processes are determined by a certain organization of the matter of the body. In any case, the materialistic character of this model is well caught by Aristotle, who adds significant comments to his quotation of B 106 in *De anima* III 4.427a 21 as well as in *Metaphysics* IV 5.1009b 17. For in the former passage he cites the fragment (along with B 108 and Hom. *Od.* XVIII 136–7) to demonstrate that “the ancients” believed that “thinking is a bodily process like perceiving”, whereas in the latter, even more interestingly, he adds B 108, again, and Parmenides’ B 16 in order to link the identification of *phronesis* and *aisthesis* (both being physical alterations), which

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inaccurate, and Wright 1990, 222. This issue has been brought to my attention by discussions with Giovanna Ambrosano.

<sup>14</sup> Both Schwabl 1956 and Long 1966, 268–273 provide most helpful readings of this fragment.



he ascribes to his predecessors, to the notion that “those who change their bodily condition change their thought” (μεταβάλλοντας τὴν ἕξιν μεταβάλλειν φησι τὴν φρόνησιν). The text of B 108 confirms indeed the theory that cognitive events are always different, dependent as they are on the physical constitution of the subject. The fragment notably puts more emphasis on the fact that human beings are in continuous *change*: ὅσον δ' ἄλλοιοι μετέφυν, τόσον ἄρ σφισιν αἰεὶ καὶ τὸ φρονεῖν ἄλλοῖα παρίσταται: “insofar as they change in their nature, so are different thoughts always present to them”. We must now deal with the issue of physical change as a factor that apparently jeopardises the stability of knowledge. By examining Parmenides' B 16, we shall see how appropriate it is for Aristotle to combine in the same context of *Metaphysics* the aforementioned fragments by Parmenides and Empedocles: in fact, this analysis is going to show that the former may be seen as the founder of the *krasis* theory of cognition.

## Parmenides: embanking the change

I propose here my attempt at a reconstruction of Parmenides' fragment, which is cited both by Aristotle (*Metaph.* IV 5.1009b 22–25) and by Theophrastus (*De sensibus* 3: 28 A 46 DK). As controversies about constitution and meaning of this text are virtually destined to have no end, I intend what follows as a mere tool for discussion.<sup>15</sup>

ὡς γὰρ ἐκάστοτ<sup>1</sup> ἔχει κρῆσιν<sup>2</sup> μελέων πολυπλάγκτων<sup>3</sup>,  
 τῶς νόος ἀνθρώποισι παρέστηκεν<sup>4</sup>. τὸ γὰρ αὐτὸ  
 ἔστιν ὅπερ φρονέει μελέων φύσις ἀνθρώποισιν  
 καὶ πᾶσιν καὶ παντί· τὸ γὰρ πλεόν ἐστὶ νόημα.

<sup>1</sup> ἐκάστοτ(ε) Arist. E<sup>1</sup>J, Theophr. ἕκαστος Arist. E<sup>2</sup>; ἐκάστῳ Arist. Ab, Alex. Aphr., Ascl.<sup>16</sup>

<sup>2</sup> κρᾶσιν mss. κρᾶσις cj. Stephanus

<sup>15</sup> Within the vast literature, I found particularly helpful the recent contributions of Hussey 2006 and Bredlow 2011 (among other things for their discussing André Laks' interpretation of τὸ πλεόν at l. 3 as “the full”, in Laks 1990). The commentary of Coxon 1986, 246–252 remains invaluable for the harvest of parallels with archaic poetry.

<sup>16</sup> The reading ἐκάστοτ(ε), which is to be preferred for textual reasons, also fits better into the image of continuous variation conveyed in this fragment. However, such a reading leaves ἔχει without a subject. This difficulty, which prompted Stephanus to conjecture κρᾶσις, may also be the reason behind the variant ἕκαστος, possibly a *lectio facillior*. To solve this problem one might guess, as some scholars did, that such a subject like τις or ἄνθρωπος was present in the preceding lines.

<sup>3</sup> πολυπλάγκτων Theophr. [cf. B 6.5-6, B 8.54] πολυκάμπτων Arist., Alex. Aphr., Ascl.

<sup>4</sup> παρέστηκε Theophr.; παρίσταται Arist., Alex. Aphr., Ascl.<sup>17</sup>

For as [one] has each time the blending of the much-wandering limbs, so thought occurs to humans. For the substance of the limbs is the same as what it thinks in all humans and every one;<sup>18</sup> for the more [= what preponderates in the *krasis*] is the [resulting] thought.

According to my reading, understanding is moulded by the ways in which the two “forms”, Night and Fire, are mixed in the human body; these regulate the reception of similar elements composing the sensible things. What prevails in the body determines the character as well as the scope of thought, which is limited if darkness dominates, superior if light prevails.

As thorny as the precise reading of this much debated fragment can be, the general formulation of it as well as its unquestionable proximity to such Empedoclean statements as those found in B 106, 108, and 110 confirm that Aristotle (as well as Theophrastus after him) is right in linking all of these texts within a network of concepts such as the physical basis of the cognitive processes, the identity of perception and thinking, their occurrence through the encountering and interaction of like elements, and the sense of the continuous variation (or instability, if you wish) of the resulting knowledge.<sup>19</sup> I would indeed venture to guess that Parmenides was the first to link the issue of cognition to the proportion of elements in the mixture constituting the body. In other words, Parmenides might as well have been the “inventor” of the *krasis* theory which Empedocles would develop later on.

Commentators of Parmenides’ B 16 have not missed the medical resonance of the term *krasis*, for which they usually argue by mentioning a number of *loci paralleli* in the Hippocratic writings (e.g., *Aër* 12; *VM* 5, 16, 19; *Nat. Hom.* 3, 4; *Vict.* 32, 35). However, in spite of the clear chronological gap, as far as I know nobody but Edward Hussey has paused to remark that, as he put it, “Parmenides’ fr. 16 may well be the earlier attested use of this theoretical device”.<sup>20</sup> It is noteworthy that this fragment is indeed the first text in Greek literature in which the

<sup>17</sup> I would like to mention at least that Passa 2009, 48–50 brings interesting arguments for correcting ἔχη at l. 1 and maintaining παρίσταται at l. 2 (παρίσταται is untenable for metrical reasons), more so because both readings would be most suitable to the sense of contingency of the perceptive process that is conveyed by these verses.

<sup>18</sup> A number of alternative translations of this cryptic verse are listed by Bredlow 2011, 243–244.

<sup>19</sup> Agreement on these points (see *supra*, n. 3) goes hand to hand, as regards Parmenides, with the opinion that the physical theories expounded in the *Doxa* section of the poem are his own.

<sup>20</sup> Hussey 2006, p. 17. I note as well a quick notice on this point in Wright 1990, 217 n. 2.

abstract noun *krasis* occurs to designate a physical mixture.<sup>21</sup> It is notable, in particular, that *krasis* does not occur anywhere in the Homeric poems, in contrast with the frequency of the corresponding verb *kerannumi*. Therefore, it is plausible that Parmenides was the first to apply a concept of physical balance within a gnoseological framework, not so much “borrowing it” from a medical field but “because” he had his own interests for human physiology.<sup>22</sup>

One cannot exclude that Parmenides might have found food for thought in the theory, found in Alcmaeon’s B 4, that health is given by an equal proportion (*isonomia*) of corporeal powers. One must note, however, that the use of *krasis* to explain the concept of *isonomia* in the context of this fragment belongs to the doxographer.<sup>23</sup> Moreover, it should be emphasized that Parmenides is not so much interested in the problem of health and disease as he is in understanding how the process of cognition normally works. In fact, his concept of *krasis* does not regard that issue which will be central to the Hippocratic discourse, namely, the interaction of the individual body with a certain food and regimen.<sup>24</sup> As he makes clear by talking of a mingling of *melea poluplankta* at l. 1 of the fragment, and by reiterating this expression with *meleon physis* at l. 3,<sup>25</sup> he is not referring to any “static constitution” or “stable temperament” (this being the meaning of *krasis* that would prevail instead in medical writings). Rather, he is

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**21** For a treatment of the concept of mixture in early Greek literature, as conveyed by words derived from the roots \**k(e)ra-* and \**m(e)ig*, see Montanari 1979. The author argues against the claim (still frequent) that the family of *krasis* means since its earliest attestations a fuller mixture than *mixis*, and asserts that *krasis* indicates rather a mixture in which the qualities of the elements are *tempered* with each other (as it happens when water and wine are mixed, a process often described in Homeric poetry). This belief leads the author to reject the only possible attestation of *krasis* before Parmenides, namely, Sappho’s frg. 148.2 Lobel-Page (controversial for other reasons), arguing, somehow aprioristically, that *krasis* cannot mean at this early date the *union* of wealth and virtue that allows one to reach happiness. Nevertheless the view that *krasis* has a special relationship with the mutual temperament of the ingredients in a mixture may be confirmed by the later specialization of the word to mean “tempered constitution” in ancient medical texts.

**22** Cf. Gemelli Marciano 2009, 43–46, on the possible biographical background of the epithet *physikos* (likely to mean “doctor”), assigned to Parmenides in an inscription affixed to a herma portrait of the first century B.C. found in Velia. In any case, Parmenides’ interest for the field of human physiology is well attested in ancient doxography (see esp. 28 A 46a, 46b, 51–54). Notably, in the embryological text transmitted by Caelius Aurelianus (28 B 18), the fusion of the parents’ *virtutes* in the semen is called *temperiem* (l. 3), which looks like a translation of *krasis*.

**23** The latest and most enlightening interpretation of the notion of *isonomia* in Alcmaeon’s definition of health can be found in Kouloumentas 2014.

**24** Cf. Smith 1992.

**25** On the “dynamic” sense of the word *physis* in early Greek thought, and particularly in this fragment, cf. Heidel 1910, Manetti 1973, Andò 1999.

representing the nature of the body as the result of a dynamic *change*. That this change is considered to be influenced not as much by food as it is by the constituents of physical things that are assimilated and thus perceived, may be confirmed by the fact that Parmenides likely applied the concept of *krasis* to the combination of the two cosmic “forms”, as shown by the reference to “unmixed fire” (πυρὸς ἀκρήτῳ) at B 12.1 – by the way, it is also worth pointing out that the only attestations of a lexicon of *krasis* in Empedocles are found in cosmological descriptions (31 B 21.14, 22.4, 22.7).

Let us try now to delve deeper into the notion that human thoughts depend on the changing composition of μέλεα πολύπλαγκτα (B 16.1). The Homeric word πολύπλαγκτος, though superficially reminiscent of the characterization of Odysseus (*Od.* I 1–2, XVII 511), effectively recalls the vivid description of mortals going astray on the wrong route in Parmenides’ B 6.4 ff.:<sup>26</sup>

... ἦν δὴ βροτοὶ εἰδότες οὐδὲν  
πλάζονται, δίκρανοι· ἀμηχανίη γὰρ ἐν αὐτῶν  
στήθεσιν ἰθύνει πλαγκτὸν νόον· οἱ δὲ φοροῦνται  
κωφοὶ ὁμῶς τυφλοὶ τε, τεθηπότες, ἄκριτα φύλα

[I hold you back as well from the route of inquiry] on which mortals wander, two-headed: for helplessness in their breasts steers their wandering mind. They are carried away deaf and blind at once, dazed, hordes with no judgment.

Both in B 6 and B 16, Parmenides’ wording is rich in Homeric resonances, among which the notion, famously emerging from Odysseus’ complaint and often brought up by scholars, that human thought is subject to the continuous change of fortunes imposed, day after day, by divine will (*Hom. Od.* XVIII 136–7):<sup>27</sup>

τοῖος γὰρ νόος ἐστὶν ἐπιχθονίων ἀνθρώπων,  
οἷον ἐπ’ ἡμᾶρ ἄγησι πατὴρ ἀνδρῶν τε θεῶν τε.

For the thought of men on the earth is even such as  
the day which the father of men and gods brings upon them.

This motif will be developed over the seventh and sixth century in the lyric tradition of Archilochus, Semonides of Amorgos, and Pindar, who produced dra-

<sup>26</sup> The parallel with B 6 would not be weakened by accepting at l. 5 πλάσσονται, to be understood as *animò fingunt* (Sider 1985, 363–364), since both πλαγκτὸν νόον and φοροῦνται at l. 6 stay to ensure the intended image of the lack of control of mind and body alike in these people.

<sup>27</sup> So Aristotle, again, proves to be a fair reader when he illustrates the “ancient” conception of thinking as a bodily process by joining the examples of Empedocles’ frgs. 106, 108, and this Homeric passage (at *De anima* III 4.427a 21, see above).

matic descriptions of humans as beings “of a day” (*ephemeroi*, *epameroi*). Famous instances are:

Archilochus fr. 68 Diehl = 131 + 132 West

τοῖος ἀνθρώποισι θυμός, Γλαῦκε Λεπτίνεω πάϊ,  
γίνεται θνητοῖς, ὁποῖον Ζεὺς ἐφ’ ἡμέρην ἄγηι.  
καὶ φρονέουσι τοῖ ὁποίοις ἐγκυρέωσιν ἔργμασιν.

The heart of mortal men, Glaucos son of Leptines,  
becomes such as the day which Zeus brings upon them,  
and their thoughts are such as the deeds that they encounter.

Semonides, fr. 1.3–5 West

νοῦς δ’ οὐκ ἐπ’ ἀνθρώποισιν, ἀλλ’ ἐπήμεροι  
ἃ δὴ βοτὰ ζόουσιν, οὐδὲν εἰδότες  
ὅπως ἕκαστον ἐκτελευτήσει θεός.

There is no understanding in men, but from day to day  
they live like cattle, not at all knowing  
how god will bring each thing to its fulfillment.

Pind. *Pyth.* VIII 95–6

ἐπάμεροι· τί δέ τις; τί δ’ οὐ τις; σκιᾶς ὄναρ ἄνθρωπος.

Creatures of a day. What is someone? What is no one? Man is the dream of a shadow.

In exploring this theme in a masterly essay, Hermann Fränkel demonstrated, through an accurate analysis of the linguistic composition of *epi* and *hemera* in the word *ephemeros*, that this does not refer (as one might think at first glance) to the brevity of human existence, like that of an insect “living one day” on earth, but to an existence “exposed to the day”, this being conceived as a limit that prevents men from knowing what will happen to them the next day.<sup>28</sup> Now just a quick glimpse at these texts shows how much the description in Parmenides’ B 16 owes to that powerful repertoire of words and images that had been shaped within the epic and lyric traditions. The same, and more, can be said of Empedocles, who often likes to linger on the misery of human condition, fully drawing on the same ensemble of vocabulary and stylistic turns. To prove this, a few lines from B 2 and B 3 may be useful:<sup>29</sup>

<sup>28</sup> Cf. Fränkel 1946.

<sup>29</sup> I refer to Calzolari 1984 for a careful extrication of countless reflections of traditional existential pessimism in these texts. See also Schwabl 1956 for a similar reading of Empedocles’ B 110.

31 B 2.3ff.:

παῦρον δ' ἐν ζωῆσι βίου μέρος ἀθρήσαντες  
 ὠκύμοροι καπνοῖο δίκην ἀρθέντες ἀπέπταν  
 αὐτὸ μόνον πεισθέντες, ὅτῳ προσέκυρσεν ἕκαστος  
 πάντοσ' ἐλαυνόμενοι, τὸ δ' ὅλον (πᾶς) εὔχεται εὐρεῖν

Seeing in their span but a little part of life, swift-fated, men are carried away and fly like smoke, persuaded only of what each of them has chanced to encounter as they are driven everywhere. And yet everyone hopes to find the whole.

31 B 3.3–4; 9–13

καὶ σέ, πολυμνήστη λευκώλενε παρθένη Μοῦσα,  
 ἄντομαι, ὧν θέμις ἐστὶν ἐφημερίοισιν ἀκούειν,

And you, much-remembered maiden Muse with white arms, /I entreat, of what is right for creatures of a day

The number of poetic innuendos detectable either in these verses or in those of Parmenides must not surprise us, of course – we must not forget that Parmenides and Empedocles *were* poets, quite grounded in the archaic tradition. Yet, in the context of elegy and iambic poetry, the image of humans completely at the mercy of god at any moment of their life, and thus incapable of any long-term knowledge, is intertwined with that of their impotence (ἀμηχανίη is a pattern often present in this frame)<sup>30</sup>: men are sadly conscious of their own destiny being irredeemably exposed to the will of gods. On the contrary, in the texts of Parmenides and Empedocles considered above, such qualities as ἀμηχανίη (see 28 B 6.5), wandering in absolute ignorance, and the transient nature of cognition are presented as problems that concern *others*, namely, the mass of oblivious mortals that the authors stigmatize at the same time in which they offer to their selected audience, in a plainly optimistic turn, the means to overcome the limits of the human horizon.

In short, Parmenides put new wine in old bottles (and Empedocles took his lead) by shifting the emphasis from the observation of the precariousness of human condition, subjected to the gods' will, to the issue of the relation between cognitive powers and cosmic change. The “translation” of the existential *topos* into a gnoseological frame was accomplished exactly by resorting to the concept of *krasis*, which allowed to explain the cognitive phenomena by rooting them in the physical structure of the subject as well as in his or her relation to the things in the world. This was tantamount to leaving any divine conditioning out of the picture, in a move that was characteristic of the naturalistic trend of thought.<sup>31</sup>

<sup>30</sup> Cf. Föllinger 2007.

<sup>31</sup> Further arguments about Parmenides and Empedocles knowingly reframing, and thus distancing themselves from, the traditional notion of human weakness are developed in Sassi 2009 (202–209), Marino 2012, Ranzato 2012.

However, we must admit that there was a flaw in this attempt to relate the cognitive events to various states of *krasis* of the body. As a matter of fact, I believe that Aristotle's objection to Empedocles in the *De anima* (according to which assuming different kinds of *kraseis* in different parts of the body is like assuming many souls)<sup>32</sup> must be taken seriously, and that this objection can even extend to the idea, shared by Parmenides and Empedocles, that the individual constitution is in constant change. I believe, in other words, that the *krasis* theory (as well as any physicalist theory) fails to meet the question of the unity of the subject and his identity through time, inasmuch as it does not specify (at least in the texts that have been preserved) what kind of corporeal entity or principle of organization of matter would remain stable through time in the individual capable of achieving the highest knowledge.<sup>33</sup> Empedocles shows perhaps some awareness of this crux when he complains that the thoughts of “*all of the beings*” are submitted to the will of fortune (B 103: τῆιδε μὲν οὖν ἰότητι Τύχης πεφρόνηκεν ἅπαντα).

I believe it is exactly this point that is central to Epicharmus' fragment 2 (276 KA), also known as “the growing argument”, where “a serious challenge to ordinary assumptions about identity” is issued, as David Sedley put it.<sup>34</sup> The playwright represents a debtor who has been hauled to court for failing to pay his creditor, and defends himself by asserting that he is not the same person who borrowed the money, and thus he does not owe it anymore – an expedient worthy of being taken up by Aristophanes in the *Clouds*, 738–780, 1214–1302. The single pieces of his argument have an interesting Pythagorean flavour that has always (and rightly) aroused the attention of the interpreters, yet more interesting to us are the lines where the speaker portrays humans in general as ever-changing in their φύσις, namely, in the way they are generated and grow (ll. 6–12):<sup>35</sup>

ᾧδε νῦν ὄρη  
καὶ τὸς ἀνθρώπων· ὁ μὲν γὰρ αὖξεθ', ὁ δὲ γὰρ μὰν φθίνει,  
ἐν μεταλλαγῇ δὲ πάντες ἐντὶ πάντα τὸν χρόνον.  
ὁ δὲ μεταλλάσσει κατὰ φύσιν κοῦποκ' ἐν ταύτῳ μένει,  
ἕτερον εἶη καὶ τόδ' ἤδη τοῦ παρεξεστακότος,  
καὶ τὴν δὴ κἀγὼ χθὲς ἄλλοι καὶ νῦν ἄλλοι τελέθομεν,  
καῖθις ἄλλοι κοῦποκ' ὠτοὶ καττὸν (αὐτὸν αὖ) λόγον.

<sup>32</sup> See *supra*, 5.

<sup>33</sup> This point is acutely noted by Lo Presti (forthcoming).

<sup>34</sup> Sedley 1982, 255.

<sup>35</sup> See above, p. 11 and n. 25, on what is the most usual meaning of φύσις in the pre-classical period.

Well, think of men in this way too – for one has grown, another is diminishing,  
 and all are in the process of change all the time.  
 But what changes in its constitution and never stays in the same state  
 will be something different from what has changed  
 And you and I were different yesterday and different now,  
 and by the same argument [according to the same rule?] will be different again and  
 never the same

Within the intellectual framework that we have examined so far, I find it likely that Epicharmus is trying not only to voice his views (parodic, of course) on the precariousness of human life, but also to take a stand on philosophical issues of personal identity, which must have been debated in Southern Italy at the time. It is possible that, according to Jonathan Barnes' hypothesis, this very debate started from discussions on metempsychosis in early Pythagorean circles.<sup>36</sup> In any case, there is no doubt that the words *μεταλλάσσει κατὰ φύσιν* allude to a materialistic model of mind (and consequent behaviour) like the one we have attributed to Parmenides and Empedocles.

By way of conclusion, let me add just a brief remark on the most immediate continuation of the story I have tried to tell in this essay. The story of the reflection on nature and on the mechanisms of the cognitive processes in the second half of the fifth century B. C. seems to me to be the story of the search for a substance or entity able to work as an organizing principle of the corporeal matter. A high point in this inquiry is certainly the Hippocratic writing *De morbo sacro*, which has effectively been depicted as an elaborate attempt to describe “the very subject of *phronein* ... as a complex biological *whole* characterised by different interacting levels of existence”,<sup>37</sup> within which the brain works as a mediator and an agent of *stability*.

After mentioning a comic writer, citing a medical work seems to be an appropriate conclusion for this paper, in which I studied the *krasis* theory as a significant case within the network of relations and overlaps between early Greek literature, philosophy, and medicine throughout the fifth century. Both Parmenides and Empedocles firmly stand at the crossroads between these areas, having addressed the issue of the conditions of knowledge as poets, students of nature, and philosophers of mind.

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<sup>36</sup> Barnes 1979, p. 107. While no one has read Epicharmus' fragment as referring precisely to this stance (yet see Loew 1982, p. 106 n. 1), Battezzato 2008 and Gianvittorio 2014 are keen in pointing out a number of other philosophical resonances.

<sup>37</sup> Lo Presti 2010, 176. See as well Lo Presti 2008.



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