EMPEDOCLES, ON NATURE I 233-364: A NEW RECONSTRUCTION OF P. STRASB. GR. INV. 1665-6

1. The Papyrus and its Importance

In 1992 Alain Martin recognized that papyrus fragments from Panopolis in Upper Egypt, and now in Strasbourg, derive from Empedocles' Physics.¹ This was a discovery of extraordinary significance. The proof that a complete text of a Presocratic thinker were still in circulation late in the first century A.D. came as a surprise to many; indeed, it was widely regarded as first text of a Presocratic philosopher to have been found in a papyrus, with the exception of parts of the On Truth of Antiphon the sophist. In fact these are not the only texts of a fifth-century philosopher that survive on a papyrus. I have argued elsewhere that the Derveni papyrus is also the work of a thinker active in Socrates' lifetime, his exact contemporary the poet and *physikos* Diagoras of Melos,² whom the Athenians condemned to death in 415–414 B.C. That papyrus remains even more important than this one. However, the identification of the Strasbourg fragments of Empedocles might have been expected to be profoundly significant for early Greek philosophy. The first editors of the fragments, Alain Martin and Oliver Primavesi, produced with praiseworthy speed an edition of extraordinarily high quality.³ But the papyrus has raised more puzzles than it has solved, and thus far has often been considered something of a disappointment, because much of it overlaps with fragments of Empedocles' poem On Nature that were previously known, notably with the long passage quoted by Simplicius,⁴ which is the longest extant fragment of Book I, while the rest has seemed disjointed and very peculiar indeed.

In this paper I shall offer a new solution to these problems, one which reveals the full significance of the papyrus, renders the philosophical poem of Empedocles slightly (but only slightly) less bizarre than it appeared, and makes his argument much more coherent than the papyrus made it seem. In the process we shall, I believe, be able to reconstruct a largely uninterrupted passage from Book I of his *Physics* some 131 verses in length. We can also form a clear impression of how wonderful his great philosophical poetry would have sounded and why Lucretius in particular took him as his poetic model, as has recently been argued by David Sedley.⁵

The new edition did make one thing clear, however. For over a century there has been a major dispute as to whether Empedocles composed one poem or two, the *On Nature* and the *Purifications*. It was thought that the *On Nature* dealt with his theories about the creation of the world and of living beings, and

² See The Derveni Papyrus: an Interim Text, Zeitschrift für Papyrologie und Epigraphik 141 (2002) 1–62; God, Science and Socrates, *BICS* 46 (2002–3) 1–18.

³ A. Martin and O. Primavesi, *L'Empédocle de Strasbourg*, Berlin and New York 1998 (henceforth 'Martin and Primavesi').

⁴ Fr. 17 Diels = vv. 233–66 in this edition.

⁵ Lucretius and the Transformation of Greek Wisdom, Cambridge 1998, 10–34.

¹ I should like to thank above all Apostolos Pierris for his kind invitation to take part in the Tertium Symposium Myconense in July 2003, thereby obliging me to explore a topic about which I expected to find little new to say. An earlier version of part of the present study, together with a discussion of whether Empedocles wrote one poem or two, will appear in the proceedings of the Symposium. I am also most grateful to Oliver Primavesi for his gracious consideration of the ideas in this paper, and to Alain Martin for joining Primavesi and myself to study at the papyrus together with the help of a binocular microscope on 26–27 May 2004. I am also grateful to Alan Griffiths and Simon Trépanier. It must not be assumed that any of these scholars necessarily agree with any of the proposals in this article. I thank also the participants in the Symposium, and to audiences at the University of Cincinnati, at the University of Michigan and at the first Eric Turner Memorial Lecture at the Institute of Classical Studies in London, where versions of this material were presented. I thank M. Daniel Bornemann, Conservateur, for permission to reproduce images of the papyrus. I thank both him and Ruey-Lin Chang of the Bibliothèque Nationale et Universitaire de Strasbourg for their help and for the digital images of the papyrus, and the University of Michigan for funding my journey to Strasbourg.

the *Purifications* with the fate of the soul and his theory of metempsychosis. It seemed hard to explain how the same person, Empedocles, could at the same time advance the rationalizing doctrine that the world is made up of four elements, fire, air, earth and water, and yet believe also that the soul is punished for eating meat by a cycle of reincarnation. Some scholars, notably Catherine Osborne,⁶ argued that the testimonia of Plutarch, Hippolytus, and Simplicius showed that these doctrines were profoundly interrelated. Other students of the Presocratics, however, refused to accept that Empedocles could have pursued philosophy and what we think of as magic at the same time. The papyrus proves beyond doubt that he did, that his doctrines on these questions must have been interrelated, and that the On Nature involved both aspects of his thought.⁷ Most of it discusses how life originates and perishes from the combination and dissolution of the four material elements, fire, earth, air and water, by the twin forces of Love and Strife (attraction and repulsion, if we prefer to put these into scientific language). However, the same stretch of the papyrus also includes his famous lament that he ever ate meat, using his 'claws' to 'wreak dread deeds for food'.⁸ Whether Empedocles wrote a separate work called *Purifications (Katharmoi)* is unclear. One may compare both Heraclitus and the Derveni papyrus, whose writings both exhibit a totally unexpected combination of physics with what we call religion. The difference is that Empedocles seems to have considered that the physical elements, and we ourselves, are *daimones*, whereas the Derveni author chooses to interpret the *daimones* as souls, which seems to him more credible than the traditional belief. This author was perfectly happy to discuss the nature of *daimones* and the physical nature of matter in one and the same treatise. But the new fragments did little, as their first editors presented them, to clarify the coherence of that treatise.

2. The Basis of the Present Reconstruction

The Strasbourg papyrus contains over seventy complete or partial lines of Empedocles' poem. Its editors faced an extraordinarily difficult task in reconstructing it; they succeeded admirably in joining forty-seven of the original fifty-two fragments into six larger pieces, leaving only five small scraps.⁹ They called these eleven units *ensembles* and labelled them with letters of the alphabet from **a** to **k**. Five of these consist of only one piece of papyrus, but the rest are mosaics of two or more pieces. Five *ensembles* (**a**, **b**, **c**, **d** and **f**) are large; **a**, **b**, **c** and **d** each contain some verses of Empedocles that were already known from quotations. *Ensemble* **a** has parts of two columns, the second of which, with thirty lines, is complete. In the margin of its last line is written the stichometric sign Γ , i.e. *stichos* 300; the editors rightly deduced that this corresponds to v. 300 of *Physika* Book I, because the beginning of the fragment corresponds to fr. 17 D.–K., which, as Simplicius tells us, is from Book I of the *Physika*.¹⁰ Since there were 30 lines in this column, it was easy to deduce that the first 300 lines of Book I occupied 10 columns, and that fr. **a col. ii** is column x. Fr. **b** comes from the bottom of a column, and frr. **c**, **d** and **e** from the tops of columns. Fr. **f** is from the middle of two columns, comprising line-ends of the first and line-beginnings of the second, and frr. **g–h** are probably both from a right edge.

However, the editors did not succeed in relating these five large *ensembles* to each other. They concluded that they are not from the same part of the roll.

The placing of fr. **d** was particularly difficult. In the *editio princeps* the editors argued that fr. **d** must follow fr. $62.^{11}$ This fragment introduces the narration of how fire, by separating the elements, created the

⁶ Empedocles Recycled, *CQ* 37 (1987) 24–50.

⁷ See further my forthcoming discussion in the proceedings of the Tertium Symposium Myconense, ed. by A. Pierris.

⁸ Fr. 139 Diels = vv. 335–6 in this edition.

⁹ Martin and Primavesi 3.

¹⁰ Martin and Primavesi 103, citing Simplicius, De Ar. Phys. p. 157,25–7 Diels: ὁ δὲ Ἐμπεδοκλῆc . . . οὕτωc ἐν τῶι πρώτωι τῶν Φυcικῶν παραδίδωcι . . . [fr. 17 D. follows].

¹¹ Martin and Primavesi 110–11, 284, 307–8: $\varphi \lambda \circ \gamma \mu \acute{o}c$ at **d** 11 is supposed to pick up $\pi \hat{\upsilon} \rho$ at fr. 62,6.

human race; it is known to come from Book II. The editors held that fr. 62 must precede fr. **d** because fr. 62 refers to the start of the third zoogonic phase in O'Brien's version of Empedocles' cosmic cycle, and fr. **d** to the end of the fourth such phase. Hence fr. **d** must come from later in Book II. Thus they posit that fr. **d** is separated from fr. **a** by at least the closing sections of Book I and the opening of Book II. They also believe that a great amount of text is lost in between, on the ground that Simplicius and other sources of evidence reveal that the original order of the fragments was fr. 17 = fr. a, fr. 21, fr. 23, fr. 26, fr. 35 and lastly fr. 98 on the composition of flesh and blood.¹² They also suggest that fr. 21 should have fallen between verses 301 and 323 of Book I, i.e. in col. xi, which would of course prevent one from putting fr. **d** in that location. It also follows that frr. **a** and **d** come from either two rolls of very similar appearance or a single roll which contained more than one book of the poem.

The editors' assignation of fr. **d** to Book II is unattractive for three reasons. First, the claim that fr. **d** must succeed fr. 62 is very weak, since it depends on a hotly contested version of the Empedoclean cycle.¹³ The creation of animals by the separative power of fire could well have preceded that of humans; this is indeed the sequence in most traditional cosmogonies and indeed in the evolutionary theory of Charles Darwin. In any case the reconstruction offered in this paper was developed without taking any view on the Empedoclean cycle or cycles.

Second, it is far from certain that the roll contained two books. Papyrus-rolls containing more than one book of a text in verse are known in the case of Homer.¹⁴ However, such rolls seem to be the exception rather than the rule. The editors accept that the fragments are all from the same roll, and hypothesize that the roll contained both books.¹⁵ But even the hypothesis that the roll contained both books may seem to multiply entities unnecessarily and to be contrary to Occam's razor.

Third, although the order of fragments revealed by Simplicius seems secure, the gap between fr. 17 and fr. 21 was in fact substantial. After the Neoplatonist quotes fr. 17, he says '*after saying a number of other things* (my italics) [the poet] introduces the nature of each of the aforementioned elements', where-upon he cites fr. 21.¹⁶ Accordingly, a good deal of material separated fr. 17 and fr. 21, not to mention the rest of the fragments in Simplicius' series, and it is notable that there is no overlap between the papyrus and any of those fragments. The poet need not have defined the nature of the elements further before talking about death and dissolution or how the elements come together to compose living creatures. Indeed, his discussion in frr. **d** and **b** is concerned precisely to show that these elements are constituents of animals; the fact that deer and tortoises have horns and shells proves, for example, that the element earth is present in their constitution.

Prior to completing their publication, as they have told me, the editors would have much preferred to be able to place fr. **d** soon after frr. **a**, **b** and **c**, presumably within Book I.¹⁷ In this case, fr. **d** would mark a return to the same cosmogonical narrative which began in the sequel to fr. 17 (fr. **a**). In reconstructing the papyrus, they did not succeed in making their original preference work, but I shall argue that it is correct.

To suppose that some of the pieces are widely separated is a less economical theory than to posit that they all come from a single segment of papyrus. In reconstructing Herculaneum papyri, I have always

¹² Ibid. 108. Fr. 98 must have been close to fr. 96 on the composition of bones.

¹³ Cf. e.g. B. Inwood, *The Poem of Empedocles*, ed. 2, Toronto 2001, 20, who, however, thinks that fr. **d** could well be from very late in the poem, in a third or later book.

¹⁴ About twenty examples are known, mostly but not all Ptolemaic in date: see Martin and Primavesi 6 n. 11.

¹⁵ Martin and Primavesi 111.

¹⁶ Simpl. Phys. 159,3 Diels: πλείονα δὲ ἄλλα εἰπὼν ἐπάγει ἑκάςτου τῶν εἰρημένων τὸν χαρακτῆρα, τὸ μὲν πῦρ "ἡλιον" καλῶν etc. (fr. 21,3).

¹⁷ This preference, which I am told was also advocated by David Sedley, Myles Burnyeat and Malcolm Schofield when the editors presented their preliminary results at Cambridge, is shared by C. Osborne, Rummaging in the rubbish bins of Upper Egypt. A discussion of A. Martin and O. Primavesi, L'Empédocle de Strasbourg, *Oxford Studies in Ancient Philosophy* 18 (2000) 329–56, at 335–6.

obtained the best results by assuming the smallest possible number of lost columns, unless there is physical evidence to the contrary. Accordingly, I decided to test the hypothesis that all the pieces come from a single portion of the roll. To this end I followed my usual method of making a paper model of the papyrus at the correct scale, to which I attached photocopies of the pieces with tiny bits of plastic tape, so that they could easily be moved about. For a representation of the result see Fig. 1 (pp. •••23–5).

I reasoned that, if the other *ensembles* come from the same stretch of the papyrus as fr. **a**, they must derive from the columns after col. x, because the text prior to col. ix is known from Simplicius and does not correspond to any of the extant pieces. Indeed, much matter assigned to the opening of the book in the various editions must have preceded fr. 17, and this matter does not match any of the fragments. If we require, as the hypothesis of economy posits, that the top of another column follow immediately upon col. x, there are only three tops of columns and so only three combinations are possible. Two of them are demonstrably wrong. First, we might place the small fr. **e** after fr. **a** col. (ii). However, this is proved to be impossible by the physical evidence of red staining, to be discussed below, that proves that fr. **e** belongs immediately to the right of fr. **d**. A second option would be to place fr. **d** immediately after the last line of fr. **a**(ii), i.e. v. 300. This yields the following text:

ὄψει γὰρ ξύνοδόν τε διάπτυξίν τε γενέθλη[c	300
ll ἄν]δίχ' ἀπ' ἀλλήλω[ν] πεcέ[ει]ν καὶ π[ότ]μον ἐπιcπεῖν	d 1
πο]λλ' ἀεκαζομέν[ο]ιcιν ἀ[να]γκα[ίης ὕ]πὸ λυγρῆς	
cη]πο[μ]ένοιc· κτλ.	

One might object that $\xi \psi v \delta \delta v \tau \epsilon \delta i \alpha \pi \tau \upsilon \xi i v \tau \epsilon$ cannot govern a verb. However, this is not valid, since elsewhere Empedocles wrote $\tau \eta v \mu \epsilon v \gamma \alpha \rho \pi \alpha v \tau \omega v \xi \psi v \delta \delta c \tau i \kappa \tau \epsilon \iota \tau i \delta \lambda \epsilon \kappa \epsilon \iota \tau \epsilon$, i.e. 'the union of all begets as well as kills the first', where $\xi \psi v \delta \delta c$ governs both verbs.¹⁸ This aspect of the collocation is perfectly acceptable.¹⁹ However, there is a decisive objection, viz. that $\delta \rho \alpha \omega$ cannot govern an infinitive but always takes the participle,²⁰ whereas infinitives are securely read in fr. **d** 1. Hence this join is impossible.

The third option is to place fr. \mathbf{c} , which is also the top of a column, after the end of fr. \mathbf{a} , v. 300. This produces the following text:

ὄψει γὰρ ξύνοδόν τε διάπτυξίν τε γενέθλη[c		300
ἔργα δι]άκτορα μη[c 1

Here too an infinitive, $\mu\eta[\tau i c\alpha c\theta \alpha \iota, would follow, but this time it has been supplied by the editors; it could easily be replaced by the participle <math>\mu\eta[\tau \iota \delta \omega c \alpha v, \text{ or rather } \mu\eta[\tau \iota \delta \omega c \alpha c.^{21}]$ For the construction compare v. 356:

ἕνθ' ὄψει χθόνα χρωτὸς ὑπέρτατα ναιετάουςαν.

In this case fr. $\mathbf{c} = \text{fr. 76}$ needs to be reinterpreted. The editors thought fr. 76 refers to the dissolution of 'world B' in O'Brien's version of Empedocles' cosmic cycle.²² However, J. Bollack²³ suggested that fr.

¹⁸ Fr. 17,4 = *Physika* 1 v. 236.

¹⁹ O. Primavesi observes (per litt.) that ξύνοδος and διάπτυξις should not govern μητιάομαι because the latter verb implies intention, but I do not think that this is decisive; what matters is that these abstract nouns are treated as agents even in fr. 17,4.

 $^{^{20}}$ Contrast e.g. fr. 76,3 Diels = v. 356, ἔνθ' ὄψει χθόνα χρωτὸς ὑπέρτατα ναιετάους αν.

²¹ O. Primavesi points out to me that this is grammatically better (per litt.).

²² Martin and Primavesi 264-6.

²³ Empédocle II. Les Origines. Edition et commentaire des fragments et des témoignages, Paris 1969, 102.

76 referred to our own dissolution in this world, as we are born and die in the ordinary cycle of life. If the link between fr. **a** and fr. **c** is sustained, Bollack's view must be correct. Study of the fibres in Strasbourg neither confirmed nor disproved this hypothesis, since the fragments are too distant from one another for any continuity to be recognizable on either the '*recto*' (layer with horizontal fibres) or the '*verso*' (layer with vertical fibres), which is blank.

The join between frr. **a** and **c** is in many ways the most important in the proposed reconstruction, since it is crucial to the hypothesis of economy. It is unfortunate that its verification must depend on the internal evidence of the sense, as seen in my text and translation (pp. $\cdot 14-22$ below), unless other evidence should come to light. The placing of fr. **d** in the column after fr. **c** is also unverifiable on the basis of the papyrus, because the distance between the fragments is too great. The lack of a papyrological confirmation of these placings will, I surmise, provide the ancient philosophers with a topic for debate for years to come.

The fibres on fr. **c** itself slope diagonally down towards the right, rather than horizontally like those of all the other pieces. This suggests that a *kollesis* was nearby.²⁴ The presence of a *kollesis* might explain why there are no fragments from the left part of col. xi,²⁵ since the person who made the papyrus into a funereal crown would not have found pieces of double thickness suitable for folding; there are no *kollesis* among the extant fragments.²⁶ However, although this detail is compatible with the reconstruction it does not prove it.

Luckily the placing within the same two columns of four other large pieces, frr. **b**, **d**, **e** and **f**, can be confirmed from papyrological evidence of various kinds, much of it newly observed and clearly visible in a composite colour plate of this column and the edge of the next (see Plate I). As I had hypothesized on the basis of the published photographs and my reconstruction of the text, all four come from the same segment of the roll.²⁷ First, although the fibres of fr. **d** turned out to be too far away from those of frr. **b** and **f** to verify or disprove the theory that all three pieces belong to the same column, the fibres of frr. **d** and **e** match well when held up to the light; both come from the sole portion of the papyrus where much of the pith in the backing has perished and only the fibres remain, and the papyrus is therefore translucent. Also, the back of fr. **f** is mottled from exposure to damp and so is the left side of fr. **d**, whereas the rest the 'verso' lacks this discoloration.²⁸ The placing of fr. **f** below fr. **d** is supported by a vertical crack or break in each fragment after the second letter in the verse; a similar crack to the right of the square hole in fr. **d** links fr. **d** with the vertical crack in the right-hand segment of fr. **b** which, in my reconstruction, lies directly below it.

Above all, as was noted in the *editio princeps*, fr. **d** has at its upper right corner prominent dark red staining.²⁹ This staining took place in antiquity; someone splashed a red liquid on the upper margin of fr. **d**, which is the only place where it went through to the back (unfortunately I have no images of the back). A diagonal fold crossing the ends of verses **d** 1–2, in the trough of which the ink has completely disappeared, may reflect an effort to drain this liquid off into the upper margin (if so, this must have happened when the text was still valued as literature and before it was being turned into a crown). Drops of the same liquid fell on the lower parts, including a large splodge at the lower right corner of fr. **d**, and ran down-

 28 My notes of my own observations do not record the 'divers amas brunâtres' seen by Martin on the 'verso' of frr. **a** and **c** (Martin and Primavesi 3).

²⁴ For an explanation of how this works see M. Capasso, *Volumen: aspetti della tipologia del rotolo librario antico*, Naples 2000, 59–60 with Tav. II.

²⁵ I owe this point to O. Primavesi (per litt.).

²⁶ Martin and Primavesi 9.

²⁷ When we met in Strasbourg Professors Martin and Primavesi both seemed willing provisionally to accept this part of my reconstruction. However, it was decided not to have the papyrus remounted, since the left segments of frr. **d** and **b** had both been attached at an angle so as to be able to attach them at all, and the joints would have had to be disturbed in order to mount all the pieces at the correct horizontal orientation. The images of these pieces have been reset at the correct angles by digital editing in Plate I.

²⁹ Martin and Primavesi 3.

wards towards the bottom. The sheet must have been tilted at an angle when this happened. The upper margin of fr. **e** is also stained, especially at the top edge, in the same way as fr. **d**. There are red droplets in the upper left corner of fr. **b** and on fr. **f** at the top right and lower down in its intercolumnium. On the other hand, there are no stains on fr. **c** and only the faintest traces³⁰ on fr. **a**, which come from the left half of my reconstruction.

Lastly, as Alain Martin observed during our recent inspection of the papyrus, the uppermost and lowest three lines of every column are darkened by exposure to the sun; this phenomenon is visible on frr. **a** (at both top and bottom), **b** (bottom), **c** (top), **d** (top) and **e** (top), which all have parts of the top or bottom margins. This darkening must not be confused with the red stain; the difference is clear if one compares the left and right halves of fr. **d**. Since hardly any of the upper margin of fr. **c** is preserved, this discoloration is a valuable confirmation that fr. **c** comes from the top of a column, as the first editors placed it. Fr. **i** is darkened in this way, whereas frr. **f**, **g** and **h** are not. This confirms that fr. **f** is indeed from the middle of a column, where I had placed it on other grounds. It also shows that frr. **g** and **h** do not come from the top or bottom three verses of a column, whereas fr. **i** does.³¹

Martin and Primavesi reconstructed fr. **d** as follows. The upper part of the column contains the end of a disquisition on death and dissolution, culminating in Empedocles' famous lament for the punishment we will undergo for eating meat (vv. 335-6), already known to us from Porphyry (fr. 139 Diels). In my reconstruction this disquisition follows well after fr. **c**, which is itself about death and dissolution. The sequel to this, v. 337, was unknown to us before the papyrus appeared. The editors supplemented it thus:

νῦν δ]ὲ μάτη[ν ἐν] τῶιδε νότ[ωι κατέδ]ευca παρειάc. Now in vain I wet my cheeks in this storm.

Although vótoç can mean 'storm', in this context it seems poetically inept to bring in the metaphor of a storm when the speaker has just compared himself to a predatory animal or bird. Instead it means 'moisture', as in Aeschylus' Ag. 1391, where rain is called $\Delta \iota \delta c \, v \delta \tau \sigma c$, 'the moisture of Zeus'.³² As 'tears' are the liquid that normally falls onto cheeks, this must be the sense in a context where the speaker bitterly regrets his dreadful deeds. Taking into account that the first hand alters $\tau \omega \iota \delta \varepsilon$ to $\tau \omega \iota \gamma \varepsilon$ (and in this papyrus, in my view, all corrections by the first hand are right),³³ and the fact that the editors' supplement is too short, we should read instead:

νῦν δ]ὲ μάτη[ν τού]τωι γε νότ[ωι κατέδ]ευca παρειάc. Now to no end my cheeks I wet with tears.

³⁰ Professor Martin saw a small drop on fr. **a** col. ii, lines 10–11.

 $^{^{31}}$ Fr. i bears the letters] $\epsilon\mu\alpha$ [. The piece is too tiny to tell whether there was a margin above or below it. The sole place where these letters occur in the known fragments of Empedocles is in $\mu\epsilon\mu\dot{\alpha}\theta\eta\kappa\epsilon$ in fr. 26,8 Diels; since fr. 26 is 12 verses in length, it could only be fitted into the reconstruction at the bottom of col. xiii, with v. 8 falling within vv. 388–90. But this combination of letters is common, and fr. i may well derive from a completely unknown verse. In that case, on my hypothesis of economy, as it cannot fit anywhere in cols. ix, x, or xii, nor in the first three verses of col. xi, it is likely to belong in the last three lines of col. xi, viz. vv. 328–30. This is where I have placed it in Fig. 1, purely for ostensive purposes. The same hypothesis also suggests that frr. g and h are most likely to derive from the right edge of the middle of col. xi, where I have put them in Fig. 1, again for ostensive purposes.

 $^{^{32}}$ Compare the meaning of its cognates voté ω , votí $\zeta \omega$, vótioc and votepóc.

³³ Thus I accept, with the editors, the corrections by the first hand at 267 (the true reading $\ddot{\epsilon}\nu\alpha$ is corrected from $\epsilon\nu\epsilon$), 269 (the deletion of the second c in $\ddot{o}c(c)\alpha$ is metrically essential), 271 ($\theta\eta\rho$) $\dot{\epsilon}c$ is corrected from $\theta\eta\rho\sigma\tau$), and 287 ($\mu\epsilon$) $\dot{c}c\dot{\alpha}\tau\sigma\sigma\tau$ is corrected from $\mu\epsilon\tau\alpha\tau\sigma\sigma\tau$). At 304 the papyrus' reading $]\lambda\sigma[\upsilon]$ voc represents, I believe, an unmetrical variant $\theta\alpha\lambda\sigma\sigma\tau$ that derived from the metrically valid reading $\theta\alpha\lambda\epsilon\sigma\tau\sigma\sigma$ attested in Simplicius; I suggest that the scribe of the first hand corrected this to $\theta\alpha\lambda$] $\lambda\sigma\tau\sigma\tau$ (the editors read $\theta\eta$] $\lambda\sigma\sigma\tau\sigma\tau$). Although $\theta\alpha\lambda\epsilon\sigma\tau\sigma\sigma$ and also $\theta\alpha\lambda\epsilon\theta\sigma\tau\sigma\sigma$ are both possible here, I have given preference to the papyrus.

 $\tau o \dot{\upsilon}] \tau \omega \iota$ implies that the addressee can see these tears for himself – a vivid and rhetorically powerful effect.

The next two lines (338–9) promise that, as a punishment, we shall reach the depths of the vortex and suffer in so doing. This is evidently the punishment of humankind for our misdeeds towards other creatures. Whether this punishment is exacted in the course of cosmic cycles or simply by virtue of our own death and dissolution in this life is not made clear in these lines. One might wish that the poet had indeed made it clear, but he did not; however, this eminently reasonable wish seems to have led the editors astray in reconstructing the verses that follow. Verses 340–1 read:

ή]μεῖς δὲ λόγων ἐπιβ[ήςομ]εθ' αὖθις 340 κείνων.]

The obvious sense is 'but we'll embark once more upon our tale'. As the editors believe, the first hand wrote $\dot{\epsilon}\pi\iota\beta[\dot{\eta}co\mu]\epsilon\theta'$, which gives this sense. Instead, however, they accept the reading of the second hand, which turns - $\mu\epsilon\theta\alpha$ into - $\mu\epsilon\nu$ as twice elsewhere in the papyrus, in my view wrongly on each occasion.³⁴ To accommodate this alteration the editors then have to insert $\epsilon\epsilon$ into the text, reading $\langle\epsilon'\rangle\dot{\epsilon}\pi\iota\beta[\dot{\eta}co\mu]\epsilon'\nu'$, even though, as they rightly hold, the first hand's text $\dot{\epsilon}\pi\iota\beta[\dot{\eta}co\mu]\epsilon\theta'$ means the same thing. It is simpler to follow the original text, which is perfectly acceptable. A different interpretation of the verse was offered by David Sedley,³⁵ who tentatively suggested that $\alpha\dot{\upsilon}\theta\iota c$ means 'later' in a prospective sense, and thus forms a promise to discuss the punishment of the soul later in the poem rather than, as the editors take it, an indication that the main narrative will at once begin 'again', i.e. resume. Sedley's view would imply that the discussion of the fate of the soul will occur in a later book or a different poem, which may well be true. However, this is not what this passage is saying; the parallels cited by the editors³⁶ exclude this interpretation. In addition, we do need a signal that the topic of what follows in 341–4 is different, which on this view is missing.

Since vv. 340–1 announce a return to a previous $\lambda \acute{o} \gamma o c$, we expect there to be a return to the poet's main story, whatever that was, and we expect that story to differ from the punishment of the guilty meateater. However, according to the editors, the poem continues by stating that, when fire started the painful mixture of the elements, animals were born and that the remnants of this creation still dwell in the world (341–4). Then, still according to their interpretation, the argument seems to turn to discussing the punishment of the soul in Hades, noting that the souls that are being punished go to 'the furthest place' ($\epsilon i c \tau \acute{o} \pi o v \dot{\epsilon} c \chi \acute{a} \tau \iota o [v \beta] \hat{\eta} \iota$ or $\beta] \hat{\eta} v$, 345), 'with screams and shrieking' ($\kappa \lambda \alpha \gamma] \gamma \hat{\eta} \iota \kappa \alpha i \dot{\alpha} \upsilon \tau \hat{\eta} \iota$, 346); they are sent, presumably for torture, to the 'Meadow of Doom' ("Attpc äv $\lambda \epsilon \iota] \mu \hat{\omega} v \alpha$, 347).³⁷ The poem also

³⁴ Compare the corrections at 267 and 303: in each case the scribe wrote the first person plural cυνερχόμεθ' which the second hand altered to the participle cυνερχόμεν' (at 303 the v is between points and the text quoted by Simplicius concurs with the alteration). A. Laks rightly defends the first persons middle (Reading the Readings: on the First Person Plurals in the Strasburg Empedocles, in V. Caston and D. W. Graham, edd., *Presocratic Philosophy: Essays in Honour of Alexander Mourelatos*, Aldershot 2002, 127–38). The second hand introduces another mistaken v in the supralinear β] η v at 345, which the placement of fr. **f** now reveals to be wrong, since $\delta \pi \pi \delta \tau$ [ε at the start of the verse is better followed by the subjunctive β] η t offered on the line by the first hand. The sole correction by the second hand which must be right is that at v. 335, where Porphyry's reading oἴμοι ὅτ(1) is introduced by the second hand's text]μοι'.oτι', whereas the original scribe made the obvious blunder]μοιcτ. As Simon Trépanier pointed out to me (per litt.), the corrections by the second hand in my col. xii (335, 340, 345, 348, 349) are placed between points, whereas those at 267 and 303 in cols. ix and xi are not. If the points prove that this reader collated another copy of the text (so K. McNamee, *Sigla and Select Marginalia in Greek Literary Papyri*, Brussels 1992, 19 n. 56), their presence suggests that he only began to do so from v. 335 onwards. In any case it does not follow that that other copy was better, only that it was different; as always, one must judge variants on their merits.

³⁵ In Osborne, art. cit. (n. 17 above), 336 n. 9.

 $^{^{36}}$ Martin and Primavesi 308, citing Parm. 28 B 5, 1–2 D.–K. for $\alpha \hat{\vartheta} \theta \omega$ in a similar context and, for a return to the narrative, Emped. fr. 35,1–3.

³⁷ The supplement is inspired by fr. 121,4 Diels.

mentions something being one's fate or lot ($\lambda \alpha \chi \acute{o} v \tau \alpha$, 347) and the 'earth' ($\chi \theta \acute{\omega} v$, 348). Then the fragment breaks off.

It seemed wonderfully exciting to have this novel image of Hell in a fifth-century Greek poet. But it makes no sense to return to the punishment of the guilty soul after this topic has been emphatically broken off and we have had a few lines about the creation of animals. My new reconstruction shows that the reality is more prosaic but ultimately more satisfying in poetic terms. Once fr. **f** is inserted at the left edge of these lines, it becomes clear that the main *logos* is indeed an account of the creation of the animals from the combination of various elements, and not the punishment of guilty souls. Creation begins when fire initiates the painful mixture of the four elements, leading to the birth of animals that reproduce (341-4).³⁸ The lines that follow describe the creation of the animals according to which element predominates in their mixture. The first-century doxographer Aëtius³⁹ tells us that this was indeed Empedocles' teaching:

τῶν δὲ ζώιων πάντων τὰ γένη διακριθῆναι διὰ τὰς ποιὰς κράςεις, τὰ μὲν οἰκειοτέραν εἰς τὸ ὕδωρ τὴν ὁρμὴν ἔχειν, τὰ δὲ εἰς ἀέρα ἀναπτῆναι, ὅς' ἂν πυρῶδες ἔχηι τὸ πλέον, τὰ δὲ βαρύτερα εἰς τὴν γῆν, τὰ δὲ ἰςόμοιρα τῆι κράςει †πᾶςι τοῖς θώραξι πεφωνηκέναι†.

The species of all the animals were distinguished by means of different mixtures (of elements): some have a motion more like that of water, but others that have the larger proportion of fire in them fly up into the air, the heavier ones (go) towards the earth, and those that have equal parts in their mixture *(rest of sentence corrupt)*.⁴⁰

The first creatures mentioned are in fact not souls but birds, which are born when the lightest element, fire or aither, predominates in their make-up. The 'screaming and shrieking' is not the screeching of the batlike souls imagined by Homer being punished in Hades, but rather the noise made by these birds, which is described as 'immense' ($\theta \epsilon c \pi \epsilon c \iota o c$, 347). Six different words for loud sounds, viz. $\dot{\alpha}\lambda\alpha\lambda\eta\tau o c$, $\beta o \eta$, $\dot{\epsilon}vo\pi \eta$, $\dot{\eta}\chi\eta$, $\dot{\alpha}\chi\eta$ and $\ddot{\omega}\mu\alpha\delta\sigma c$, are described by the adjective $\theta\epsilon c\pi\epsilon c \iota o c$ in early Greek epic poetry;⁴¹ in addition, it is common in run-over position, as it is used here.⁴² This linkage secures the placing of fr. **f** at the beginning of these lines. So does the fact that the subjunctive $\beta\eta\iota$ follows a word for 'when', namely $\dot{\sigma}\pi\pi\sigma\tau$ [ϵ ; the variant in the verb β] $\eta\iota$ or β] $\eta\nu$ at the end of the line confirms that a temporal clause is involved.⁴³ In 345 the restoration of the preposition $\epsilon \iota c$ means that the verse has no main caesura; however, this is permitted only where the caesura is bridged by a heavy word like $\kappa\rho\alpha\tau\alpha\iota\nu\omega\sigma\tau\omega\nu$ in v. 357.⁴⁴ Instead, an aorist participle is unavoidable; it is hard to avoid supplying $\mu\iota\gamma$] $\epsilon \iota c$ or $\mu(\epsilon)\iota\chi\theta$] $\epsilon \iota c$. This greatly restricts the number of possible restorations in the first half of the line; there are even fewer choices at the start of v. 346.

Next the 'Meadow of Doom' (349) disappears from this context. From $\alpha i\theta \eta \rho$ we go to $\chi \theta \omega \nu$, as in the verse $\alpha \delta \xi \iota$ $\delta \epsilon \chi \theta \omega \nu$ $\mu \epsilon \nu$ ($\zeta \epsilon \iota \delta \epsilon \lambda \theta \omega \nu$) is not a $\lambda \epsilon \iota \mu \omega \nu$ at all,

³⁸ Regarding my supplements in this passage, that in 340 replicates Empedocles' usual mode of reference to the four elements collectively, which he does simply by using neuter plurals of demonstratives.

 $^{^{39}}$ 5.19.5 = fr. A 31 D.-K.

⁴⁰ The corrupted words παcι τοις θώραξι πεφωνηκέναι might conceivably conceal a reference to the creatures with different elements mixed in them that appear just after this passage in vv. 354–9; it is notable that the editors restored θώρηξ in v. 357.

⁴¹ θεςπεςίηι ἰαχῆι, Od. XI 43; βοὴ ... | θεςπεςίη, Od. XXIV 48–9; ἠχῆι θεςπεςίηι, Il. VIII 159 = XV 590, XII 252, XIII 834, XV 355, XVI 769, XXIII 213, Od. III 150, XI 633; θεςπεςίωι ὑμάδωι, Il. XIII 797, XVI 295; θεςπεςίωι ἀλαλητῶι, Il. XVIII 149; ἀλαλητῶι | θεςπεςίωι, [Hes.] Aspis 382–3; θεςπεςίη ἐνοπὴ ἄςπετος, Hy. Ap. 360.

⁴² θεcπέcιοc is used in run-over position at *Il.* II 600, XV 669, XX 342; *Od.* VII 42, IX 211, XXIV 49; [Hes.] *Aspis* 382–3.

⁴³ In Homer, as here, the subjunctive after $\delta\pi(\pi)\delta\tau\epsilon$ indicates 'l'idée de répétition et d'éventualité' (P. Chantraine, *Grammaire homérique*, Paris 1958–63, II. 256).

⁴⁴ Martin and Primavesi 258.

⁴⁵ Fr. 37 Diels. Cf. fr. 54, αἰθήρ . . . μακρῆιcι κατὰ χθόνα δύετο ῥίζαιc.

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but a lair ($\kappa \epsilon \upsilon \theta \mu \omega \nu$), the dwelling of animals that live under the earth and eat plants because the element of earth predominates in their constitution.⁴⁶ In 350 the word ending in] $\upsilon \tau \sigma$ needs to be a verb with $\pi \epsilon \rho \mu$ after it in anastrophe; the obvious supplement is $\epsilon i \lambda$] $\upsilon \tau \sigma \pi \epsilon \rho \mu i \lambda \omega$ (there was some confusion over wise unattested, even though the verb $\pi \epsilon \rho \mu \epsilon i \lambda \omega$, $\pi \epsilon \rho \mu \epsilon i \lambda \omega$ (there was some confusion over the forms, at least in our manuscripts), meaning 'wrap round, wrap up, swathe', is common enough in Attic Greek.⁴⁷ Like much else in the papyrus, this Homeric verb was evidently obscure to the writer of the second hand, who offers the supralinear correction] $\tau \epsilon$.⁴⁸

This may seem to leave the 'furthest place' or 'edge' ($\tau \acute{\alpha} \pi v \acute{e} c \chi \acute{\alpha} \tau i o [v, 345)$ obscure. To understand it we must grasp that this is not a place in the universe, but the outer edge of the creature itself, in this case the feathers on the bird, which could well be thought to embody the lightness of fire which blazes up into the sky. This is confirmed by the subsequent claim that 'earth is wrapped around' animals that dwell in earth (347–8). Fig. 2 shows the spacing of the proposed restorations of the beginnings of lines 341–8.

Fr. **f** breaks off in a simile (vv. 349–52); its details are lost in the lacuna, but the poet probably compared the actions of a smith, who is mixing metals together in some way, with a reference to the admixture of the elements that followed. The piece that I have placed at the bottom of the column, fr. b (already known to us in part from Plutarch as fr. 76 Diels), makes a perfect sequel to this sequence, for two reasons. First, it neatly complements the earlier claim that living creatures inhabit the air and the earth according to which element predominates in their mixture. In particular, the list of animals like molluscs where 'earth dwells on top of flesh' (354–9) shows that this continues the list of creatures whose nature is determined according to which element occupies their outer parts or 'furthest edge' ($\tau \delta \pi o \nu \dot{e} \chi \dot{a} \tau i o [\nu, 345)$). The animals listed inhabit both land and sea. To judge from surviving similes like frr. 23 and 84 Diels, vv. 349–52 preceded the phenomenon that Empedocles wishes to describe. Hence vv. 349-52 are likely to have described a smith laying one material upon another; one can imagine that this might have included gilding bronze, putting silver upon bronze, casting bronze upon iron, riveting horn or ivory handles onto knives or swords, or a combination of such actions.⁴⁹ Another verse, which can only have been v. 353 (since the beginnings of 351–2 survive and do not begin with a word for 'so'), is needed to round the comparison off before examples are given in vv. 354-4 and 357-9. Another simile starts with fr. e at the top of the next column (v. 360, = col. xiii 1), but its content is unfortunately lost along with the narrative that followed it. The simile is likely to have offered another example of mixture like fr. 34 Diels, in which flour is blended with water, or fr. A 78, in which wine is mixed with honey. Other fragments concerning the mixture of elements that might belong in the columns that follow are frr. 73, 75, 85, 96, and 98 Diels. The closest might well be fr. 75, which seems to describe creatures composed in a way opposite to those with horny exteriors described in fr. 76, with water on the outside rather than fire or earth:

 $^{^{46}}$ The neuter plural τά is inevitable because of λαχόντα. The plural χόρ[τουc is necessary because of the spacing; the only other possible supplement is χοι[ρ-, but Empedocles will not have made pigs a whole category in parallel with birds. Neither ἐγγίγνομαι nor ἐμφύω is attested in Empedocles, whereas ἐκγίγνομαι is.

⁴⁷ LSJ⁹ s.v. I, citing Xenophon, Lucian, Galen and Athenaeus. Aristophanes uses the aorist middle participle in the phrase paκίοις περιειλαμένος (so Photius and the Suda: -ειλ(λ)όμενος codd.) at Frogs 1066. The form είλυτο of the simplex verb appears in αίματι καὶ κονίηιςιν | ἐκ κεφαλῆς είλυτο διαμπερὲς ἐς πόδας ἄκρους at *Il*. XVI 639–40 and in δεινὸν ἐρευγόμεvov, είλυτο δὲ πάνθ' ἀλὸς ἄχνηι, Od. V 403. Cf. νεφέληι εἰλυμένος μους, *Il*. V 186; ψαμάθωι εἰλυμένα πολλῆι, Od. XIV 136; cάκεςιν εἰλυμένοι ὥμους, Od. XIV 479. The residual effect of initial digamma is present in all but one of these cases; my tentative supplement posits this effect here also.

⁴⁸ This correction is supplemented as α] \hat{v} `τε·' by the editors, who believed that the first hand wrote α] \hat{v} τ \hat{v} . If the original text was είλ]υτο, this rare word could easily have been miscopied as EIAYTO, which would explain why the correction was offered; compare the mistranscription of οιμοιοτ as οιμοιοτ in v. 335.

⁴⁹ Even though the letters χαλκ- must have appeared in it, the surrounding context seems to exclude the simile which is paraphrased by Galen, *In Hippocratis de Naturae hominis* 1. 3, p. 19,7 ss. (fr. A 34 Diels): Ἐμπεδοκλῆc ἐξ ἀμεταβλήτων τῶν τεccάρων cτοιχείων ἡγεῖτο γίνεcθαι τὴν τῶν cυνθέτων cωμάτων φύcιν, οὕτωc ἀναμεμιγμένων ἀλλήλοιc τῶν πρώτων, ὡcεί τις λειώcαc ἀκριβῶc καὶ χνοώδη ποιήcαc ἰὸν καὶ χαλκίτην καὶ καδμείαν καὶ μίcυ μείξειεν, ὡc μηδὲν ἐξ αὐτῶν δύναcθαι μεταχειρίcαcθαι χωρὶc ἑτέρου.

τῶν δ' ὅc' ἔcω μὲν πυκνά, τὰ δ' ἔκτοθι μανὰ πέπηγε Κύπριδοc ἐν παλάμηιcι πλάδης τοιῆcδε τυχόντα. In them the inner parts are dense, the outer porous by Cypris' plans, since they partake of water.

But we will need more new evidence to prove or disprove such collocations.

3. A Summary of Empedocles' Argument

I conclude by summarising Empedocles' line of argument in vv. 233–364 as it emerges from this reconstruction.

MAIN THESIS (1): there is a cycle where one comes from many, and many from one, because of Love and Strife (233–44).

EXHORTATION: listen to me, as learning improves the mind (245).

REPRISE: there is a cycle involving the four elements, Love and Strife (246-51).

EXHORTATION: use your imagination and do not sit dumbstruck (252).

PROOF: Love exists, and is called 'Joy' and 'Aphrodite' by mortals (253-6).

EXHORTATION: pay attention to my truthful words (256).

MAIN THESIS (2): the elements predominate by turns over time (257–60).

They do not come to be or perish (261–4).

They constantly change but are constantly alike (265–6).

MAIN THESIS (3): We come together in Love, but separate in Strife (267–8).

This includes everything: plants, human beings, beasts, fish and gods (269-72).

Everything constantly changes over the eons (273–7).⁵⁰

- Example: everything constantly changes, sun, moon and stars, in a cycle (278-82).⁵¹

But when Strife reaches the middle of the vortex and Love arises there, then everything comes together there as one (288–90).

EXHORTATION: Try to understand from what you can see (291–2).

PROMISE (1): I shall show how Love makes things grow, come together and develop, and how things still remain from this creation (293–5).

– Examples: beasts, humans, and plants. (296–8)

EXHORTATION: From them try to understand. (299)

PROMISE (2): You will see that things that come together and develop contrive divisive deeds because of Strife (300–1).⁵²

- First example: human beings. In youth our limbs come together in Love as one, but at life's end they wander, sundered by evil Strife (302–5).

- Second example: plants, fish, beasts and birds (306–7). <These come together at one time and dissolve at another.>

<DIGRESSION: the nature of death and dissolution>

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 $^{^{50}}$ Empedocles emphasises the ubiquity and long duration of the motions of the heavenly bodies.

⁵¹ As long as the continual motion of the heavenly bodies is going on, we do not come together in the middle places to be one. Hence I have restored the negative in 287. I also wished to introduce a present tense in 286 by reading κάλλο]υς τ' άλλ[στε ἰ]ας[ι τόπους, but when viewed through the microscope the traces turned out not to support this and render the editors' supplement κάλλο]υς τ' άλλ' [ἴκα]νε very likely to be right.

⁵² The sense of διάκτορα in 301 is unparalleled, but its restoration and interpretation seem secure. This is where the crucial join between frr. **a** and **c** occurs.

<When this happens, our limbs> fall apart and we rot; although we now have Love, death will snatch us (331-4).⁵³

Would that I had died before I contrived evil deeds with my claws for food! As it is, I vainly wet my cheeks with tears; for we humans shall reach the depths and suffer horribly (335–7).

END OF DIGRESSION: we shall embark again on our story (338-9).

- FULFILMENT OF PROMISE (1): when fire forced the elements to mix, animals were born in every way, some of which are still seen (339–44).
- When aither formed the edge of a creature, shrieking birds were born, but beasts that occupy lairs and eat grass were born when earth enveloped them (345–8).
- SIMILE: just as a smith <lays one element around another, so animals may be composed in different ways>. (349–53)⁵⁴

Some have earth above the other elements:⁵⁵

- Examples: sea-snails, bivalves, tortoises, horned stags, etc. (354-60)

SIMILE: <illustration of the elements being mixed in some way>. (361-4)⁵⁶

The above outline, together with my appended text and translation of lines 233–364, should speak for themselves.⁵⁷ In most passages I have developed, rather than changed in any real way, the fine insights of the first editors. I do not take a particular line on the details of Empedocles' philosophical system, because I did not have one when I started on this reconstruction, but my results seem likely to have implications for the different interpretations of his system that have been advanced. They offer, I think, a more plausible and coherent account of the papyrus than has been proposed. My English translation is written in verse, because I feel that verse better captures the poetic qualities, not to mention the occasional lack of philosophical clarity, of the original poem; restorations of the sense where the Greek is not reconstructed are given in italics.

This first translation of a passage of Book I of the *Physics* 131 lines in length at last gives us a clear impression of Empedocles' excellence as a poet, and reveals the full extent of Lucretius' debt to his Presocratic predecessor. His rolling cadences explain why that poet adopted him as his poetic model. From these 131 lines of fairly continuous text we can see that his style of argumentation and his addresses to the reader are very like those of Lucretius indeed. Nothing had seemed too weird for Empedocles, the volcano-leaping guru with his terrifying vision of the screaming denizens of the Meadow of Doom. We must now abandon that particular vision, but few will grieve at doing so. Perhaps we shall even have to start taking Empedocles as seriously in his own context as we do the Buddha, since he was indeed his nearest Greek equivalent, except that he was a magician, a poet and a scientist too. But that is a topic for another time and place.

Appendix: the Placing of Frr. g and h

In my first attempt at a reconstruction it seemed obvious that fr. **g** ought to form the line-ends of vv. 293–5 (fr. **a** col. ii,23–5). The sense looked good, and the editors had already restored the end of v. 294 as $\delta\iota\dot{\alpha}\tau\nu\delta\dot{\zeta}$ (v $\tau[\epsilon\gamma\epsilon\nu\dot{\epsilon}\theta\lambda\eta c$, which matches the letters visible in fr. **g** 2. It was simple enough in v. 293 to take $\dot{\imath}\nu\alpha$ as 'how', to supply $c\dot{\omega}\mu[\alpha\tau]$ ' $\dot{\alpha}\mu\epsilon\dot{\beta}[\epsilon\iota$ at the end of the verse, comparing the elision in $c\dot{\omega}\mu\alpha\tau(\iota)$ with that of $\ddot{\sigma}\tau\iota$ in 335, and to supply mentally from 289 the missing subject of $\dot{\alpha}\mu\epsilon\dot{\beta}[\epsilon\iota$ as Love. The

 $^{^{53}}$ This is the start of fr. **d**.

⁵⁴ For this simile and the next cf. the famous simile of the potter (fr. 23 Diels).

⁵⁵ This is fr. $\mathbf{b} = \text{fr. B } 76 \text{ D.}-\text{K.}$

 $^{^{56}}$ This is fr. **e**.

⁵⁷ In constituting the apparatus of the present text I have relied on published reports of the manuscripts containing those fragments of the poem that were previously known.

verb can take a direct object and a dative of instrument.⁵⁸ In v. 295 the reading $\ddot{\alpha}$]µoip[α seemed obvious, since the final letter was read as ρ or β by the editors, who read $\dot{\alpha}$]µoi β [. My restoration and translation of this passage thus ran as follows:

δεί]ξω	
π]ρῶτον μὲν ξύνοδόν τε διάπτυξίν τ[ε] γενέθ[λης,	
ὄς[ς]α τε νῦν ἔτι λοιπὰ πέλει τούτοιό τῷ [ἄ]μοιρ[α.	295
I'll put before your eyes how She augments	
with larger form life's union and increase,	
and all that still remain and have no part in this.	295

It turned out, of course, that the first editors had already considered and rejected this combination. As they pointed out to me,⁵⁹ Empedocles nowhere in his extant fragments elides the consonant-stem dative singular in -1, and τούτοιο has no referent unless a noun follows it (they restored τ[όκοιο). But above all it turned out that the fibres do not match (see Fig. 3), and that the reading of the last line is doubtful. For the reading $\ddot{\alpha}$ |µ010[α to be correct, the top of the loop of rho has to be missing. However, the surface of the papyrus is intact at that point, and the scribe never fails to close the top of the loop except when he ligatures rho with a preceding epsilon.⁶⁰ Iota is never ligatured with the letter that follows it. The editors now prefer to read $\mu ov\pi$, where nu is inferred because the first upright seems clearly to be crossed by a diagonal and the second upright is angled slightly to the left, as commonly happens in that letter (although one must note that the space between the two uprights is rather narrow compared that usually seen in a nu). The final trace is a hook connected to the start of a horizontal such as occurs in pi, tau, xi or zeta. There is no guarantee that the fr. belongs towards the end of the hexameters, although I still suspect that it does (crowding of the letters at the end of the line might explain the narrowness of nu). As was remarked in Section 2 above, according to my hypothesis of economy fr. g, like fr. h, should belong somewhere at the right edge of col. xi, except that it cannot go in the bottom three lines of the column because it is not darkened by the sun as those verses would have been. There is room for fr. g either above or below the line-ends of fr. f col. i. In fact, as appears from Fig. 4, the fibres of fr. g seem to match well those of fr. h.⁶¹ If so, the combined fragment reads as follows:

] ἀμείβει	1
] γενέθ[λ]ην	2

In v. 1, the editors read β or ρ at the right edge of fr. **g** and β , ρ or ε at the left edge of fr. **h**, which allows a perfect match if we supply $\dot{\alpha}\mu\varepsilon$ ($\beta\varepsilon$).

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 $^{^{58}}$ Cf. LSJ 9 s.v. I. A. 4, citing Aesch. Pers. 317, ἀμείβων χρώτα πορφυρᾶι βαφῆι.

⁵⁹ Per litt.

⁶⁰ This is illustrated in Martin and Primavesi, 13.

⁶¹ Unfortunately I thought of this match only after my visit to Strasbourg.

CANCYNGTYJ XXNEDODUOC XTEJPHC KEINWNOMMOT 341 XXVIJXX WNJOXYJHUON>KPLON 343 ANTYYTO AHTOTEKAITAZWI) JEKNWOKCAN (NEJI DE(YDN)DEPKEJD /HWC ス入入了に ροπωιτωνν fr.d AHT JOHPHIX OCHERONON ECX >TONBHI ONTI 345 TYNERTONJOUWNOJKÀ HIKNAYJHI $\Delta \mathcal{H} \mathcal{T}$ 347 BECRECHTTA NXXX KEYØ/ TAHC V TO OSTHIED XOPTOYCTEEESENON ϿʹͲϴͿʹ fef

Fig. 2. Drawing of the proposed restorations of the beginnings of vv. 341-8, to show spacing.



Fig. 3. The line-ends of *P. Strasb. gr.* Inv. 1665–6 (Empedocles) fr. **a** col. ii 23–5 (vv. 293–5) juxtaposed with fr. **g** to show fibres. Photo et Coll. de la Bibliothèque Nationale et Universitaire de Strasbourg.



Fig. 4. *P. Strasb. gr.* Inv. 1665–6 (Empedocles) frr. **g** and **h** juxtaposed to show fibres. Photo et Coll. de la Bibliothèque Nationale et Universitaire de Strasbourg.

Empedocles	<i>Physica</i> Book I	line	pap. co	ol. & line Diels fr. no.
δίπλ' ἐρέω· τοτὲ μὲν γὰρ ἓν ηὐἔ	ξήθη μόνον εἶναι	233	viii 23	B 17.1
έκ πλεόνων, τοτὲ δ' αὖ διέφυ πλέα	ν' ἐξ ἑνὸς εἶναι.			
δοιή δε θνητών γένεςις, δοιή δ' άπ	κόλειψις.	235	viii 25	
την μέν γαρ πάντων ξύνοδος τίκτε	α τ' όλέκει τε,			
ή δὲ πάλιν διαφυομένων θρεφθεία	α διέπτη.			B 17.5
καὶ ταῦτ' ἀλλάς ζοντα διαμπερὲς 🤅	ούδαμὰ λήγει,			
άλλοτε μέν Φιλότητι ςυνερχόμεν'	εἰς Ἐν ἄπαντα,			
άλλοτε δ' αὖ δίχ' ἕκαςτα φορεύμε	να Νείκεος ἔχθει. ΙΙ	240	viii 30	B 17.8
ηι δε πάλιν διαφύντος ένος πλέον	' ἐκτελέθουςιν,		ix 1	B 17.10
τῆι μὲν γίγνονταί τε καὶ οὔ cφιcιν	ἔμπεδος αἰών			
ήι δὲ διαλλάς τοντα διαμπερὲς οὐδ	δαμὰ λήγει,			
ταύτηι δ' αίὲν ἔαςιν ἀκίνητον και	α κύκλον.			
άλλ' άγε μύθων κλῦθι• μάθη γά	άρ τοι φρένας αὔξει·	245	ix 5	
ώς γὰρ καὶ πρὶν ἔειπα πιφαύςκων	πείρατα μύθων,			B 17.15
δίπλ' ἐρέω· τοτὲ μὲν γὰρ ἕν ηὐξήθ	η μόνον εἶναι			
ἐκ πλεόνων, τοτὲ δ' αὖ διέφυ πλέα	ον' ἐξ ἑνὸς εἶναι,			
πῦρ καὶ ὕδωρ καὶ γαῖα καὶ ἠέρος	άπλετον ύψος,			
Νεϊκός τ' οὐλόμενον δίχα τῶν, ἀτ	άλαντον ἁπάντηι,	250	ix 10	
καὶ Φιλότης ἐν τοῖςιν, ἴςη μῆκος τ	ε πλάτος τε			B 17.20
την εύ νόωι δέρκευ, μηδ' ὄμμαειν	ἦςο τεθηπώς∙			
ήτις καὶ θνητοῖςι νομίζεται ἔμφυτ	ος ἄρθροις,			
τῆι τε φίλα φρονέουςι καὶ ἄρθμια	ἔργα τελοῦςιν,			
"Γηθοςύνην" καλέοντες ἐπώνυμον	ν ήδ' "'Αφροδίτην".	255	ix 15	
την ού τις μετά τοιςιν έλις ομένην	ν δεδάηκεν			B 17.25
θνητὸς ἀνήρ· cù δ' ἄκουε λόγου σ	τόλον οὐκ ἀπατηλόν.			
ταῦτα νὰο ἶcά τε πάντα καὶ ክλι	κα νένναν έαςιν			

ταυτα γάρ ίcά τε πάντα καὶ ἤλικα γένναν ἕαcιν, τιμῆc δ' ἄλληc ἄλλο μέδει, πάρα δ' ἦθοc ἑκάcτωι,

 $\Pi = P.$ Strasb. gr. Inv. 1665–6, saec. i exeuntis; Π^{pc1} , $\Pi^{pc2} =$ correctiones prima et altera manu factae edd. = Martin et Primavesi, qui nisi aliter indicatur omnia suppleverunt Trépanier = S. Trépanier, *Mnem.* 56 (2003), 402–3 * = haec editio

233–66 = fr. 17 Diels = Σ (Simpl. *Phys.* 158–9 Diels [siglum Σ cum codd. DEF et ed. Aldina superscriptis], ἐν τῶι πρώτωι τῶν Φυcικῶν) 233 Ἐν ηὐξήθη Simpl. *Phys.* 161: ἐνηυξήθη Σ^F: ἐνηυξήνθη Σ^E 234 πλέον' Σ^{Ald}: πλέονα Simpl. *Phys.* 161^D: πλέον Σ^EF, Simpl. *Phys.* 161^{EF}: πλέον δ' Σ^D 236 ξύνοδοc edd.: cύνοδοc Σ 237 θρεφθεῖcα Panzerbieter: θρυφθεῖcα Σ^{DF}: δρυφθεῖcα Σ^E διέπτη Scaliger: δρεπτή Σ 238 ἀλλάccoντα Σ: ἀλλάττοντα D.L. VIII 76: ἀμειβόμενα Tz. schol. Hom. *Il.* 1. 137, p. 58 οὐδαμὰ Σ: οὐδαμοῦ D.L., Tz.

240 αὐ δίχ' Σ: αὖτε Stob. Ecl. II 6: αὖτις [Plut.] De Hom. 99 ἕκαστα Simpl. Phys. 1318, Cael. 293, 530, [Plut.], Stob.: ἄπαντα Σ, Simpl. Phys. 25, Cael. 141 φορεύμενα Σ^E, Simpl. Phys. 25, 1318, Cael. 141^D, 530, D.L.: φορού- Σ^F, Simpl. Cael. 293: φρουρού- Simpl. Cael. 141^E post 240 v. 8 fragmenti 26 (Diels) ins. Karsten, haud recte, quod hic versus hoc loco ap. Simpl. ubicunque deest 241 ἡι δὲ Simpl. Cael. 293: ἡ δὲ vel ἡ δὲ Σ, Simpl. Cael. 141: ἡδὲ ci. Karsten 242 γί(γ)νονταί Σ^D, Simpl. Cael. 141, 294: γί(γ)νεταί Σ^{EF} 244 ἀκίνητον Beck: ἀκίνητοι Σ: ἀκινητεὶ Panzerbieter 245 μάθη γάρ τοι Σ: μάθηςτα γὰρ Stob.: ἡ μάθηςτα γὰρ τὰς Clem. Alex. Strom. vi 17 247 ἒν ηὐξήθη Σ^{DE}: ἐνηυξήνθη Σ^F 248 πλέον Σ^{EF}: πλέον δ' Σ^D 249 καὶ post γαῖα Σ, Sext. Adv. math. Ix 10, Athenag. 22, Plut. Mor. 63D: ἢ δ' Clem., unde ἡδ' Sturz ἡέρος Σ, Simpl. Phys. 26, Sext., Athenag.: αἰθέρος Plut., Clem. ἄπλετον Σ, Simpl. Phys. 26, Clem.: ἤπιον Sext., Plut., Athenag.

250 ἀπάντηι Sext. IX 10, X 317, Hipp. Ref. X 5.7: ἕκαcτον Σ, Simpl. Phys. 26 251 Φιλότης Σ, Sext. IX 10, Plut. Mor. 756D, Simpl. Phys. 26: Φιλίη Sext. X 317, Athenag., Hipp. ἐν Σ, Plut., Simpl. Phys. 26: μετὰ Sext. utroque loco, Athenag., Hipp. ἴcη Σ, Plut., Athenag., Hipp., Simpl. Phys. 26: ἴcov Sext. utroque loco 252 τὴν cù Σ^{DE} : τὴν cùν Σ^{F} : ῆν cùν Clem., Plut.: ἀλλὰ Simpl. Phys. 188 νόφ Plut., Clem., Σ^{DE} , Simpl. Phys. 188^E: νῷ Σ^{F} , Simpl. Phys. 188^{DF} δέρκευ Clem.: -κου Σ, Plut., Simpl. Phys. 188 256 μετὰ τοῖcιν Brandis: μετ' ὄcoιcιν Σ^{F} : μετ' ὅccoιcιν Σ^{DE} 257 λόγου Σ^{DE} : λόγων Σ^{F}

A double tale I'll tell. At one time one thing grew to be just one	233
from many, at another many grew from one to be apart.	
Double the birth of mortal things, and double their demise.	235
Union of all begets as well as kills the first;	
the second nurtures them but shatters as they grow apart.	
And never do they cease from change continual,	
at one time all uniting into one from Love,	
while at another each is torn apart by hate-filled Strife.	240
In the way that many arise as the one again dissolves,	
in that respect they come to be and have no life eternal;	
but in the way that never do they cease from change continual,	
in this respect they live forever in a stable cycle.	
But hear my words; to learn augments the mind.	245
For as I said when I set forth my story's aims,	
a double tale I'll tell. At one time one thing grew to be just one	
from many, at another many grew from one to be apart,	
fire, water, earth and the unreached height of air,	
and cursed Strife apart from them, their match in every way,	250
and Love among them, equal in her size and in her breadth.	
With mind regard Her, and sit not with eyes bedazed.	
Even mortals hold that She's implanted in their joints;	
through Her they think of love and do conjoining deeds,	
naming Her 'Delight' and 'Aphrodite' too.	255
No mortal man has learned that She revolves	
among these things; but hear from me this truthful tale.	
For all these things are equal and alike in age,	
but each rules separate domains, each has its haunts	

έν δὲ μέρει κρατέουςι περιπλομένοιο χρόνοιο.	260	ix 20
καὶ πρὸς τοῖς οὕτ' ἄρ τ' ἐπιγίγνεται οὐδ' ἀπολήγει·		B 17.30
εἴ τε γὰρ ἐφθείροντο διαμπερές, οὐκ ἂν ἔτ' ἦcαν.		a (i) 1
τοῦτο δ' ἐπαυξήςειε τὸ πᾶν τί κε, καὶ πόθεν ἐλθόν;		
πῆι δὲ κε κἀξαπόλοιτο, ἐπεὶ τῶνδ' οὐδὲν ἐρῆμον;		
άλλ' αὕτ' ἐςτιν ταῦτα·δι' ἀλλήλων γε θέοντα	265	ix 25
γίγνεται ἄλλοτε άλλα καὶ ἠνεκὲς αἰἐν ὁμοῖα.		a (i) 5 B 17.35
άλλ' ἐν μὲν Φιλότητι cυνερχό]μεθ' εἰς ἕνα κόςμον,		
έν δ' "Εχθρηι γε πάλιν διέφυ πλέ]όν' ἐξ ἑνὸς εἶναι,		
έξ ὧν πάνθ' ὅcα τ' ἦν ὅcα τ' ἐcθ' ὅcα τ' ἔccετ' ὀπίccω,		a (i) 8 B 21.9
δένδρεα τ' έβλάςτηςε καὶ ἀνέρες ἠδὲ γυναῖκες,	270	ix 30
θῆρές τ' οἰωνοί τε καὶ ὑδατοθρέμμονες ἰχθῦς		x 1
καί τε θεοὶ δολιχαίωνες τιμῆις[ι φέριςτοι.		a (ii) 2 B 21.12 ∥
έ]ν τῆι δ' ἀΐϲϲοντα [διαμπ]ερὲς οὐδ[αμὰ λήγει		
π]υκνῆιcιν δίνηιc[ι \circ – \circ \circ – \circ \circ]τ.[– –		
v]ωλεμές, οὐδέ πο $[τ]]$	275	x 5
$πο\dot{\lambda}$]οὶ δ' αἰῶνες πρότερ[οι $ -$,		a (ii) 6
πρίν] τούτων μεταβήνα[ι 🗸 Ι – 🗸 🗸 Ι – 🤍 Ι – – 🕐		
πά]ντηι δ' ἀΐϲϲον[τ]α διαμ[περὲς οὐδαμὰ λήγει.		
oὕ]τε γὰρ ἠέλιος τ[(.)].ν.[$\sim \sim$, οὕτε ςελήνη		
όρ]μῆ<ι> τῆιδε γέμου[c' ἠδὲ φθινύθουc' ἀπολήγει·	280	x 10
οὕ]τε τι τῶν ἄλλων [μένει ἔμπεδον οὐρανῶι ἄςτρων,		a (ii) 11
ἀλ]λὰ μεταλλάςςον[τ' ἀΐςς]ει κύκλωι [ἅπαντα.		
δὴ τό]τε μὲν γὰρ γαΐ' ἀ[β]άτη θέει ἠελ[ίου τε		
cφαῖρα], τόcην δὴ κα[ί ν]υν ἐπ' ἀνδράcι τ[εκμήραcθαι·		
ῶς δ' α]ὕτως τάδ[ε π]άντα δι' ἀλλήλων [προθέουςιν,	285	x 15
κάλλο]υς τ' άλλ' [ἵκα]νε τόπους πλαγ[χθέντα καὶ ἄλλους		a (ii) 16
οὕ τοι δὴ] μεcάτους τ' [εἰcέ]ρχόμεθ' ἕν μ[όνον εἶναι.		

261 ἄρ τ' (sc. τι): ἄρτι Σ^{DE} : ἄρ Σ^{F} **262–364 adest** Π **262 incipit** Π fr. a col. i 262 οὐκ ἂν ἔτ' ἦcαν edd.:]τηcα[Π: οὐκέτ' ἂν ἦcαν Σ 263 ἐπαυξήcειε [Ar.] De Mel. Xen. Gorg. 2.8.975^b10 cod. L, Σ : ἐπάρξις ἴε(το) [Ar.] cod. R πῶν τί Σ^{F} : παντί [Ar.], Σ^{DE} κε Σ^{DE} : om. Σ^{F} : καὶ [Ar.] cod. L: τε καὶ [Ar.] cod. R]θενελ[tantum Π 264 κε κἀξαπόλοιτο edd.: κε καὶ κῆρυξ ἀπόλοιτο Σ^{DE} : κε κῆρυξ ἀπόλοιτο Σ^{F} : κε κἡξαπόλοιτο Diels]ενερη[tantum Π 265 αὕτ' ἔςτιν Σ^{Ald} : αὐτά ἐςτι Σ^{DEF} : [Π] γε Π (γ potius quam τ): δὲ Σ 266 καὶ ἠνεκὲς Σ^{DE} : διηνεκὲς Σ^{F} :]ς Π post 266 desinit Σ 267 ἀλλ' edd.: καὶ Trépanier cυνερχό]μεθ' edd.: cυνηρχό]μεθ' scripserim:]μεθ' Π^{ac}:]με`ν' Π^{pc2} ἕνα: εν`α' Π^{pc1}: ενε Π^{ac} 268 δ' Ἐχθρηι edd.: δὲ Κότωι Trépanier 269–72 (usque ad δολιχαίωνες) = Ar. Metaph. B 4.1000^a29–32 (cf. fr. 21.9–12 Diels) 269 ὅcα τ' ἐcθ' ὅcα Stephanus: ὅcα τ' ἐcτὶ ὅcα Ar. ed. Ald.: ὅcα τ' ἐcτὶν ὅcα Ar. codd. A^bMV^kC: ὅcα τ' ἦν ὅcα Ar. cod. V^d: ὅcα Ar. codd. A^bMV^kC

271 θ]ηρ`ε´ $c \Pi^{pc1}$: θ]ηροι Π^{ac} 272 suppl. edd. e Simpl. *Phys.* 33, 159 (= fr. 21.12 Diels) 273 έ]ν τῆι edd.: πά]ντηι Trépanier 277 ἐc ἔθνεα μυρία θνητῶν Trépanier 279 τ vel π ut opinor post v pars sin. litt. incurvatae -νε[ται vel ἕ[χει temptavi οὕτε * cελήνη possis (Primavesi per litt.): cελήνη c l ὁρ]μή temptaveram

280 ὑρ]μῆ⟨ι⟩ possis (Primavesi per litt.): ὑρ]μὴ edd. ἀδὲ φθινύθους' ἀπολήγει * 281 * 282 ἀἰcc]ει edd.: κρατ]εῖ Trépanier ἄπαντα *: ἀπάντηι edd. 283 δὴ τό]τε edd.: καί πο]τε Trépanier γαῖ(α) [ἀβ]ἀτη Most ap. edd.: γαῖ(α) [ὑπ]ἀτη Trépanier ἡελ[ίου *: ἡέλ[ιος edd.: ἡελ[ίοιο Trépanier 284 cφαῖρα edd.: πῶcα Trépanier τόςην *, coll. fr. 21.14 D. (γίγνεται ἀλλοιωπά· τόςον (Diels: τογον Σ^{DE}) διὰ κρῆςις ἀμείβει): τ' ὅςην edd.: τός' ἦν Trépanier τ[εκμήραςθαι edd.: τ[ηλεθόωςα Trépanier 285 προθέουςιν *: τε θέεςκεν edd. (cf. 286): θέει αἰεί Trépanier 286 κἄλλο]υς edd.: ἄλλοιυς Trépanier ἄλλ[α ἴκα]νε edd.: ἀλλ[οτε] ἄλ[λα Trépanier: ἄλλ[οτε ἰ]ας[ι volui καὶ ἄλλους *: ἰδίους τε edd.: ἕκαςτα Trépanier 287 οὕ τοι δὴ *: αὐθάδη edd.: οὐ γάρ πω edd. in comm., longius: ἄλλοτε ἂν Trépanier με ἐς ἀτους Π^{pc1}: μετατους Π^{ac} τ[ε εἰcε]ρχόμεθ' *: τ[ε εἰςη]ρχόμεθ' edd.: τ[ε cυνε]ρχόμεν' ci. Trépanier

and lords it in its turn as time rolls round.	260
Beyond these nothing comes to be or perishes.	
For if they died continually, no longer would they be.	
What could increase this whole, and from what source?	
How too could it be destroyed, since nothing lacks in these?	
But these are what there is, and running through each other	265
they suffer change continual but always are alike.	
In Love we come together in one world;	
in Hatred many grew from one to be apart,	
whence all that was, and is, and shall at some time be	
blossomed as trees, as men, as women too,	270
as beasts, as birds, as fish that water rears,	
as well as gods who ages live and greatest honours have.	
In Her they never cease to swirl in constant flux	
with frequent whirlings	
relentlessly, and never do they cease	275
But many ages previous <i>must elapse</i>	
before their <i>motions</i> alter	
They never cease in any way to swirl in constant flux.	
The sun does not stay still, nor does the moon	
in orbit cease to wax or cease to wane,	280
nor do the other stars stay fixed in heaven;	
they all move in a cycle, changing place.	
At that time earth untrodden runs and the sun's orb,	
as big as even now men have the power to vouch;	
just so do all these things through one another race,	285
and, roaming, visit other places constantly;	
we do not reach the middle place in union.	

	άλλ' ὅτ]ε δὴ Νεῖκός [τ' ἀνυ]πέρβατα βέν[θε' ἵκηται			
	δ[ίνη]ς, ἐν δὲ μές[ηι] Φ[ιλ]ότης ςτροφά[λιγγι γένηται,			
	έν [τῆι] δὴ τάδε πάντα ςυνέρχεται ἓν [μόνον εἶναι.	290	x 20	
	κεύ]δε δ' όπως μή μούνον αν' ούατα [μύθος ίκηται,		a (ii) 2	21
	ήδέ] μευ άμφις ἐόντα κλύων [ν]ημερτ[έα φράζευ			
	δεί]ξω coι καὶ ἀν' ὄcc' ἵνα μείζονι cώμ[ατι κύρει			
	π]ρῶτον μεν ξύνοδόν τε διάπτυξίν τ[ε γενέθλης.			
	ός[ς]α τε νῦν ἔτι λοιπὰ πέλει τούτοιο τ[όκοιο	295		
	τοῦτο μὲν [ἂν] θηρῶν ὀριπλάνκτων ἄν[ρια φῦλα.		a (ii) 2	26
	τοῦτο δ' ἀ[ν' ἀνθρώ]πων δίδυμον ωύμα [τοῦτο δ' ἀν' ἄνθεων		() -	
	διζοφόρων γέννημα και άμπελοβάμ[ονα βότουν			
	έκ των άνευδη κόμι σι φοενί δείνιστα μίνθων:		a (ii) (29
$\bar{\mathbf{v}}$	όψει νὰο ξύνοδόν τε διάπτυξίν τε νενέθλη[ς	300	x 30	/
+	Νείκεος είνεκεν έρνα διλάκτορα μη[τιρωςας	500	xi 1	
	τοῦτο μέν ἂμ βοοτέων μελέων ἀοιδείκετον ὄνκον:		c 2	B 20 1
	άλλοτε μέν Φιλότητι ευνεοχόμεθ' είς έν άπαντα		C 21	D 20.1
	$2\pi i \alpha$ πi			
	$\ddot{\alpha}$ $\dot{\alpha}$	305	c 5	
	πλάζεται άνδια έκαστα περί δηνιβνι βίοιο	505	00	B 20 5
	$\frac{1}{2}$ 1			D 20.5
	θ		c 7	B 20 7 II
			vi Q	D 20.7 II
		310	AI J	
		510		
			vi 13	f (j) 1
			AI 15	1 (1) 1
		315	vi 15	
		515	AI IJ	
		310	vi 19	f (i) 6
		310	XI 10	I (I) U

desunt versus 319-30

288 τ' άνυ]πέρβατα Pierris, quod probat Primavesi: μèν ὑ]περβατὰ edd. 289 δ[{ε}ίνη] $c \Pi$, quod suppl. et corr. edd. e fr. 35.3–4 292 φράζευ *, ut iam Primavesi: δέρκευ edd. 293 ὄcc' sc. ὄccε 296 ἄγ[ρια φῦλα *: ἀγ[ρότερ' εἴδη edd. 297 δ' ἀν' ἄνθεων *: δὲ θάμνων edd. in comm.: δ' ἀν' ἀγρῶν edd.

300 signum in marg. sin. versum 300 indicat versum memorat Simpl. *Phys.* 161,20, ut agnoverat Gallavotti ξυνοδον *Π*: cύνοδόν Simpl. γενέθλη[c edd.: γενεθλη[*Π*: γενέcθαι αἴης Simpl. **301–7** *Π***fr. c huc collocavi** siquis ξύνοδον aliquid conficere posse negaverit, v. 236 conferat (τὴν μὲν γὰρ πάντων ξύνοδος τίκτει τ' ὀλέκει τε) 301 Νείκεος εἴνεκεν * (ἔχθει Νείκεος brevius est) μη[τιοώςας possis (Primavesi per litt.): μη[τιόωςαν scripseram: μη[τίςαςθαι edd. **302–8 = fr. 20 Diels =** Σ (Simpl. *Phys.* 1124, 12 sqq. [siglum Σ cum codd. AFM superscriptis]) 302 τοῦτο Diels: τοῦτον Σ (alterum o in ras. hab. Σ cod. A¹): [*Π*] ἂμ βροτέων Bollack: ἂν βροτέων Σ^{AF} : ἀμβροτέων Σ^{M} : [*Π*] 303 cυν]ερχόμεθ' edd. e *Π*^{ac}: cυνερχόμεν' Σ :]ερχομε' v' *Π*^{pc2} 304 cῶμα Σ^{A} : cώματα Σ^{FM} : [*Π*] θαλέθοντος Σ^{AM} : θαλέοντος Σ^{F} : ϳλο[[υ]ντος[*Π*(ο) vel ε), i.e. θάλ]λοντος *Π*^{pc} ut opinor (υ del. *Π*¹ u.v.): θη]λοῦντος edd. 305 deest *Π* ἐρίδεςτιν *: ἐρίδεςτιν Σ^F : ἐρίδεςτι Σ^A : ἀργμθέςιος Σ^M 306 ἄνδιχ' Σ cod. A¹: δίχ' Σ^{AF} : ἀνδεφντζαδα' Σ^{M} : [*Π*] περὶ ῥηγμῆνι Σ^{Ald} : περὶ ῥηγμῆνις Σ^F :]ρη[tantum *Π* 307 (δ') Karsten ὑδρομελάθροις Σ^{AF} : -άκροις Σ^M : [*Π*] 308 θηρςί τ' Σ^{AM} : θερεςί τε Σ^F : [*Π*] ὀρειλεχέεςτιν Schneider, cf. fr. 127,1 Diels: ὀρειμελέεςτιν Σ^{AM} : ρημελέεςτιν Σ^F : [*Π*] ἰδὲ πτεροβάμοςι Σ^M :]ερο[*Π*: ἡδέπερ Σ^F **post 308 deficiunt** *Π*Σ 309 *

313–18 *Π***fr. f col. i huc collocavi** 314 *

But whensoever Hatred to the vortex' utmost depths arrives, and Love arises in the whirlwind's midst, in Her then all these things unite to be just one.

Strive so my words reach not your ears alone, and as you hear from me true facts take note: I'll put before your eyes how She augments with larger form life's union and increase, and all that still remain of this creation, first in the wild tribes of beasts that roam the hills, then in the double race of man, then in the fruits of rooted plants and grapes that mount the vine. From these take in your mind proofs truthful of my words.

Trom these take in your mind proofs truthful of my words.	
You'll see life's union and increase,	300
because of Hate, wreak deeds of separation.	
This first the mass of mortal limbs makes clear;	
at one time we unite in Love with all	
the limbs that bodies have when life is blossoming;	
another time again, split up by evil Strife,	305
they wander each apart amid life's breakers.	
Just so it is for plants, and water-dwelling fish,	
and beasts that sleep on hills, and fowls that mount on wings.	308

5 verses on dissolution lost or damaged

.....echo

314

290

16 verses on dissolution lost or damaged

		330	xi 30	
άν]δίχ' ἀπ' ἀλλήλω[ν] πεcέ[ει]ν καὶ π[ότ]μον ἐπιcπεῖν			xii 1	
πό]λλ' ἀεκαζομέν[ο]ι ιν ἀ[να]γκα[ίης ὕ]πο λυγρης			d 2	
άρ]πυιαι θανάτοιο πάλοις [ήδη παρές]ονται.				
οἴμοι ὅτ' οὐ πρόςθεν με διώλεςε νηλέες ἦμαρ,		335	xii 5 l	B 139.1
πριν χηλαίς εχέτλι' ἕργα βορᾶς πέρι μητίςαςθαι			d 6	B 139.2 ∥
νῦν δ]ὲ μάτη[ν τού]τωι γε νότ[ωι κατέδ]ευςα παρειάς.				
έξικ]νεύμε[θα γα]ρ πολυβενθ[έα δινον], ότω,				
μυρία τ' οὐκ] ἐθέλουςι παρέςςε[ται ἄλγ]εα θυμῶι				
άνθρώποις. ή μεις δε λόγων επιβ[ήςομ]εθ' αὐθις		340	xii 10	
κείνων. ὑππότ]ε δη ευνετύγγανε φ[λογ]μος ἀτειρής			d 11	
παειν αμ' αλλήλο]ις αναγων π[ο]λυπήμ[ον]α κρηςιν.				
δη τότε και τα ζωιία φυτάλμια τεκνώθ[η] cav				
παντὶ τρόπωι, τῶν ν]ῦν ἔτι λείψανα δέρκεται ἸΗώς.				
όππότ[ε δή γ' αἰθὴρ μιχθ]εὶς τόπον ἐςχάτιο[ν β]ῆι,		345	xii 15	f (ii) 1
δη τό[τ' ἀνέπτοντ' οἰωνοὶ κλα]γγηι καὶ ἀῦτηι			d 16	
θεςπε[ςίηι · τὰ δ' ὑπαὶ γαίης κευθ]μῶνα λαγόντα				
χόρ[τους τ' ἐξεγένοντο, ὅπηι εἴλ]υτο πέρι χθών.				
$\dot{\omega}$ cδ' [$\dot{\delta}$ πόταν $- \frac{1}{2}$] $- \frac{1}{2}$] $- \frac{1}{2}$			d 19	f (ii) 5
$\chi \alpha \lambda [\kappa \epsilon \dot{\nu} c - \upsilon \upsilon] - \upsilon \upsilon]$		350	xii 20	
$\alpha \iota \delta \varepsilon [\circ - \circ - \circ - \circ - \circ - \circ \circ - \circ \circ - \circ \circ - \circ \circ $				
$\mathfrak{m}[\mathfrak{o}\mathfrak{o}] = \mathfrak{o}\mathfrak{o}[\mathfrak{o}\mathfrak{o}] = \mathfrak{o}\mathfrak{o}[\mathfrak{o}\mathfrak{o}\mathfrak{o}] = \mathfrak{o}\mathfrak{o}[\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}] = \mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}\mathfrak{o}$				f (ii) 8
$\int dt $				

331–349 Π**fr. d huc collocavi** 333 cŋ]πo[μ]ένοις West ap. edd. 333 δ(ὲ) [ἐρατ]ὴν [ἡμî]ν Primavesi per litt.: δὲ [καὶ E]ὕν[οίη]ν edd. 334 ἤδη Primavesi per litt.: ἡμῖν edd. **335–6 = fr. 139 Diels** (Porph. *De abst.* II 31.5) 335 οἴμοι ὅτ' Porph. (sc. ὅτι):]μοι ἱ οτι ΄ Π^{pc2}:]μοι τ Π^{ac} 336 χηλαῖς [cχε]τλι' ἔργα βορ[ᾶς πέρι Π: cχέτλι' ἔργα βορᾶς πέρι χείλεςι Porph. 337 τού]τωι γε *:]τωι γε Π^{pc1}: ἐν] τῶιδε edd. e Π^{ac}, breviores νότος umorem significat lacrimarum, cf. Aesch. *Ag.* 1391, ubi pluvia Διὸς νότος vocatur 338 ἐξικ]νεύμε[θα *: ἐξικ]νούμε[θα suppl. edd. e Π

340 ἐπιβ[ήcoμ]εθ' ap. Π^{ac} rest. edd.: ἐπιβ[ήcoμ]ε`··΄ Π^{pc2} : ⟨c'⟩ ἐπιβ[ήcoμ]ε`v′ edd. 342 πᾶcιν ἅμ' ἀλλήλο]ιc *]ι legi (hasta directa):]ω edd. κρῆcιν *, cf. fr. 21,4 (διάκριcιc et διάκραcιc codd. Simplicii) et fr. 22,7 (κρίcει codd. Simplicii): κραcιν Π 343 δὴ τότε καὶ τὰ * 344 παντὶ τρόπωι, τῶν *: τῶν καὶ edd. 345–8 poeta dicit animalia nasci alia aliis elementis alibi dominantibus; ubi enim ignis locum extremum occupavit, aves natae sunt quae magno strepitu in aere volant, bestiae tamen quae latibulum habitant ubi terra circumvoluta est (cf. Aët. 5. 19. 5, τῶν δὲ ζώιων πάντων τὰ γένη διακριθῆναι διὰ τὰc ποιὰc κράcειc, τὰ μὲν οἰκειοτέραν εἰc τὸ ὕδωρ τὴν ὀρμὴν ἔχειν, τὰ δὲ εἰc ἀέρα ἀναπτῆναι, ὅc' ἂν πυρῶδεc ἔχηι τὸ πλέον, τὰ δὲ βαρύτερα εἰc τὴν γῆν, τὰ δὲ ἰcόμοιρα τῆι κράcει †πᾶcι τοῖc θώραξι πεφωνηκέναι†, = fr. A 31 D.–K.): nec de Tartaro nec de lemuribus loquitur, ut censuerunt edd.

345–52 Π fr. f col. ii huc collocavi 345 ὑππότ[ε edd. δή γ' αἰθὴρ * (ὑππότ[αν ἠλέκτωρ longius est) μιχθ]ệὶc *: εἰc edd. ἐcχάτιο[ν β]ῆι suppl. edd. ap. Π^{ac}: ἐcχάτιο[ν `β]ῆν· ′ probant edd. e Π^{pc2}: ἐcχατιώ[τ] ην′ tempt. edd. 346 ἀνέπτοντ' οἰωνοὶ * κλα]γγῆι legi (γ pars extr. dext.): κλαγ]γῆι edd. 347 θεcπε[cíŋι * post edd. τὰ δ' ὑπαὶ γαίηc * κευθ]μῶνα edd. in comm.: ᾿Ατης λει]μῶνα edd. 348 χόρ[τους * (χόρ[τοι et χόρ[τον breviores sunt) τ' ἐξεγένοντο, ὅπηι * (de hiatu cf. v. 264): etiam τ' ἐγγίγνονται, ὅπηι possis (Primavesi per litt.): τ' ἐγγεγάαcιν ὅπηι vel ἐμπεφύαcιν ὅπηι breviores sunt εἴλ]υτο * e Π^{ac}: α]ὖ`τε΄ edd. e Π^{pc2}: si librarius EIAYTO perperam scripserat, ratio correcturae intelligi potest 349 * vest. ii litt. sup. lin. manu altera scripta intra puncta sunt 350 * 353 ὡς δ' αὕτως vel οὕτω vel ὥς *

that at life's end the limbs of all	330
fall from each other apart and meet their fate,	
much though we will it not, from grim necessity,	
as we decay. Though beauteous Love may hold us now,	
the harpies with death's lots will come for us.	
Woe that some ruthless day did not destroy me first,	335
before I used my claws to wreak dread deeds for food!	
Now to no end my cheeks I wet with tears.	
For we shall reach the unplumbed gyre, I fear,	
and though men wish it not they'll have uncounted pains.	
But we'll embark once more upon our tale.	340
When once the tireless flame did chance upon	
all things, and caused their painful intermixture,	
then creatures too progenitive were born	
in every way, whose remnants still the dawn beholds.	
When aither mixed did reach the utmost edge,	345
then birds flew up with shrieks and cries	
tumultuous, but beasts, whose lot is lairs in earth	
and grass, were born where earth was swathed around.	
As when	
a smith	350

2 damaged verses about a smith inlaying one metal on another

just so the elements appear in different beasts. 353

τοῦτο μὲν ἐν κόγχαιcι θαλαccoνόμοις βαρυνώτοις ἠδ' ἐν πε]τραίοιςι κα[λύμμαςι, τοῦτο δὲ πίναις ἔνθ' ὄψει χθόνα χρωτὸς ὑπέρτατα ναιετάουςαν. θώοηξ δ' αὖ]τε κραταιν[ώ]των ἁ[λίων τε παγούρων.		355	xii 24 b 1	B 76.1 — B 76.3 —
ναὶ μὴν κηρύκων γε λιθορρίνων χελύων τε ὅcτρακα, κα]ὶ μελίαι κεραῶν ἐλά[φων ὀριπλάγκτων. ἀλλ' οὐκ ἂν τελέcαιμ]ι λέγων cύμ[παντα γένεθλα.	II	360	xii 28 b 5 xii 30	B 76.2 — —
$\dot{\omega} c \delta' \delta \pi \delta [\tau \alpha v \circ \circ] = \circ \circ] = \circ \circ] = \circ \circ] = - ,$ $\dot{e} c \delta' \delta \eta [\circ \circ] = \circ \circ] = \circ \circ] = \circ \circ] = - ,$ $\dot{\eta} c \delta' \alpha \delta \eta [\circ \circ] = \circ \circ] = \circ \circ] = - ,$			xiii 2	e 1
$(.)]\mu\epsilon\nu[-00]-00]-00]-00]-00=-00$ <i>deficit papyrus</i>	11	364 390	xiii 4 xiii 30	e 4
First in the whelks with heavy backs that graze the sea and in their stony mantles, then in oysters – there you will see earth dwelling on the top of flesh. Again, the armour-plate of strong-backed sea-crabs,		355		
also the stone-skinned conches' and the tortoises' shells, and spears of hornèd deer that roam the hills. But listing all such creatures I'd not end. As when		360		
and this		364		

papyrus breaks off

354, 356, 358 = fr. 76 Diels (Plut. *Mor.* 618B et 927F) 354 v. non habet Plut. *Mor.* 927F θαλαccovόμοις (non -μους) Plut. *Mor.* 618B: -μων Diels **355–60** Π**fr. b huc collocavi** 355 κα[λύμμαςι, τοῦτο δὲ πίναις * 356–8 Plut. utroque loco v. 358 ante v. 356 collocat 357 ἁ[λίων τε παγούρων edd. in comm. 358 ναὶ Plut.: καὶ Xylander γε Π: τε Plut. λιθορρίνων Plut.: λιθορι- Π χελύων Plut. *Mor.* 618B: χελωνῶν Plut. *Mor.* 927F: χ[Π 359 ὄςτρακα, κα]ὶ * ὀριπλάγκτων *, cf. 296 360 ἀλλ(ὰ) οὐκ ἂν τελέςαιμ]ι rest. edd. γένεθλα * **361–4** Π**fr. e huc collocavi**

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Fig. 1. Proposed layout of the fragments of *P. Strasb. gr.* Inv. 1665–6 (Empedocles), cols. ix–xiii (part 1). Photo et Coll. de la Bibliothèque Nationale et Universitaire de Strasbourg



Fig. 1. Proposed layout of the fragments of *P. Strasb. gr.* Inv. 1665–6 (Empedocles), cols. ix–xiii (part 2). Photo et Coll. de la Bibliothèque Nationale et Universitaire de Strasbourg



Fig. 1. Proposed layout of the fragments of *P. Strasb. gr.* Inv. 1665–6 (Empedocles), cols. ix–xiii (part 3; parts 2 and 3 overlap). Photo et Coll. de la Bibliothèque Nationale et Universitaire de Strasbourg

TAFEL I



P. Strasb. gr. Inv. 1665–6 (Empedocles) cols. xii–xiii (frr. b, d, e and f); R. Janko, pp. 00–00 Photo et Coll. de la Bibliothèque Nationale et Universitaire de Strasbourg