a and  $\varepsilon$  is common,<sup>7</sup> it will become evident that the poet wrote

#### φεῦ φεῦ, καὶ τὰν μίτραν ἐπέστιχες· ἐς τί δ' ἔλυσας;

'Eπιστείχ $\omega$  + accus. means 'arrive at', 'reach' (cf. A. Eu. 906 à $\eta\mu\alpha\tau\alpha$  . . .  $\epsilon\pi\iota\sigma\tau\epsilon(\chi\epsilon\iota\nu\ \chi\theta \delta\nu\alpha)$  and belongs to the poetic language, whereby it fits with the high-flown diction used in the Idyll (the girl's  $\varphi \varepsilon \tilde{v} \varphi \varepsilon \tilde{v}$  is of course tragic in tone: the neatherd's hand has ominously reached the  $\mu i \tau \rho a$ ; on the shades of meaning of  $\varphi \in \tilde{v}$ —tragic or mock-tragic—cf. Rumpel, Lex. Theoer., s.v.). My restoration is not only palaeographically, semantically, stylistically and syntactically consonant, but also contextually apposite. The neatherd first reaches the  $\mu i \tau \rho a$  with his hand, and then proceeds to loosen it: the sequence is clearly expressed in line 55.  $E\pi\epsilon\sigma\tau\nu\chi\epsilon\zeta$  is followed by a full stop denoting a pause; after the pausewhich indicates the time used by the neatherd to loosen the  $\mu i \tau \rho a^8$ —the girl asks him  $\dot{\epsilon}_{\zeta} \tau i \delta' \ddot{\epsilon} \lambda v \sigma a \zeta;$ Once the  $\mu i \tau \rho a$  has been loosened, the maiden's fate is sealed: she tries to stop the neatherd's progress  $(\mu i \mu \nu \varepsilon 57)^9$ , but to no avail.

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<sup>7</sup> Cf. e.g. Thes., s.v. a, 7A7 f., quoting Schaefer.

<sup>8</sup> In the same way, the pause between  $\mu\eta$  ' $\pi\iota\beta d\lambda\eta\varsigma$  $\tau\eta\nu\chi\epsilon \bar{\iota}\rho a$  and  $\kappa ai$   $\epsilon i\sigma\epsilon \tau\iota$ ; in line 19 denotes the interval between two attempts made by the neatherd's hand.

<sup>9</sup> Míµve means literally 'mane ubi es' (Rumpel, Lex. Theor., s.v. µíµvw: cf. e.g. Ap. Rh. i 304,833), i.e. in the context, 'stay where you have arrived with your hand' and do not proceed to remove the  $åµ\piéxorov$ .

## Parmenides' Sexual Theories. A reply to Mr Kember

In an article entitled 'Right and left in the sexual theories of Parmenides' (JHS xci [1971] 70-9) Mr Owen Kember challenges my statement (Polarity and Analogy [Cambridge, 1966] 17) that 'Parmenides probably held that the sex of the child is determined by its place on the *right* or *left* of the mother's womb (right for males, left for females)'. In his article Kember draws attention, usefully, to the confusions and contradictions of the doxographic tradition. He has, however, in my view, misinterpreted one crucial piece of evidence. This is the testimony of Galen, who quotes Parmenides Fragment 17 ( $\delta \epsilon \xi \iota \tau \epsilon \rho o \tilde{\iota} \sigma \iota v$ μέν κούρους, λαιοίσι δέ κούρας) in the course of his commentary on [Hippocrates] Epidemics vi ch. 48. Kember notes, correctly, that the meaning of the fragment by itself is quite unclear: 'the only deduction which can be safely made from the actual fragment is that Parmenides thought right and left were somehow connected with sex, and even here we must rely on Galen's judgement that the passage did in fact refer to sex in the first place' (op. cit. 76). But

Kember also maintains that Galen's own introductory comments and interpretation of the fragment are ambiguous: 'when he ]Galen] says that "the male is conceived in the right part of the mother" he might well mean that a  $F^1$  [first generation] male offspring is actually conceived in the right of the womb, i.e. that the sex of the offspring depends on position in the womb, or alternatively, he could be arguing that an offspring which is already male is conceived in the right of the womb, i.e. that position in the womb is determined by sex' (*ibid*.).

Now so far as the statement of Galen that Kember actually quotes goes, one may agree that by itself this is unclear. But Kember neglects the context in which Galen's remark occurs. All that Kember gives of Galen's introduction is the single sentence that is quoted in Diels-Kranz. But this is embedded in an extended discussion and commentary of Epidemics vi ch. 48 running, in Wenkebach's edition (CMG v 10, 2, 2) from 118 20 to 121 11. This Hippocratic text is, as Galen himself remarks, obscure. Galen observes that if this book of the Epidemics had been a treatise prepared for publication, Hippocrates would have made his meaning plainer, but this does not stop Galen himself from stating quite clearly what he takes to be the Hippocratic doctrine in question. First he quotes and amplifies a text from the Aphorisms  $(v \text{ ch. } 48)^1$  to the effect that male embryos are generally found on the right side of the womb, females on the left, adding that it is *eikóc* for what is hotter to be formed in the hotter part of the womb and going on to say that the male is hotter, as the size of his veins and his colour (males being generally darker than females) show. Later in the same chapter (1203) he refers to his work On Mixtures for proof of the truth of the opinion that the constitution of males is hotter than that of females. Finally (120 22) he states that the fact that males are mostly conceived in the right-hand side of the womb is proved by anatomical dissection, and he refers to his treatise On Anatomical Procedures for the cause (airía) of this. And when at 1214 ff. he summarises the cause of this supposed fact (that male embryos are on the right), he refers to the difference between the two sides of the womb, in particular to the purer quality of the blood on the right side. It is fairly clear that what Galen has in mind here is an

<sup>1</sup> Cf. Galen's remark in his Commentary on the Aphorisms (xvii B 840 f. Kühn): θερμοτέρα δὲ ή κρᾶσις γίγνεται τοῖς ἐμβρύοις οὐχ ἥκιστα καὶ διὰ τὸ χωρίον, ὅπερ ἐστὶ τὸ δεξιὸν τῆς ὑστέρας μόριον. The scholium of Theophilus shows that he, too, was in no doubt as to the meaning of the Aphorism: ή αἰτία ὅτι τὰ ἄρρενα θερμότερά εἰσι καὶ διὰ τοῦτο ἐν τοῖς δεξιοῖς ὡς ἐν θερμοτέροις δημιουργοῦνται (ed. Dietz, ii p. 469). Before Galen, too, Soranus had interpreted the view of 'Hippocrates' in a similar sense: ϣετο γὰρ ἐν μὲν τοῖς δεξιοῖς μέρεσιν τῆς ὑστέρας συλληφθέντος τοῦ σπέρματος ἄρρεν ἀποτελεῖσθαι, ἐν δὲ τοῖς εὐωνύμοις θῆλν (Gyn. i 13 45, CMG iv 32).

efficient (not a final) cause and that what he considers he has to explain is how the sex of the embryo is influenced by the side of the womb it is in, not how the side of the womb is determined by the sex of the embryo. It is because the right-hand side of the womb is hotter (and has purer blood) that it helps to produce hotter (that is male) offspring.

Reference to Galen's discussions elsewhere shows that this is indeed his view. On the Use of Parts xiv ch. 7, ii 302 ff., especially 309 f. Helmreich, and On Seed ii ch. 5, iv 626 ff. Kühn, especially, show that Galen's own doctrine is that the sex of the embryo is determined both (1) by the side of the body from which the seed of the male parent comes, and (2) by the side of the womb the embryo is in (in both cases right is correlated with hot and male, left with cold and female).<sup>2</sup> In his discussions of *Epidemics* vi ch. 48 he evidently interprets the Hippocratic text as in line with his own view, and the truth. When, therefore, he cites ancient writers (including Parmenides) in support of the view that males are generally formed on the right side of the womb, it is not to illustrate the idea that the position in the womb is determined by the sex of the embryo, but to support the doctrine that he himself maintains (and believed Hippocrates to hold), namely that the sex of the embryo is determined (partly) by the position in the womb. While the introductory statement quoted by Kember is ambiguous when taken on its own, its sense in the argument of the chapter as a whole is clear. It is no part of Galen's purpose to maintain or illustrate the doctrine that position in the womb is determined by sex: he is concerned to argue for the reverse connection.

Of course we cannot be certain whether Galen had good grounds for citing Parmenides in support of this view. As already noted, the fragment by itself is not conclusive evidence for this, nor can we be certain that Galen knew the context of Parmenides' statement. Moreover when Galen goes on to adduce Empedocles in this connection, he may well have misunderstood Empedocles' theory: Galen's interpretation appears, at least, to conflict with the testimony of Aristotle (GA 764a1 ff.).<sup>3</sup> Nevertheless, despite these doubts, it seems to me that Galen provides the best evidence we have concerning Parmenides' theory of sex differentiation. As Kember shows, neither Fragment 18 (quoted by Caelius Aurelianus) nor Lactantius  $(De \ optif. ch. 12)$  nor Censorinus (*de die nat.* 5.2 and 3 f.

<sup>2</sup> E.g. τῷ τοίνυν διττὴν μὲν ἀρχὴν εἶναι τῆς τῶν ἀρρένων γενέσεως, ἐν μὲν τοῖς θήλεσι τὴν δεξιὰν μήτραν, ἐν δὲ τοῖς ἄρρεσι τὸν δεξιὸν ὄρχιν, ἰσχυροτέραν δ' ὡς τὰ πολλὰ γίγνεσθαι τὴν μήτραν ἐξομοιοῦν ἑαυτῆ τὸ κυούμενον, ὡς ἂν καὶ χρόνῷ πλέονι πλησιάζουσαν, εὐλόγως ὡς ἐπὶ τὸ πολὺ τὰ μὲν ἄρρενα τῶν ἐμβρύων ἐν ταύτῃ, τὰ δὲ θήλεα κατὰ τὴν ἀριστερὰν εῦρίσκεται (ii 309 Helmreich). Galen grants, however, that occasionally female embryos are found on the right of the womb, males on the left (e.g. iv 633 Kühn).

<sup>3</sup> See Polarity and Analogy 17 n. 4.

6.5 and 8) helps us to discover Parmenides' views on that topic. Aristotle PA 648a28 ff., referring to a difference in temperature between the two sexes, is not clear on how Parmenides thought sex difference arose, and GA 763b30 ff. cannot be definitely referred to Parmenides. We are left, apart from Galen, with Actius. v 7.2 does not provide the basis of a general theory of sex determination, and v 11.2 is not relevant to this problem at all. If the text of v 7.4 is sound, it is in direct conflict with Galen's testimony: but the reliability of v 7.4 is doubtful, if only because it attributes to Anaxagoras a view that contradicts the testimony of Aristotle (GA 763b30 ff.) on that philosopher.<sup>4</sup> If Galen's testimony were in fact as ambiguous as Kember suggests, one might hesitate before choosing to follow Galen rather than Aetius. But if I am correct in arguing that the context in which Galen cites Parmenides makes it quite clear what Galen's interpretation of Parmenides' position was-namely that sex is determined by the position in the womb-then I would repeat that this text is the strongest evidence we have for Parmenides' theory of sex determination.5

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<sup>4</sup> In an as yet unpublished article on Anaxagoras' theory of sex differentiation and heredity, Kember has, however, argued that the testimony of this passage in Aristotle 'cannot be unreservedly trusted'.

<sup>5</sup> I am grateful to Professor Sandbach and to Mr Kember for comments on an earlier draft of this paper.

### A Note on $\Pi PH\Sigma THPO\Sigma$ AYAO $\Sigma$

In a recent article J. J. Hall has argued that the mysterious  $\pi\rho\eta\sigma\tau\eta\rho_{\rho\sigma}$  ad $\lambda\delta\sigma$  which figures in Anaximander's theory of the universe is the funnel-shaped body of a tornado or waterspout.<sup>1</sup> In reviewing meteorological evidence he notes that lightning often accompanies such storms. Anaximander himself could have concluded that the funnel is actually full of fire and then could have drawn an analogy between fiery heavenly bodies seen through a hole in surrounding mist and internal fire seen through the open bottom of a cloud.

M. L. West has expressed doubt about this suggestion on the grounds that 'a person in the uncomfortable situation of looking up such a funnel would not see fire.'<sup>2</sup> There are undoubtedly some difficulties in Hall's proposal, as he himself admits. But West's objection is oddly off the mark. What is initially at issue is what Anaximander believed to be true, not what is true. The tornado interpretation assumes

<sup>1</sup> ' $\Pi PH\Sigma THPO\Sigma AYAO\Sigma$ ', in JHS lxxxix (1969) 57 f.

<sup>2</sup> Early Greek Philosophy and the Orient (Oxford, 1971) 243.