Back in 1938, Hermann Fraenkel had suggested that geometrical proportions \(a : b = b : c\) made a characteristic "thought pattern" ("Denkform") in Heraclitus.\(^1\) The idea was met with approval by Karl Reinhardt (1942),\(^2\) G. S. Kirk (1954),\(^3\) Charles H. Kahn (1979),\(^4\) and others. Three Heraclitean fragments are usually adduced as the clearest examples of such geometrical proportions: B 79, B 83, and A 13 DK (\(=\) Frs. 92, [92b], and 65 M).\(^5\) I shall argue here -- as I did in the past\(^6\) -- that geometrical proportions are not likely to be a characteristic "thought pattern" of Heraclitus. I think Fraenkel's interpretation of B 79 is wrong, B 83 is most probably spurious, while A 13 may be more plausibly explained without recurring to geometrical proportions.

B 79 reads: "\(\alpha\nu\eta\rho \nu\eta\pi\iota\sigma \varepsilon \kappa\omicron\upsilon\omicron\sigma \pi \rho\omicron\delta \varepsilon\alpha\iota\mu\omicron\omicron\omicron\varsigma, \delta\kappa\omicron\omega\sigma\pi\epsilon\rho \\p\alpha\varsigma \pi\rho\delta \\acute{\omicron}\nu\rho\delta\varsigma\). "Man is called foolish by God, just as a child is by a man." Now, already E. Petersen (back in 1879) had interpreted the saying as a mathematical proportion: "A boy stands to an adult man in the same ratio as does an adult man to God" (\(\pi\alpha\varsigma : \acute{\omicron}\nu\eta\rho = \acute{\omicron}\nu\eta\rho : \delta\alpha\iota\mu\omicron\omicron\nu\)).\(^7\) Unaware of Petersen's article, Fraenkel interpreted the saying as follows: "For the sake of convenience, we call this pattern by the name of the geometrical mean and transcribe it by formulae such as \(God / man = man / boy\), using mathematical language rather loosely and disclaiming mathematical strictness...

There are three planes: the levels of God, man, and child (A, B and C). The degree of perfection decreases, and the degree of imperfection increases, in equal measure in the transitions from A to B and from B to C (\(A / B = B / C\)" (p. 314 = 258).
In my view, however, the saying expresses a **fundamental difference** between God and Man in respect to "true knowledge, insight or wisdom," -- not a difference in **degree** only. For, first, since Homer νήπιος means "foolish, silly, childish" (LSJ, s.v., II.1), and the implication of our saying is that "the knowledge" a small child may possess is no knowledge at all. Second, my interpretation is strongly supported by B 78 (90 M), "Human nature has no insight, but the divine has."

As a matter of fact, Heraclitus follows in B 78 and B 79 an old folkloric motif **contrasting** divine wisdom to a total lack of such in mortals: compare, e.g., Iliad 2.485 f.; Pindar Paean 6.51 ff.; Nem. 6.1 f.; Alcmaeon B 1; maybe Xenophanes B 23-25 vs. B 34; Theognis 141 ff.; LXX Isaiah 55:8-9. 8)

In brief, B 79 would mean: "In God's eyes, Man is as far from having a true insight as is a child in the eyes of an adult man." The means employed is not a geometrical proportion, but rather a traditional simile (cf. δικωσπερ), in which the tertium comparationis between "adult man" and "child" is νηπιότης, "foolishness": both of them are equally "childish" as compared to God's wisdom or insight.

B 83 reads: Ἄνδρώπων ὁ σοφότατος πρὸς θεόν πίθηκος φανεῖται καὶ σοφὶ καὶ κάλλει καὶ τοῖς ἄλλοις πάσιν (Ps.-Plato Hippias maior 289 b 4). Now, according to Fraenkel,9) the saying would express the following geometrical proportion:

πίθηκος : Ἄνδρωπος = Ἄνδρωπος : θεός. But, as Paul Wendland (back in 1903)10) and W. Zilles11) had pointed out, B 83 is not likely to be a genuine fragment but rather derives from B 79. As a matter of fact, since the times of Semonides (7.71-82 West) monkey is known as a personification of ugliness (7.73, αἰχματα μὲν πρόσωπα), not of stupidity. If so, then πίθηκος in our text has nothing to do with σοφὶ and, most probably, was introduced by the author of Hippias maior who is dealing with the topic of τὸ κάλλος. Compare 289 a 3, Πιθήκων ὁ κάλλιστος αἰχμάδρος ἄνδρωπον γένει συμβάλλειν (= B 82).

What is more important, from Eusebius De theophania 1.73 (p. 74.5 Gressmann) it becomes clear that the word σοφὶ in our text had replaced the word νήπιος ("childish") and that the saying originally read: Ἄνδρωπων ὁ σοφότατος πρὸς θεόν νήπιος,
which is no more than a paraphrase of B 79, ἀνήρ νήπιος ἔκοιμε πρὸς δαίμονος (so Wendland). But even if B 83 were an independent saying, still it would not support the theory of geometrical proportions. For, once the word πίθηκος is exposed as an intruder into the text, "the third level" of Fraenkel will have disappeared.

Finally, A 13 deals with the astronomical "great year" of Heraclitus, consisting of 10,800 solar years. Now, since Paul Tannery (back in 1887) the figure of 10,800 has been usually explained by means of "a human generation," which according to Heraclitus A 19 (108 Μ) consists of 30 years -- 1 : 360 = 30 : 10,800. i.e., "One day stands to one solar year in the same ratio as does one human generation to a "great year." Apparently, in this interpretation the magnus annus is understood as "one generation of the universe."

One may, however, ask: What has "a human generation" to do with the merely astronomical term of magnus annus? As a matter of fact, one human generation of Heraclitus is based upon an old folkloric -- hebdomadal -- belief: It is the least space of time for a grandson (say, Nicomachus) to become a grandfather (Nicomachus), assuming that a man becomes procreative at the earliest age of fourteen and that the time from engendering till birth is one year. Accordingly, $2 \times (14 + 1) = 30$ years.

On the other hand, as B.L. van der Waerden had pointed out, magnus annus is an old astronomical term reducible to Babylonian sars (one sar is equal to $60^2 = 3,600$). If so, then Heraclitus' great year of 10,800 solar years is equal to three Babylonian sars, Berosus' world-period of 432,000 years (Fr.29 Schnabel) -- to 120 sars, the great year of the great India of 4,320,000 years -- to 1,200 sars. Incidentally, the Platonicus annus of 12,960,000 days (Republic VIII, 546 bc) would be then an ideal "super-sar" ($= 3,600^2$). In any case, no geometrical proportions are needed.
II

If mathematical proportions are not likely to be a "thought pattern" of Heraclitus, what then might we call his characteristic means of expression, if any? I would like to suggest that such a habit of the Ephesian consists of: (1) the paradox; (2) the employment of countless folkloric motifs; (3) the use of traditional wisdom (proverbs, etc.); (4) of popular vivid similes; (5), finally, of metrical forms as well.

(1) The Paradox. Heraclitus' use of the paradox seems to be inconsistent. Namely, (A) most of the times the paradox appears as an objective and necessary phenomenon, reflecting the underlying essence of things which is paradoxical itself. That seems to be true of both his major teachings -- the theory of a divine, everliving Fire as the underlying essence of all things, operative in his cosmology, psychology and theology; and the theory of an objective, universally valid principle called Logos, according to which two opposites form a continuum within every given thing. (The former teaching I call briefly Physics, the latter -- kind of Metaphysics.)

So we read, e.g., in B 84a (56a M), μεταβάλλον ἀναπαύεται. "It is in changing that it (Fire ?) finds its rest." Or take the necessary paradox in B 36 (66 M), "For souls it is death to become water, for water it is death to become earth. And nevertheless, it is out of earth that water comes-to-be, and out of water, soul." (In other words, "origin" and "death," "beginning" and "end" coincide, which may be paradoxical but is so by necessity.) Or else, B 32 (84 M), "Εν, τὸ σοφὸν μονὸν, λέγεσθαι σῶκ ἐξέλει καὶ ἐξέλει ζηνὸς δόμα. "One (being), the only (truly) Wise, is both unwilling and willing to be called by the name of Zeus."

Moving to Heraclitus' Logoslehre, the idea of a παλίντονος ἄμοινή, ὄνωσπερ τὸξον, "a back-stretching connection, like that of a (strung but resting) bow," B 51 (27 M), a rerum concordia discors (Horace Epist. 1.12.19), is paradoxical enough. For the traditional Anaximandrean and Pythagorean (?) opposites are at variance with each other. But now we learn that they of necessity form a continuum, connection or unity.
The idea was strange enough, and Heraclitus himself had to admit that "people do not understand how (διωγε) what is being brought apart nevertheless comes together with itself (reading with Plato in B 51 (27 M), οὐ ζωνιάσθην διωγε διαφερόμενον ἐσωτὲ ζυμωφέρεται).

There is an underlying unity or connection, a hidden single continuum between two opposites (or extremes) within every given thing -- between a straight and a crooked path; the way up and the way down the hill; beginning and end; the purest and the foulest water; living and dead, life and death, young and old, the waking and the sleeping; day and night; warm and cold, dry and wet; disease and health, hunger and satiety, weariness and rest; justice and injustice; light and darkness; immortals and mortals; Hades and Dionysus; (yellow) gold and (yellow) straw; barley and wine (in a barley-posset); (honey) and bitter vetch, and so on. This universal principle or rule (Logos) is a necessary paradox, and Heraclitus expresses this coincidentia oppositorum in paradoxical statements.

Possibly, to the same Logoslehre belong such paradoxical sayings of the Ephesian as these: B 48 (39 M), "The name of the thing called bow (βιός) is life (βίος), its work is death" -- implying that the opposites "life" and "death" are two halves of a thing (here, "the bow"), as inseparable and essential for the thing as are its "name" and its "function." Or take the enigmatic B 12a (40 M), "The name (so Seneca) of the thing called 'river' (say, Cayster) is always the same, its content (here, water), however, is each time different (other )" -- in other words, the opposites "the same" and "other" form one single continuum in the same way in which "the name" and "the content" of a thing are its two inseparable and essential parts. Or else, B 21 (49 M), "Death is all we see when awake, life is all we see when asleep" (reading ὁμα for Clement's misinterpretation ὁμος, for the text as transmitted, "...and all we see when asleep is sleep," is nonsensical to me).

As though this paradox of the universal coincidentia oppositorum were not enough, Heraclitus keeps producing striking paradoxical statements on every occasion, each time reflecting
the paradoxical essence of things. B 54 (9 M), "Invisible
(underlying) connection is stronger than visible (tangible)"
(ἀμονή ἀμαρής φανερής κρείττων). B 80 (28 M), "Strife is
Justice (or "the normal and fair course of affairs," not Peace).
B 53 (29 M), "War is father of all and king of all" (not Zeus,
as Homer would have us believe). B 30 (51 M), "(Strange as it
may look,) this world-order is an everliving fire." B 96 (76 M),
"Corpses should be thrown out sooner than dung" (instead of
being honored with a burial rite). B 52 (93 M), "Human age is
a child at play..." B 6 (58 M), "Every day there is a new sun."
B 3 (57 M), "The sun is the size of a human foot" (i.e., the
sun is a σκάφη, a basin for washing feet, serving as a focus
in which the hot sea-exhalation ignites every morning).

(B) Alas, the force of this objective and necessary paradox
in the surrounding world is, so to say, undermined by Heraclitus'
employment of the paradox as a consequence of men's ignorance.
Once this ignorance is dispelled -- by the light of Heraclitus'
instruction, -- men's paradoxical behavior will disappear.

Here are a few examples of this unnecessary paradoxical
behavior of men. B 1 (1 M), "Although this Logos (principle) is
real (ἐστὶν, compare Herodotus 1.95.1; 1.116.5; Aristoph.
Frogs 1052), men constantly (αἰέν) fail to comprehend it...;" B 17
(3 M), "Most men do not notice things they encounter (i.e.,
which are right before their eyes)...;" B 28a (20 M), "What
the most renowned man (among the Greeks, such as Pythagoras,
Homer or Hesiod) knows and maintains is but fancies;" B 56
(21 M), "Men are mistaken in the recognition of obvious things,
just as Homer was, although he was considered wiser than any
other Greek...;" B 2 (23b M), "Although this Logos (principle)
is common to all (i.e., universally valid), most men live as
if they had a wisdom of their own;" B 20 (99 M), "Once born,
they (the multitude) want to live and have their dooms. (What
is worse,) they leave children behind them, so that (new) dooms
may come into being" ("...damit der Tod nicht aussterbe,"
Reinhardt); B 125a (106 M), "May wealth never fail you, men of
Ephesus, so that your wickedness may be manifestly proven (ex-
posed)!" B 124 (107 M), "(For them) the fairest world-order is
but a heap of sweepings piled up at random;" B 72a (4 M),
"They are at odds with their most constant companion;" B 5 (86 M); B 104 (101 M), and many others.

How may we explain the combination of (A) and (B) in Heraclitus? The fact that the paradox appears as an objective necessity and, at the same time, as an unnecessary consequence of human ignorance? I would suggest, by the maverick, intransigent, rebellious personality of the thinker himself. Doubtless, Heraclitus was a strong individuality, self-conscious of his role as an Enlightener -- compare, e.g., the έγώ in B 1 (1 M), 55 (5 M), 101 (15 M), 108 (83 M). As is known, Heraclitus is the Presocratic philosopher who names most names -- less often with approval (Homer, Thales, Bias, Hermodorus), more often with rebuke and derision (Homer, Hesiod, Archilochus; Pythagoras, Xenophanes, Hecataeus).

The political plight of this intransigent aristocrat with his fellow-citizens of Ephesus transpires from such sayings as B 121 (105 M), 125a (106 M), 29 (95 M), 104 (101 M). What is more important, Heraclitus' debt to his philosophical predecessors is never acknowledged. No matter how much he owed to Xenophanes or Pythagoras, he attacked them mercilessly. Take the case of the close similarity between Xenophanes' and Heraclitus' theology -- one "impersonal" god, reaching everywhere in the cosmos. In spite of that, Heraclitus will state in his B 108 (83 M), "Of all those whose teachings I have learned, no one has reached the point of recognizing that the Wise (being) is different from anything else."

In brief, the indiscriminate use of the paradoxical statement by Heraclitus may well reflect his own noncomformist, maverick personality. After all, in this authoritarian Sturm- und Drang period of the early Greek thought, were the self-proclaimed Enlighteners Pythagoras and Xenophanes much different?

III

But there is more to that. Contrary to what he was preaching, Heraclitus was well aware of the fact that his radical and novel teachings were far from being accessible and easily understandable to a common audience. A universal principle (Logos) hidden within every given thing; an everliving Fire as the underlying substance of all things; the principle of con-
stant measures (or quanta) regulating the qualitative change of the basic matter (fire); a God fundamentally different from anything else; an equally universal principle of War as the cause of differentiation in society and nature -- such doctrines were far from being obvious to an ordinary man.

That Heraclitus' principles were not present "on the surface," manifest and easy to grasp, we may learn from his own words: B 123 (8 M), "The (real) constitution of a thing is used (or likes) to hide" (φόσις κρύπτεσθαι φιλεί); B 18 (11 M), "Unless one expects the unexpected (ἐὰν μὴ ἔλπηται ἀνέλπιστον), he will not find it, for it is difficult to trace and grasp." And I think we learn something about the audience's negative reaction to Heraclitus' strange teachings from such outbursts of the teacher's frustration as these: B 34 (2 M), "People who remain without comprehension (even) after they have been instructed, resemble the deaf. It is to them that the saying applies: 'Present in body, absent in mind'." B 87 (109 M), "A stupid man is wont to get stunned at every (new) teaching he hears." B 97 (22 M), "Dogs (not men) bark at those they do not know" (i.e., attack every new doctrine without coming to know it first). In brief, not without reason was Heraclitus called "obscure" and "riddler" already in the times of Socrates and Aristotle. Anyway, one would think, if his teachings were clear enough, they would not have been that easily misunderstood and misinterpreted by his pupil Cratylus (ap. Aristotle Metaph. 1010 a 7 ff.).

Now, in order to make his radical doctrines accessible to the common man, in order to gain the minds and hearts of his audiences, the Enlightener goes out of his way to present them as something not contradicting but rather being based upon traditional wisdom. That is why Heraclitus so freely employs countless traditional folkloric motifs, popular sayings and proverbs, catchy vivid similes, and even metrical form. Here are a few examples of each category.

(2) Folkloric Motifs. B 9 (37 M), "Gold" and "Straw" brought together: Stith Thompson, Motif-Index of Folk Literature, D 475.1.20; D 451.5.6; Grimm, Wörterbuch der deutschen Sprache, s.v. "Häckerling:" "Der Mann, der das Wenn und das Aber erdacht, / Hat sicher aus Häckerling Gold schon gemacht." -- B 15 (50 M), Dionysus is Hades: compare Dionysus'
epithet μελαναίγίς and Aeschyl. fr.228 N. (377 Mette). -- B 24 (96 M): cf. Plato Rep.V, 468 e, et al. -- B 28\(^b\) (19 M), The goddess of Justice is slow in coming, but will eventually prevail: Euripid. fr.979 N. -- B 30 (51 M), The divine origin of the "everliving" Fire: cf., e.g., Aristoph. Lysistr.306 τὸ πῦρ...ζῇ; L. Radermacher, "Lebende Flamme," Wiener Studien 49 (1931) 115-18; M.L. West, Early Greek Philosophy and the Orient (Oxford 1971) 170 ff. -- B 36 (66 M), Human flesh is earth (clay), human blood is water: Iliad 7.99; Hesiod Opera 61; Xenophanes B 29 and 33; A 50; Apollodor. Bibl.1.7.1. -- B 45 (67 M), The "bonds" (ΠΕΙΡΑΤΑ) of the soul: Iliad 7.102, et al. -- B 63 (73 M), Heroes as guardians of men: Hesiod Opera 122 f. ; 252 f.; Plato Crat.398 a; Rep. V, 469 a. -- B 66 (82 M), Fire as the last judge. -- B 78 (90 M), B 102 (91 M), B 79 (92 M), B 52 (93 M), God alone possesses wisdom, man's lot is to remain ignorant: Iliad 2.485 f. (and the instances quoted above, ending with note 8). -- B 85 (70 M), θυμῷ μάχεσθαι χαλεπόν, "It is hard to fight against the heart's desire:" Plato Legg.IX, 863 b 3; Rep.II, 375 b 1; Euripid. Medea1079 f.; fr.257 N., et al. -- B 85 (70 M), ψυχῆς τῷ ωνείσθαι, "To buy something at the price of soul:" Longinus De sublim.44.9; Euripid. Medea968; Xenophon Cyrop.3.1.36; Isocrat. 6 (Archidamus).109; A.G. 7.622.6; Persius 6.75. -- B 88 (41 M), "Dead" changes round to "Living," "Old" to "Young:" Melissus B 8.3; Plato Phaedo 70 c 9. -- B 94 (52 M), The "bounds" of Helios, and Dike in charge of cosmic events: cf. G. Vlastos, C.F. 42 (1947) 156-78 (esp. 164-68). -- B 117 (69 M), B 118 (68 M), A drunken soul is a wet soul; a dry (sober) soul is wisest and best: Xenophon Symp.2.24; Aristoph. Knights 96 = 114. -- B 119 (94 M): Theognis 161-64; Menander fr.714 Körte; Phocylides fr.16 Diels; Plato Legg.V, 732 c; VII, 804 a; IX, 877 a;Phaedo 107 d; 108 b; 113 d; Rep. X, 617 de; 620 de; Tim.90 a; 90 c. -- A 19 (108 M), The time-span from the begetting of a grandparent to that of his grandchild makes a complete cycle of human life, or one generation of thirty years -- 2 x (14 + 1) = 30. The human life-span consists of hebdomads: Solon fr.27 West, et alibi.

(3) Popular sayings. B 2 (23\(^b\) M), δεὶ ἐνεσόαι τῷ ἐνυφῷ: compare ἑκεὶ ἔπου (DK appar. ad I, p.62.18; Marcus Aurel. 10.11.4); ἐπεό νόμῳ Ἐρωδ.5.18.2; Thucyd.2.35.3; Cleanthes Hymn.Iovis 24 ff. -- B 11 (80 M): cf. Plato Critias 109 bc, et al. -- B 13 (36 M): Semonides fr.7.2 ff. West; NT 2 Petri 2:22; Epictet.4.11.29 and 31; Aristid. Orat.33.31; Lucian Anachars. 1; Horace Epist.1.2.26; Hippolyt.Refut. 9.7.3; A.G. 14.106.3; Paroem.Gr. I, p.376; II, p.705, et al. --

B 43 (102 M): Herodot.5.77.4 (Simonid. fr.100.3 Diehl); Plato Legg. VIII, 835 e; Herodot.8.77.1. -- B 44 (103 M): Cicero N.D. 3.94; Acad.II 137; Tusa.4.43. -- B 56 (21 M): eleven instances in Marcovich, Eraclito, ad fr.21. -- B 58 (46 M): Diog. Laert.3.85; Aeschyl. Agam.849; Plato Corg.456 b; 479 a; 480 c; 521 e--522 a; Rep.III, 406 d; IV, 426 b; Prot. 354 a; Tim.64 d; 65 b; Polit.293 b. Xenophon Memor.1.2.54. -- B 72 (4 M): Lysias 14.44, τοῖς οἰκεῖοις διάφορος. -- B 74 (89 M), ὡς παῖδας τοξευόντων: cf. Aristot. Soph.El. 174 b 2; E.N. 1164 b 22; Muson. Ruf. fr.16 (p.82 Hense). -- B 92 (75 M): five instances in Marcovich, Eraclito, ad fr.75. -- B 93 (14 M), σήματα of the Pythian Apollo. -- B 95 + 109 (110 M): see Marcovich ad fr.110. -- B 97 (22 M): cf. Odyssey20.15; 16.4 ff. -- B 100 (64 M): cf. Plut.De def. orac.416 A; Cypria fr.4.3 Allen; Odyssey 9.131; Xenophon Anab.1.4.10;Cyneg.5.34; Aristid. Or. 32.25; 26.11; 44.16; Marcus Aurel.4.23; 9.3; Iulian Or. 2, 101 C; A.C.9.51; Verg.Ecl.9.51. -- B 101a (6 M): Herodot.1.8.2; Thucyd.1.73.2; Philo passim; Dio Chrysost. 12.71; Paroem.Gr.II, p.744, et al. -- B 104 (101 M): Diog. Laert.1.88; DK I, p.65.2; Cleanthes fr.100 Pearson; Herodot.3.81.1.

(4) Comparisons. Out of some ninety Heraclitean fragments consisting of more than three words only, comparison occurs no less then eleven times: B 1 (1 M), 56 (21 M), 114 (23 M), 51 (27 M), 90 (54 M), 67 (77 M), 5 (86 M, twice), 79 (92 M), 29 (95 M), 44 (103 M). Similes comprise all his teachings -- the Logoslehre and Theology (four instances in each), Ethics (twice) and Cosmology (once). Doubtless, Heraclitus' picturesque similes play much the same role as his countless concrete illustrations of the abstract but universal Logos -- both are devised to make his novel doctrine accessible to the ordinary man. As for the number of examples taken from daily life to illustrate Logos, already Philo was forced to give credit to Heraclitus: "...Heraclitus wrote books on nature, getting his opinions on opposites from our theologian (i.e., Moses) and adding a great number of laborious arguments to them" (Quaest. in Genesim III.5;Quis rerum divin. heres 214).

Incidentally, it is worth mentioning with what insistence does Heraclitus employ one and the same example. Adult man is compared to (even identified with) an unfledged boy no less than five times among the extinct
fragments -- four times to the disadvantage of the adult man: B 56 (21 M), 117 (69 M), 52 (93 M), 121 (105), 79 (92 M). As for the coincidence (or, at least, a single continuum) between the opposites "Life" - "Death;" "Immortality" - "Mortality," it had become a real obsession for the Ephesian: he employs it no less than eight times in the available, scarce evidence: B 53 (29 M), 48 (39 M), 88 (41 M), 62 (47 M), 26 (48 M), 21 (49 M), 15 (50 M), 36 (66 M).

(5) *Heraclitus Poeticus*. That Heraclitus' rhythmical prose consists of well balanced and elaborate clauses, is common knowledge (that is why the fragments are printed this way in my editions of Heraclitus). In addition, metrical forms seem to be detectable in some of his sayings. For example, second half of a hexameter is present in the following fragments:

B 5 (86 M): \- u u - u u - oδδ' ἰσσας, οἱτινές εἰσι.
B 100 (64 M): \- u u - u u - ὃςας, αἱ πάντα σέρουσι.
B 3 (57 M): \- u u - u u - έθρος ποδός ἀνθρωπεῖου.

If that is true, then later versifiers of Heraclitus -- such as Cleanthes, Scythinus, Ps.-Linus, the poet of Orph. fr.226 Kern -- had only to follow the example of the master. Hence the imitations:


Moreover, complete iambic trimeters seem to hide in three genuine sayings and in one imitation:

B 78 (90 M): Ὑδος γὰρ ἀνθρώπειου μὲν οὐκ ἔχει γνώμας, 
θεῖον δὲ ἔχει. (As transmitted). 
(scripsi post Gu. Heidel).

B 33 (104 M): νόμος καὶ θουλὴ πειθεσθαι ἑνῶς. (As transmitted).
νόμος (δὲ) καὶ θουλὴ (σι) πειθεσθαι ἑνῶς. (Conieci).

B 49 (98 M): εἰς ἐμοὶ μύσιοι, ἐὰν ἄριστος ἢ. (As transmitted).
εἰς μύσιοι μοί (γ' ἔστιν), ἢν ἄριστος ἢ. (Conieci).

[B 47] [113 M]: μὴ εἰκὴν περὶ τῶν μεγίστων συμβαλλόμεθα. (Transmitted).
μὴ εἰκὴν μεγίστων ἀμοὶ συμβαλλόμεθα. (Conieci).

Finally, there is a leaythion in B 100 (64 M): οὔρος αἰθρίου Διὸς 
( - u - x - u - ). Maybe the form Διὸς -- for the expected Ζηνὸςfrom B 32 (84 M) -- was employed by Heraclitus metri gratia.\textsuperscript{15}
IV

Λόγος, one of the key-words in Heraclitus, appears in two different senses among the extant fragments -- "principle, (rule, law)," and "proportion, (ratio, measure)." Now, I think these two meanings are indicative of the presence of two different major doctrines in Heraclitus, which may overlap but are distinguishable enough. One teaching is dealing with the universal principle of coincidentia oppositorum -- on a rather logical or metaphysical level; the other addresses itself to the equally universal substratum Fire, covering the fields of physics, theology and psychology.

To be more specific, the word λόγος occurs 12 times among the preserved sayings. Three of these instances may be discarded at once, as belonging to spurious fragments. B [126a] ([118] M), a late forgery, had been rejected already by Diels. In B 72\(^{a}\) (4 M), the words λόγῳ, τῷ τὰ δάλα διοικοῦντι, have been recognized as an explanation introduced by Marcus Aurelius (4.46) already by Bywater (in 1877). As for B 115 (112 M), ὑπάρχῃ ἐστὶ λόγος ἡμῶν αὐτὸν αὐξών, I had argued\(^{16}\) that the saying is most probably spurious, on the following grounds: (1) It is transmitted under the name of Socrates, not Heraclitus. (2) The statement, "Soul has a (numerical) ratio that increases itself," is highly reminiscent of the concept of soul advanced by Xenocrates Academicus (fr.60 Heinze) -- soul is a number capable of increasing itself: ἄφθωμον... αὐτὸν αὔξοντα τὴν φύσειν αὐτῆς (sc. τῆς ψυχῆς), Plotinus 6.5 (23).9.13; Plut. De animae procr.1012 D; Aristot. De anima 404 b 29; 408 b 32; Aetius 4.2.3-4. And (3), "measure" is something constant, fixed and unchangeable in Heraclitus (cf. B 31 (53 M), μετρεῖται εἰς τὸν αὐτὸν λόγον ὅκοιος προσθέει ἦν...): a "measure" capable of increasing itself cannot be paralleled in Heraclitus.

In the next three instances of λόγος, the word has insignificant philosophical import. B 87 (109 M), "A stupid man tends to get stunned at every (new) word (or teaching) he hears." B 108 (83 M), ὅκοσων λόγους ἢκουσα, οὐδεὶς ἀφικνεῖται ἐς τοῦτο ὡστε γινώσκειν δτι..., "Of all those whose teachings I have heard, no one reaches the point of recognizing that...".
Miroslav Marcovich

B 39 (100 M), Ἐν Πριήνῃ Βίας ἐγένετο ο Τευτάμεω, οὗ πλέον λόγος ἢ τῶν ἄλλων, "In Priene lived Bias, son of Teutames, who is of more account (esteem) than the rest" -- a common Ionian idiomatic phrase, as, e.g., in Herodotus 2.89.1.

The rest of six instances is split in two different technical meanings: principle -- in B 1 (1 M, twice), B 2 (23$^b$ M), and B 50 (26 M); proportion, measure -- in B 31 (53$^b$ M) and B 45 (67 M). The former four cases obviously deal with the Logoslehre, the latter two with the Feuerlehre.

To take the latter two first, the term λόγος seems to serve as a synonym of the term μέτρα. So much is clear by comparing B 31 (53$^b$ M) -- "〈Earth〉 is liquefied as sea, and is measured in the same proportion as existed before it became earth," 〈γῆ〉 ὃδ' ἐστιν διάμετρον, καὶ μετρέται ἐς τὸν αὐτὸν λόγον ὥστοις πρόσθεν, ἀνὶ ἐγενέσθαι ἀγῆν, -- to B 30 (51 M) -- "This world-order... always was and is and will be: an ever-living fire, being kindled in measures and going out in measures,"... πῦρ ἀέριζων, ἀπόθεμενων μέτρα καὶ ἀποσβεβυρύμενων μέτρα. The saying B 45 (67 M) is less clear, but the sense "proportion, measure" (i.e., of the qualitative change "blood-water" into "soul-fire") seems to be the most likely one: "If you start looking for the "bonds" (beginning and end) of the soul, you will not find them, even if you travel over every path (i.e., in every horizontal direction): so deep a measure the soul has" -- i.e., hidden in the depth of the body, in the hot exhalation from blood: compare B 36 (66 M), "...and out of water soul comes-to-be." In both cases λόγος refers to the qualitative change of matter (fire, water, earth), i.e., to physics.

On the contrary, λόγος in B 1 (1 M, twice), B 2 (23$^b$ M), and B 50 (26 M) refers to a logical principle -- to the unity of two opposites within every given thing. This universal principle (ξυνὸς λόγος) was the great discovery of Heraclitus, and he elevated it to the rank of an objective, universal law, operative in the surrounding world of our daily experience. This objectivization of a logical principle (rule or statement) must have been Heraclitus' own innovation.

Now, that the Logos exists outside the human mind, can be seen both from B 1 and B 50. The opening sentence of B 1 reads:
"Men constantly prove to be void of comprehending this real Logos -- both before they have heard it (sc. from me) and once they have heard it" (τοῦ δὲ λόγου τοῦτος ἑώντος ἄει 
ἀξιώτατοι γίνονται ἄνθρωποι, καὶ πρόσθεν ἢ ἄκουσαί καὶ ἀκουσάντες τὸ πρῶτον). The phrase, "both before they have heard it and...," makes it clear that men are expected to grasp the universal, omnipresent Logos by themselves -- from the surrounding world of their daily experience -- "Most men do not notice things they encounter..." B 17 (3 M). -- And B 50 reads: "If you have heard, not me but the Logos, it is wise (i.e., it is logically necessary) to agree that all things are one" (οὐκ ἐμοὶ ἄλλα τοῦ λόγου ἀκοοῦσαντας ὀμολογεῖτι σωφόν ἐστιν ἐν πάντα ἐνναί). Here again, the opposition, "not me but the Logos," is best explained as implying: "You need not believe me: convince yourselves through your own experience. For the Logos is present (operative) in every thing around you."

This simple explanation, however, has been challenged by serious scholars. M. L. West, for example, sees in the saying a contrast between Heraclitus' personal authority and the force of his argument: "'Don't listen to me but to what I'm saying...' Heraclitus is telling men that they should be persuaded not by his personal authority but by the autonomous authority of his argument."17) To leave aside the improbability of such a "split personality," of a contrast between two parts of the same person, we may well ask, "And just where is this 'personal authority' of the lonely Ephesian? In the extant fragments, he speaks of himself as of one talking to the deaf -- B 34 (2 M), B 87 (109 M), B 97 (22 M), -- and as a loser in the eyes of his fellow-citizens -- B 121 (105 M), 125a (106 M)

C. H. Kahn sees in B 50 a contrast between Heraclitus and the Logos in the listeners' souls: "The thought will be: listen not to me but to the discourse within your soul, and it will tell you all."18) He refers to B 45 (67 M), "the deep Logos of the soul." This interpretation is not likely either. For, (1) it still leaves unexplained the phrase of B 1, "Men remain uncomprehending of the Logos both before they have heard it and once they have heard it (sc. from me)." And (2), the word πείρατα -- "bonds (beginning and end) of the soul" -- in B 45 witnesses to the fact that the phrase, οὗτος βαθὺν λόγον ἔχει
(sc. ψυχή), in the same fragment, must refer to the very nature of the soul (such as "a regulated hot exhalation from blood"). And that is very far from the idea of "a discourse within your soul."

In brief, any attempt to see in λόγος one single sense covering all extant fragments -- expressed, e.g., by Ewald Kurtz, "Jede Betrachtung des heraklitischen Logosbegriffes muss von zwei Tatsachen ausgehen: dass λόγος nur einen Bedeutungsaspekt hat und..." 19) -- should be resisted as misleading and contradicting the evidence. And to assume -- as, e.g., G. S. Kirk does, 20) -- that, "This Logos, in its material aspect, must be a kind of fire," is to underestimate the great metaphysical discovery of Heraclitus -- his Logos-lehre (recognized both by Philo and Hippolytus, Refut. IX.9-10).

In conclusion, one single doctrine in Heraclitus is not likely. The double role of Polemos, among the extant fragments, is indicative of the existence of more than just one Heraclitean teaching. Among some nine different reasons for the unity of opposites employed by Heraclitus, 21) "war, strife, war-vortex, tension, etc." appears as the most cogent one. In a strung but resting bow, it is exactly the tension between the two bow-arms, tending in opposite directions, that makes the instrument effective, B 51 (27 M). "The barley-posset disintegrates (sc., into its two opposite ingredients -- the solid barley and the liquid wine) unless it is stirred (i.e., unless there is an interaction or "war-vortex" between the two opposites)," B 125 (31 M). And it is "strife (not peace) that is the normal course of affairs (εἰδέκεναι) χρή τὸν πόλεμον ἔδωκαν ξυνόν καὶ δίκην ἔπιν...), B 80 (28 M).

In brief, War appears as a cause of unity, and that is why both Logos and Polemos are called "common to all" or "universally valid" (Ευνός) -- B 2 (23b M) and B 80 (28 M), -- and why the phrase, γινομένων πάντων κατὰ τὸν λόγον τόνδε, of B 1, matches the phrase, γινόμενα πάντα κατ’ ἔριν, of B 80. In addition to being an agent of unity, however, Polemos appears as a cause of differentiation in every Greek city-state: "War is father of all and king of all, and it is he who renders some gods (i.e., heroes), others (mortal) men; it is he who makes some slaves, others free men, and so on (e.g., it is he who
makes some rich, others poor)," B 53 (29 M). Obviously, such
a necessary social differentiation has nothing to do with the
principle of unity of opposites, but rather an outspoken aristo-
cratic advocate of the **ethics of war-heroes** is to be heard
here -- compare, e.g., B 24 (96 M), ἀσημιφάτους ἑτοὶ τιμῶσι
καὶ ἄνθρωποι; B 29 (95 M), B 25 (97 M).

Heraclitus' Logoslehre and Feuerlehre may overlap, but
they are still two different autonomous doctrines. For example,
pairs of opposites do appear in Heraclitus' physics (B 65
(55 M); B 84a (56a M)), psychology (B 36 (66 M)), and theology
(B 67 (77 M)), but the point is that, in these fragments,
the philosopher is not trying to prove the unity of opposites
but rather to explain the manifestations and functions of the
everliving Fire. Presumably, Heraclitus had started explain-
ing this world-order by means of his great discovery -- the
universal principle of **coincidentia oppositorum**. But an ab-
stract logical principle could not explain the **plurality and
diversity** of the world-order, for the simple reason that it
could not undergo **qualitative change**. Fire, however, was an
ideal principle and substance for such a qualitative τροπή,
μεταβολή, ἄλλοιωσις.

Hence the presence of two concurrent doctrines in Hera-
clitus. Logos explains the unity of this world-order by means
of its **logical** universal validity or operativity, by its **ubiquity,** omnipresence in every particular thing. Or say Logos
(Σ) is "present" in the particular thing a, and in b, c ... 
and z. Now, thanks to the fact that Logos is "common to all,"
that all things share in the same Logos, all particular things
themselves are interconnected, forming one single **continuum**
(Σ = a; Σ = b; Σ = c; ... Σ = z. Hence a = b = c = ... z)
-- οὐκ ἐμοὶ ἄλλα τοῦ λόγου ἰσομέτρουσας ὁμολογεῖν σῷφόν ἔστιν
ἐν πάντα εἰς ἅν ἰνατ, B 50 (26 M). In its turn, Fire
explains the unity of this world-order by the fact that it is
its universal underlying basic substance -- B 30 (51 M); B 90
(54 M). But while Logos accounts for the unity alone, Fire
can explain both unity and plurality -- thanks to its constant
and regulated qualitative change.
In conclusion, Heraclitus' physical world-order displays unity and balance. Unity -- thanks to the universal basic substance Fire; balance -- thanks to μέτωκα or λόγος, i.e., a regulated qualitative change of fire into water and earth, and backwards. Heraclitus' metaphysical world-order also shows balance and unity. Balance -- thanks to the internal unity of two opposites within every given thing; unity -- thanks to the universal validity of this principle of coincidentia oppositorum, also called Logos.

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NOTES

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3) G. S. Kirk, Heraclitus. The Cosmic Fragments. Cambridge 1954 (re-print 1962), 78 ("There is no doubt that this proportional form of exposition was dear to Heraclitus, but..."), 302 ("...especially in view of Heraclitus' fondness for the proportional statement: cf. frr. 79, 82-3, 9 etc.").


7) "Ein misverstandenes Wort des Heraklit," Hermes 14 (1879) 306.


18) *The art and thought of Heraclitus* (above, note 4), 130.


21) Listed in Marcovich, *Eaclito* (above, note 5), Table on p.113 f.