

Cosmic Fire: Heraclitus and Universal Conflagration

Fuego cósmico: Heráclito y la Conflagración Universal

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ABSTRACT: This work aims to assess whether a doctrine of Universal Conflagration can be derived from the extant fragments of Heraclitus. The fragments will be analysed through three main interpretations: i) cosmogonical, which holds that the fragment refers to cosmic cycles of destruction and regeneration, which might imply conflagration; ii) cosmological, which maintains that the fragment describes the transmutation of the elements between each other, without implying that there is a period of time when only fire exists and iii) astronomical, which understands the fragment as referring to celestial phenomena. Through the analysis of the fragments traditionally related to conflagration (B30, B65, B67, B94, B66), this article will propose that, although Heraclitus displays a doctrine related to the cosmic fire in his fragments, this doctrine cannot be equated with the notion of Universal Conflagration. This assessment does not preclude the possibility that Heraclitus may have subscribed to this doctrine, as certain non-Heraclitean sources tend to point out, but rather demonstrates that such a notion finds no support from the extant fragments of Heraclitus.

KEYWORDS: Conflagration, Heraclitus, Fire, *Kósmos*, Sun

RESUMEN: Este trabajo tiene como objetivo evaluar si puede derivarse una doctrina de la Conflagración Universal a partir de los fragmentos conservados de Heráclito. Los fragmentos serán analizados a través de tres principales interpretaciones: i) cosmogónica, que sostiene que el fragmento hace referencia al ciclo cósmico de destrucción y regeneración, que podría implicar una conflagración; ii) cosmológica, que mantiene que el fragmento describe una transmutación de los elementos entre ellos, sin implicar que hay un período de tiempo en que exista únicamente fuego, y iii) astronómica, que concibe el fragmento como haciendo referencia a los fenómenos celestes. A través del análisis de los fragmentos tradicionalmente relacionados con la conflagración (B30, B65, B67, B94, B66), este artículo propondrá que, si bien Heráclito presenta una doctrina relacionada con el fuego cósmico, dicha doctrina no puede identificarse con la

noción de Conflagración Universal. Esta evaluación no excluye la posibilidad de que Heráclito haya suscrito dicha doctrina, como lo atestiguan ciertas fuentes no heracliteanas, pero demuestra que tal noción no encuentra respaldo en los fragmentos conservados de Heráclito.

PALABRAS CLAVE: Conflagración, Heráclito, Fuego, *Kósmos*, Sol

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INTRODUCTION

Expressions of world destruction, such as the Earth being burned by the sun in the myth of Phaethon or Deucalion's flood, were deeply rooted in the mythological background of Ancient Greece. Their presence in myths, however, did not prevent their adoption by the Presocratic philosophers, who frequently envisioned the *κόσμος* as subject to regular cycles of creation and destruction.¹ Among these accounts of the universe, one particular theory of cosmic destruction has captured not only scholarly interest but also the collective imagination of Antiquity: Universal Conflagration.

The doctrine of Universal Conflagration, mainly popularized by the Stoics, has traditionally been attributed to Heraclitus.² However, despite critical assessment, whether Heraclitus himself embraced this doctrine still raises vexed discussions. Scholars differ in positions: while some, such as Schleiermacher 1998, Burnet 1982, Reinhardt 1942, Kirk 1962 and Marcovich 1967 have rejected the idea of Universal Conflagration in Heraclitus; some others, such as Gigon 1935, Kahn 1979, Finkelberg 1998a, Mouraviev 2008 and Vassallo 2023 have maintained that the idea was part of Heraclitus' thought.

This work aims to assess whether a doctrine of Universal Conflagration can be derived from the extant fragments of Heraclitus. I will propose that, although Heraclitus expresses a doctrine about cosmic fire in his fragments, this doctrine can hardly be equated with the notion of Universal Conflagration in B94, B65, B30, B31, B67 and B66. This assessment does not preclude the possibility that Heraclitus may have subscribed to such a doctrine, but rather questions its likelihood based on an analysis of these extant fragments and proposes other alternative interpretations.

For that purpose, I will begin by defining the concept of Universal Conflagration. Then, I will analyse the set of Heraclitean fragments (B94, B65,

¹ For instance, Anaximander (A9, A14, ed. 1951), Anaximenes (A11, ed. 1951) and Empedocles (B17, B26, ed. 1951). I will follow the edition of Diels & Kranz 1951.

² Cf. Them. *in Ph.* 86, 19-21, ed. 2014; Simp. *in Ph.* 205, 27-33, ed. 1882; Simp. *in Caelo* 294, 4, ed. 1894.

B30, B31, B67 and B66), arguing that these do not align with the idea of Universal Conflagration and/or there are alternative interpretations that align more closely with Heraclitus' broader cosmic framework. This study will consider three such interpretations of individual fragments: 1) a cosmogonical interpretation, which holds that the fragment refers to cosmic cycles of destruction and regeneration, which might imply conflagration; 2) a cosmological interpretation, which maintains that the fragment describes the transmutation of the elements between each other, without implying that there is a period of time when only fire exists; and 3) an astronomical interpretation, which understands the fragment as referring to celestial phenomena.

Regarding contributions, this work aims: 1) to offer a critical assessment of Heraclitus' thought by providing a new interpretation of the doctrine of cosmic fire, which we may call "astronomical interpretation", broadening the interpretation framework of Heraclitus' doctrine. It also seeks 2) to renew the debate of Universal Conflagration in Heraclitus by including in the discussion the evidence from the Derveni Papyrus, specifically *Col. IV* (Betegh & Piano 2019), as well as the excerpts from Philodemus' *On Piety* found in the Herculaneum Papyri, particularly *P. Herc. 1428, Col. 330* (Vassallo 2018). Finally, it intends 3) to shed light on Heraclitus' doctrine by examining the Presocratic tradition, especially the Ionian school. This approach follows the methodology of Darcus 1974, who finds insights about the interpretation of the Heraclitean fragments in the works of authors contemporary with or close in time to Heraclitus. At the same time, this study does not disregard Osborne's methodology (1987), which interprets the Presocratic fragments within the context of the authors who transmitted them. While both approaches will be taken into consideration throughout this work, our study will primarily focus on the intrinsic examination of the fragments themselves.

Finally, this research will demonstrate that there are alternative interpretations to this selection of Heraclitus' fragments, leading to the conclusion that it is unlikely that those fragments represent an allusion to conflagration.³

DEFINITION OF CONFLAGRATION

I define Universal Conflagration as the regular and ceaseless event of destruction of the world by fire (Long 1975, p. 142).⁴ In this event, which

³ All translations whose author is not indicated are considered my own and will be accompanied by a footnote with the corresponding Greek text. Regarding the references to the Presocratic fragments, I will follow the Diels-Kranz numbering system, ed. 1951.

⁴ This phenomenon of destruction entails an eventual regeneration of the world by fire to maintain the regularity of the event.

takes place within large periods of time (χρόνων μακραῖς περιόδοις, *SVF* 2.620, ed. 1903), all the elements (πάντα) transform into the fiery element (*SVF* 2.605, *SVF* 2.593, ed. 1903).

THE ANALYSIS OF INDIVIDUAL FRAGMENTS

Analysis B94

Ἥλιος γὰρ οὐχ ὑπερβήσεται μέτρα/οὔρους,⁵
εἰ δὲ μή, Ἐρινύες μιν Δίκης ἐπίκουροι ἐξευρήσουσιν.

For the sun will not overstep its measures;
otherwise, the Erinyes, ministers of Justice, will find him out.

In the following analysis, we will examine the potential meanings of the word μέτρα and assess the implications that these meanings may have for evaluating our thesis regarding Heraclitus' adherence to the doctrine of Universal Conflagration. Among the potential meanings, there are three: a) temporal, b) spatial, and c) astronomical.

a) Temporal sense: In fragment B94, μέτρα is interpreted as referring to the temporal, periodic changes of the movement of the sun. According to this reading, the sun does not transgress its temporal boundaries by, for instance, refraining from shining during the night or remaining excessively long in the sky during winter. Instead, it adheres to the limits imposed by Justice following the cycle of days and the changing seasons. Nonetheless, this interpretation finds no direct backing in the ancient sources that preserve the fragment.

b) Spatial sense: In B94, μέτρα may be understood as referring to the magnitude or size of the sun. This reading has been bolstered by the discoveries from the Derveni Papyrus, which links B94, the only other fragment beyond B30 where μέτρα appears, with B3, which deals with the size of the sun: "(According to) Heraclitus: The sun has the length of a human foot".⁶ In *Col. IV* of the Derveni Papyrus, fragments B94 and B3 appear closely together. Although it remains debated whether B94 and B3 should be considered independent from each other or part of a unified fragment, their prox-

⁵ Although most editors adopt the reading μέτρα for B94 (given its presence in other Heraclitean fragments such as B30 and B31), the discovery of the Derveni Papyrus might suggest that οὔρους was the original term used by Heraclitus. In fact, since its discovery, οὔρους is now attested in two of the three extant versions of B94. Furthermore, the pairing of οὔρους with εὔρος (*Col. IV*, 7-8) may reflect a linguistic pun, a device commonly found in Heraclitean contexts (B2, B18 and B114).

⁶ Ἡράκλειτος εὔρος ποδὸς ἀνθρωπεῖου (sc. τὸν ἥλιον εἶναι).

imity suggests a connection between their content (Betegh & Piano 2019, p. 210). On this basis, μέτρα in B94, reinforced by B3, should be referring to the sun's size (Finkelberg 1998a, p. 203), indicating that the sun will not exceed its natural size of a human foot.⁷ This interpretation of μέτρα could suggest that B94 offers evidence for a doctrine of conflagration in Heraclitus, as the sun's transgression of its spatial limits, by expanding beyond its natural size, might lead to a fiery destruction of the world (Betegh 2004, p. 248).

c) Astronomical sense: the term μέτρα in B94 refers to the circuit of the sun, whether daily or seasonal, marked by the sunrise and sunset. This sense is reflected in the version of the fragment preserved by Plutarch in *De exil.* 604A, which deals with the orbit of the planets:

Yet each one of the planets, revolving within a single sphere, as if on an island, preserves its order (τάξις). For the sun will not overstep its measures (μέτρα), says Heraclitus; otherwise the Erinyes, ministers of Justice, will find him out.⁸

In this passage, the preservation of the order (τάξις) of the planets refers to the maintenance of the regularity of the planets' circuit throughout the cosmic path. In contrast to the spatial sense, "what is relevant for Plutarch's argument is not the size but the orbit of the sun (and the other heavenly planets), and this is how he understands the reference to the μέτρα of the sun" (Betegh & Piano 2019, p. 208). It is noteworthy to observe the connection of this fragment with B120: "the boundary points of the dawn and evening are the Bear and, on the point opposite to the Bear, the limit (οὔρος) of the celestial Zeus".⁹ In this fragment, Heraclitus identifies the boundary points (μέτρα = οὔροι) of the sky with the regions of sunrise and sunset, that is, the significant markers of the sun's orbit, which is represented by the celestial Zeus. Regarding the interpretation of the fragment, Betegh & Piano 2019, p. 212, confirm that these boundary points not only refer to the daily path of the sun, but also to the cycle of the seasons:

We agree with Kahn that "dawn" and "evening" refer in the fragment to both the east and the west, and the regions of sunrise and the sunset, thereby marking the daily path of the sun. Moreover, in so far as the rising and setting of Arcturus were traditional indicators of the beginning of spring and autumn, it also functions as a marker of the annual cycle.

⁷ It is interesting to note Marcovich's suggestion, based on *Aeschyl.* fr. 225 [Nauck]: καὶ νίπτρα δὴ χρὴ θεοφόρων ποδῶν φέρειν / λεοντοβάμων ποῦ σκάφη χαλκήλατος; that the use of a human foot as a measure for the size of the sun derives from the analogy between a bronze vessel (σκάφη) used for washing feet and the celestial σκάφη (Marcovich 1967, p. 311).

⁸ Καίτοι τῶν πλανήτων ἕκαστος ἐν μιᾷ σφαίρᾳ καθάπερ ἐν νήσῳ περιπολῶν διαφυλάττει τὴν τάξιν· Ἥλιος γὰρ οὐχ ὑπερβήσεται μέτρα φησὶν ὁ Ἡράκλειτος· εἰ δὲ μή, Ἐρινύες μιν Δίκης ἐπίκουροι ἐξευρήσουσιν. Own translation based partially in De Lacy & Einarson 1959.

⁹ ἡοῦς καὶ ἐσπέρας τέρματα ἢ ἄρκτος καὶ ἀντίον τῆς ἄρκτου οὔρος αἰθρίου Διός.

Therefore, μέτρα in B94 can be interpreted as the limits of the sun's orbit from which the days and seasons take place.¹⁰

So far, we have assessed three potential meanings of the word μέτρα. On the one hand, the interpretation b) seems to have more solid ground than c), since it relies on “the earliest known quotation from Heraclitus” (Betegh 2004, p. 325), namely, the intertextual relationship between B94 and B3 exhibited in the Derveni Papyrus, whereas c) depends on the interpretation of B94 by Plutarch in *De exil.* 604A, a much later source. Nevertheless, interpretation c) does not contradict the relationship between B94 and B3, since the deviation of the sun's orbit can produce the expansion of the sun's apparent size. In this sense, the sun's apparent size should be understood in relation to its varying distance from the Earth throughout the cosmic circuit:

For the sun's apparent size could change in two ways: either if it changed its absolute size, or if it diverted from its course, and therefore changed its distance from us. The apparent size is therefore the combination of the two aspects of the μέτρα of the sun (Betegh & Piano 2019, p. 213).

Moreover, the interpretation c) in B94 is bolstered by its connection with B120. Indeed, although B94 appears along B3 in the Derveni Papyrus, B120 is the unique fragment within Heraclitus' framework that contains the same term (οὐρος) as in B94. Since οὐρος displays an astronomical meaning in B120, then it is reasonable to imply that B94 holds the same meaning.

Taking into consideration our analysis of B94, we can conclude that interpretation c) might have more ground due to its alignment with B120, providing greater internal consistency in Heraclitus' cosmic framework. While interpretation b) addresses the increase in the natural sun's size, implying conflagration, interpretation c) refers to the increase in the sun's apparent size through the deviation of the sun's orbit, and, even if higher temperatures are expected due to the closeness of the sun to the earth, the danger of everything becoming fire, as the Stoics believed, would be only illusory. However, the higher likelihood of interpretation c) does not rule out interpretation b), which might point to the presence of Universal Conflagration in Heraclitus' thought. Nevertheless, the decisive factor against a conflagrationist interpretation of B94 lies in the counterfactual nature of the fragment. In fact, the promise that the sun will not overstep its measures weighs against conflagration. Therefore, this notion cannot be derived from this fragment.

¹⁰ This interpretation is also supported by Hdt. IV 184, ed. 1979, in which the excess of the sun accounts for excessive heat due to the surpassing of the sun's course: “These when the sun is exceeding high course (τῷ ἡλίῳ ὑπερβάλλοντι) and most foully revile him, for that his burning heat afflicts their people and their land”.

Analysis B65

χρημοσύνην καὶ κόρον.

Lack and Satiety.

Regarding the couple χρημοσύνη and κόρος, as they are presented just as two abstract nouns without broader context, it is difficult to determine their meaning. However, Philo of Alexandria (*Spec. Leg.* I, 208, ed. 1937),¹¹ along with Hippolytus (*Ref.* IX, 9, 7, ed. 2016),¹² relate them with the Stoic notions of διακόσμησις and ἐκπύρωσις respectively. This association might lead one to interpret the pair χρημοσύνη and κόρος as representing cosmogonical cycles, with κόρος ultimately denoting the stage of cosmic conflagration. Furthermore, κόρος was traditionally linked with ὕβρις, suggesting a transgression of the cosmic order, such as in conflagration (Robinson 1987, p. 127). Nevertheless, the fragment by itself does not show any explicit relation to fire. Additionally, both Philo and Hippolytus may have probably been relying upon a Stoic source that might have interpreted the fragment of Heraclitus in a conflagrationist way.

On the other hand, the opposites χρημοσύνη and κόρος of B65, according to Plutarch in *De E* 389C, who follows an astronomical interpretation, represent cosmic cycles associated with the seasons:

But since the time of the periods is not equal in these transformations, but that of the one which they call “Satiety” (κόρον) is longer, and that of “Lack” (χρημοσύνην) shorter, they observe the proportion and use the paean for sacrifices the other part of the year; but when winter begins, by ceasing the paean and awakening the dithyramb, they invoke the god during three months, believing that, as three is to one, so is the temporal relation of the cosmic arrangement (τὴν διακόσμησιν) to the conflagration (τὴν ἐκπύρωσιν).¹³

¹¹ ὄπερ οἱ μὲν κόρον καὶ χρημοσύνην ἐκάλεσαν, οἱ δ’ ἐκπύρωσιν καὶ διακόσμησιν·

¹² καλεῖ δὲ (sc. Ἡράκλειτος) αὐτὸ (sc. τὸ πῦρ) χρημοσύνην καὶ κόρον· χρημοσύνη δὲ ἔστιν ἢ διακόσμησις κατ’ αὐτόν, ἢ δὲ ἐκπύρωσις κόρος.

¹³ ἔπει δ’ οὐκ ἴσος ὁ τῶν περιόδων ἐν ταῖς μεταβολαῖς χρόνος, ἀλλὰ μείζων ὁ τῆς ἐτέρας ἢν κόρον καλοῦσιν, ὁ δὲ τῆς χρημοσύνης ἐλλάτων, τὸ κατὰ λόγον τηροῦντες ἐνταῦθα τὸν μὲν ἄλλον ἐνιαυτὸν παιᾶνι χρῶνται περὶ τὰς θυσίας, ἀρχομένου δὲ χειμῶνος ἐπεγείραντες τὸν διθύραμβον τὸν δὲ παιᾶνα καταπαύσαντες τρεῖς μῆνας ἀντ’ ἐκείνου τοῦτον κατακαλοῦνται τὸν θεόν, ὄπερ τρία πρὸς <ἐννέα>, ἐν τούτῳ τὴν διακόσμησιν οἴομενοι χρόνῳ πρὸς τὴν ἐκπύρωσιν εἶναι. My own translation is based partially in Babbitt 1936. The passage is also relevant as it shows that διακόσμησις and ἐκπύρωσις are not equal to χρημοσύνη and κόρος, but rather they share the same proportion of occurrence within a certain temporal lapse. While χρημοσύνη and κόρος hold the proportion 1:3 within a year, διακόσμησις and ἐκπύρωσις hold the same proportion, but in larger periods of time (χρόνων μακρᾶς περιόδου, *SIF* 2.620).

Moreover, the pair χρησιμοσύνη and κόρος of B65, which can be equated to the couple λιμός and κόρος in B67, meaning respectively “hunger and satiety”, may more accurately reflect the process of nourishment of the sun through the exhalations, which, according to the theory of ἀναθυμιάσεις traditionally attributed to Heraclitus (*Meth.* II 354b 33-4, ed. 1952; *Pr.* 934b 33-36, ed. 2011; D.L. IX 9-10, ed. 1925; *Aet.* II 17, 1; II 20, 6; II 28, 7, ed. 2020), governs the cycle of days and seasons.¹⁴

Nevertheless, although the astronomical interpretation seems to slightly outweigh the cosmogonical reading, particularly due to its likely alignment with the Heraclitean theory of exhalations, the sole attestation of the couple χρησιμοσύνη and κόρος, without any further context (or any connection with fire), is too brief and fragmentary to yield any conclusive interpretation regarding its meaning (Robinson 1987, p. 126). Whether the fragment points to a cosmogonical process or a seasonal cycle remains unresolved, and adopting a sceptical position is the most prudent scholarly decision.

Analysis B30

Κόσμον,¹⁵ τὸν αὐτὸν ἀπάντων,¹⁶

¹⁴ For more details about the exhalation theory, see Mouraviev 2008, pp. 331-334, and Mansfeld 2015, pp. 68-71.

¹⁵ There are three potential translations for the term κόσμος: i) world (Vlastos 1955, p. 345); ii) order, arrangement (Kahn 1979, p. 45; Finkelberg 1998b, pp. 115-116); iii) the (outer) heaven: τὴν τῶν ὄλων περιοχὴν, *Aet.* II 1, 1 from Pythagoras; καὶ τὸν οὐρανὸν πρῶτον ὀνομάσαι κόσμον καὶ τὴν γῆν στρογγύλην, D.L. VIII 48 from Pythagoras, see Finkelberg 1998b, pp. 107-108, for the interpretation of κόσμος as heaven in these previous Pythagorean passages; Ἡρακλειδῆς καὶ οἱ Πυθαγόρειοι ἕκαστον τῶν ἀστέρων κόσμον ὑπάρχειν, γῆν περιέχοντα ἀέρα τε καὶ αἰθέρα ἐν τῷ ἀπειρῷ αἰθέρι, *Aet.* II 25, 14; ὁ περὶ τὴν γῆν ὄλος κόσμος, *Meteor.* 339a20; ἥλιος [κόσμου], *PDer. Col.* IV, 7; γῆς ἀπάσης τῆς ὑπὸ τῷ κόσμῳ κειμένης, *Isoc.* IV, 179; of any region of the universe, ὁ μετάρσιος κόσμος, *Herm. ap. Stob.* I, 49, 44; the seven planets οἱ ἐπὶ κόσμοι, *Corp. Herm.* XI, 7; κόσμος in *Epin.* 987b as the sphere of the fixed stars (Harward 1928, p. 133). Although some of the sources of iii) are late, they date back to an early period, others, such as Aristotle and Pseudo-Plato, belong to the classical period. Despite the fact that the concept iii) is not found in Ionian philosophy, but rather in the Pythagorean tradition in Italy, far away from Ephesus, Heraclitus was not unaware of Pythagoras' thought (B40).

¹⁶ The τὸν αὐτὸν ἀπάντων is omitted by Kirk 1962, pp. 308-311, and Reinhardt 1942, p. 12, mainly due to its absence in the pagan sources (Pluth. *De an. procr. in Tim.* 104a; Simp. *in Cael.* 294, 4, ed. 1894), while its singular occurrence in Clement seems suspiciously aligned with the idea of Christian universality, which advocates in favour of a more universal κόσμος (τὸν αὐτὸν πάντων), that could embrace all the people, Christians, Jews, and pagans alike, within the new religious framework of the Gospel. However, Vlastos 1955, pp. 346-347, defends it along with Betegh (February 26 2025, private communication), due to its connection with B89: Τοῖς ἐγγηγορόσιν ἓνα καὶ κοινὸν κόσμον εἶναι, τῶν δὲ κοιμωμένων ἕκαστον εἰς ἴδιον ἀποστρέφεται. Indeed, the τὸν αὐτὸν ἀπάντων might align with Heraclitus' distinction between the common world (κοινὸν κόσμον) and the private dream-worlds shown in this fragment. Furthermore, the

οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν,¹⁷
 ἀλλ' ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται πῦρ ἀείζων,
 ἀπτόμενον μέτρα καὶ ἀποσβεννόμενον μέτρα.

This *kosmos*, the same for all,
 no god nor man has made,
 but always was and is and it will be ever-living fire,
 kindling in measures and going out in measures.¹⁸

In this section, we will assess three potential interpretations of B30: a) cosmogonical, b) cosmological, and c) astronomical. I will argue that, while the cosmogonical interpretation, which presupposes conflagration, lacks solid ground, the cosmological and astronomical interpretations, which do not presuppose conflagration, offer a more robust foundation for the interpretative framework of B30.

According to the cosmogonical interpretation, B30 describes the cycle of destruction and creation of this fiery world (κόσμος) reflected in the kindling and quenching of the πῦρ ἀείζων. This interpretation subscribes to the belief that Heraclitus followed the doctrine of Universal Conflagration, and it was adopted by several authors in Antiquity, such as Iustinus (*Apol.* I, 60, 8, ed. 2018), Clement of Alexandria (*Strom.* V, 103, 6, ed. 1994), and Simplicius (*in Cael.* 294, 4, ed. 1894). However, this cosmogonical interpretation exhibits certain shortcomings.

1.a First, the notion of destruction of the κόσμος appears to contradict the eternity of the ever-living fire (πῦρ ἀείζων), which “always was, is and will be” (ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται). This tension has already been observed by Kirk 1962, p. 308, and Christidis 2009, pp. 33-34. However, the Stoics appear to have reconciled Heraclitus’ statement with conflagration by asserting “that κόσμος here means not the particular world we see and live in, which is subject to conflagration, but the all-embracing world, or pattern of existence, within which phases of διακόσμησις and ἐκπύρωσις take place” (Kirk 1962, p. 308). In this sense, κόσμος is not a particular state or configu-

title of one of Heraclitus’ (alleged) works, κόσμον ἓνα τῶν ζυμπάντων (= D.L. IX, 12), resembles that part of the fragment (Dilcher 1995, p. 54, n. 2). However, this connection has been questioned due to uncertainties surrounding the authenticity of some parts of B89’s: Finkelberg 1998b, p. 117, considers the use of κόσμος in B89 a later gloss, and Kirk 1962, p. 313, similarly argues that “the first part of fr. 89 is a paraphrase by Plutarch”. Finally, the observation of Dilcher 1995, p. 54, n. 2, is pivotal for our discussion, as he interprets in a very compelling way that the τὸν αὐτὸν ἀπάντων is not as “an addition to, but a variant of τόνδε”.

¹⁷ “No god or man means absolutely no one at all” (Gigon 1935, p. 55; Kirk 1962, p. 311). In addition, the sentence might convey the idea that the explanation of the origin of the κόσμος is not justified by appealing either to mythological traditions that advocate for a creation by the gods (θεῶν) or to the cosmogonic narratives made by the poets (ἀνθρώπων).

¹⁸ Translation based mostly on Marcovich 1967, p. 268.

ration of the universe, which can be subject to destruction, but the whole order (κόσμος) of the universe, which ceaselessly alternates between stages of equilibrium between the elements (διακόσμησις) and periods of fire's excess (ἐκπύρωσις). While these stages of the universe are subject to corruption, the overall pattern or order (κόσμος) underlying them remains intact. Under this sense of κόσμος, conflagration can still be plausibly ascribed to Heraclitus as it does not disrupt the eternity of the πῦρ ἀείζωον.

However, even if we adopt this meaning of κόσμος, the proportionality expressed by the μέτρα in B30 seems to challenge the idea of conflagration. Indeed, if the proportion (μέτρα) of the kindling is total, as we would suppose in conflagration, where *everything* transforms into fire, by implication, the proportion (μέτρα) of the quenching should also be total, and no fire would remain left in the universe. Nonetheless, this would be impossible if we assume that the fire is truly “ever-living” (ἀείζωον). Betegh & Piano 2019, p. 211, better illustrate this argument in the following way:

Indeed, if flaring up referred to a total *ekpyrosis*, by parity of reasoning, quenching would refer to a state in which all fire in the cosmos gets extinguished. Not only is this a highly unlikely scenario in Heraclitus' cosmos, but it seems to go against the very idea of the everliving fire, πῦρ ἀείζωον, as expressed in B 30 itself.

Moreover, Verdenius 1975, p. 2, highlights that the present participles (ἀπτόμενον and ἀποσβεννύμενον) confirm that the fire “is never completely extinguished” and a kindling and quenching *by measures* (μέτρα) could also imply that “the fire is never *quite* extinguished” (Kirk 1962, pp. 317-318). Furthermore, the transformation of fire *by measures* (μέτρα) also suggests a non-conflagrationist perspective. Indeed, regarding fire, “the everlasting maintenance of balance (μέτρα) in its changes” (Guthrie 1962, p. 456, n. 1) excludes the possibility of an outbalanced disruption of the cosmic order, such as conflagration, which could barely be called “κόσμος” (*incorr. Mund.* 87).

1.b Moreover, it is striking that a fragment which could easily be interpreted as referring to Universal Conflagration is only attested twice in Stoic sources¹⁹ without any direct connection to this event. The first attestation occurs in Marcus Aurelius *Med.* VII, 9: “For all things are arranged together and adorn the same cosmos (τὸν αὐτὸν κόσμον); for there is one cosmos from all things, and one god through all things, and one substance, and one law, one logos common to all rational beings, and one truth”.²⁰ The second one appears in Cleanthes' *Hymn to Zeus* (10), where he speaks of

¹⁹ According to the critical edition of Marcovich.

²⁰ συγκατατάετακται γὰρ καὶ συγκοσμεῖ [sc. πάντα] τὸν αὐτὸν κόσμον· κόσμος τε γὰρ εἷς ἐξ ἀπάντων, καὶ θεὸς εἷς δι' ἀπάντων, καὶ οὐσία μία, καὶ νόμος εἷς, λόγος κοινὸς πάντων τῶν νοερῶν ζῶων, καὶ ἀλήθεια μία.

the “double-edged thunderbolt of ever-living fire (πυρόεντα ἀείζωοντα)”.²¹ While Marcus Aurelius’ reference emphasizes the unified constitution of the universe, resonating with the Heraclitean phrase τὸν αὐτὸν [sc. κόσμον] ἀπάντων in B30, Cleanthes’ passage attributes to the thunderbolt the same quality of being “everliving” (ἀείζωον) that is ascribed to the πῦρ of B30; however, these references do not offer any clues that might suggest a link to conflagration.

Given the aforementioned shortcomings, it is preferable to adopt an alternative interpretation. According to the cosmological reading, supported by Kirk 1962, pp. 307-324, Reeve 1982, p. 303, and Plutarch *De E* 389A, B30 reflects the order (κόσμος) of the transformations of fire into the other elements represented in B31 and B36. The relevant fragments for the argumentation are presented below.

B31

Πυρὸς τροπαὶ
 πρῶτον θάλασσα,
 θαλάσσης δὲ τὸ μὲν ἥμισυ γῆ,
 τὸ δὲ ἥμισυ πρηστήρ (...)
 [Γῆ] θάλασσα διαχέεται
 καὶ μετρέεται εἰς τὸν αὐτὸν λόγον,
 ὁκοῖος πρόσθεν ἦν ἢ γενέσθαι γῆ.

Turnings of fire:

first sea,
 and of sea, half becomes earth
 and half fiery wind (prester) (...)
 Sea is poured out [from earth]
 and measured in the same proportion
 as it was before becoming earth.

B36

Ψυχῆσιν θάνατος ὕδωρ γενέσθαι,
 ὕδατι δὲ θάνατος γῆν γενέσθαι
 ἐκ γῆς δὲ ὕδωρ γίνεται,
 ἐξ ὕδατος δὲ ψυχή.

For souls it is to die to become water,
 for water it is to die to become earth,
 from earth water is being born,
 from water soul.²²

²¹ Translation by Long & Sedley 2012.

²² Translation by Betegh 2007.

2.a First, the main argument in favour of the cosmological interpretation of the fragment is the connection between μέτρα in B30 and μετρέεται in B31, which suggests that μέτρα should be understood in quantitative terms as the *proportion* of the elements that are undergoing transformation within the cosmological cycle (Kirk 1962, p. 318; Marcovich 1967, pp. 271-272) or, alternatively, as the *proportion* of time during which this transformation takes place. In this sense, μέτρα in B30 can be regarded as a synonym of the λόγος in B31. It is also important to emphasize that the phrase μετρέεται εἰς τὸν αὐτὸν λόγον rules out the possibility of any transformation that exceeds the appropriate proportion (μέτρα) of changes, such as conflagration, where the conversion of all elements into fire surpasses the natural limit.

2.b Secondly, some scholars have suggested an intrinsic connection in content between B30 and B31 due to the proximity of both fragments in the quotation by Clement of Alexandria, where they are linked through the phrase μηνύει τὰ ἐπιφερόμενα (Kirk 1962, p. 316; Marcovich 1967, p. 286). Since there is little doubt that B31 should be interpreted other than cosmologically, while the interpretation of B30 remains under discussion, the cosmological interpretation of B31 could be extended to B30. However, textual proximity does not necessarily entail conceptual or thematic continuity.

These arguments strengthen the support for a cosmological reading of B30. Nevertheless, this interpretation does not exclude certain objections.

2.i If we follow the logic of the argument 2.a, namely, revealing the meaning of μέτρα in B30 through its closest concept within Heraclitus' framework, we ought to appeal to the meaning of μέτρα in B94 instead of turning to the verbal form μετρέεται in B31. Since the μέτρα of B94 probably do not depict a proportion in quantitative terms, but rather the limits of the sun's orbit, as we have seen above in the analysis of B94, B30 should be interpreted in a sense other than the cosmological.

2.ii It remains uncertain whether the πῦρ ἀείζωον in B30 refers to the same fiery element mentioned in B31 and B36. Kirk 1962, p. 317, supports a distinction between two kinds of fire in Heraclitus, an immortal and a terrestrial fire, although, as Vlastos 1955, p. 362, notes, Heraclitus himself never explicitly introduces such a differentiation.²³ However, one might argue that this distinction is implicit in Heraclitus' thought. Indeed, it would certainly be odd to claim that the immortal πῦρ ἀείζωον of B30 is the same as the fiery element that suffers death (θάνατος) by the transformation into water in B36, a fire that is likely the same that undergoes changes in

²³ According to Vlastos 1955, p. 362, the distinction between two kinds of fire is attested for the first time in Plato *Phil.* 29B-30B. This distinction is later attested in Stoicism: "The early Stoics distinguished between fire, the eternal active principle (πῦρ τεχνικόν), and πῦρ ἄτεχνον, which is one of the four elements generated by the creative fire in its association with the eternal passive principle (ὄλη)" (Long 1975, p. 140).

B31. Nevertheless, Heraclitus never states unequivocally that these fiery elements, namely πρηστήρ and ψυχή, are identical to fire. Indeed, they can be interpreted as states within the cosmological path with a higher proportion of fire, unlike water and earth, which might have a lower proportion of the fiery element. Under this reading, the fire of B31 and B36 will never cease to exist (ἀεῖζωον), but would rather increase or decrease its proportion through the assimilation of the nature of the other elements.

Thus far, these potential objections do not suffice to dismiss a cosmological reading of B30, which remains as a plausible interpretation. Nonetheless, some evidence invites us to consider another reading of B30, which we will present in the following section.

According to the astronomical interpretation, B30 describes the changes of the cosmic fire in the heaven (κόσμος), whose manifestations as sun, moon, and the remaining ἄστρα, regulate the cycle of days and seasons. This reading seems to be supported by the following arguments.

3.a First, this idea that the ignition (ἀπτόμενον) and extinction (ἀποσβεννόμενον) of the cosmic fire represent, according to Heraclitus, the astronomical changes of the heavenly bodies, particularly the sun, is already attested in the ancient tradition. According to Simplicius *in Cael.* 294, Alexander “took the opportunity of attributing to Heraclitus the old popular idea of the sun being quenched in Okeanos and later rekindled in the east” (Kirk 1962, p. 268). Alexander, *in Meteor.*, p. 72, 31, reports: “as Heraclitus states, it (the sun)²⁴ would be new every day, but every day another would be ignited (ἐξάπτόμενος), being the first one extinguished (σβεννυμένου) at sunset”.²⁵ Olympiodorus *in Meteor.*, p. 136, 6, accounts: “For Heraclitus said that the sun, being fire, when it raises in the East, kindles (ἀνάπτεται) due to the heat there; but when it comes to the West, it is extinguished (σβέννυται) due to the cold there”.²⁶ In *Schol. in Plat. Remp.* 498 A, it is stated that:

Heraclitus of Ephesus, being a natural philosopher, said that the sun, upon reaching the western sea and sinking into it, extinguishes (σβέννυται), then passing beneath the earth and reaching the east, it reignites (ἐξάπτεται) again, and this happens perpetually.²⁷

²⁴ My parenthesis.

²⁵ ὡς Ἡράκλειτός φησι, νέος ἐφ’ ἡμέρηι ἄν ἦν, καθ’ ἐκάστην ἡμέραν ἄλλος ἐξαπτόμενος τοῦ πρώτου ἐν τῇ δύσει σβεννυμένου.

²⁶ ἔλεγεν γὰρ ὁ Ἡράκλειτος ὅτι πῦρ ὑπάρχων ὁ ἥλιος, ὅταν μὲν ἐν ταῖς ἀνατολαῖς ὑπάρχη, ἀνάπτεται διὰ τὴν ἐκείσε θερμότητα· ὅταν δὲ ἐν ταῖς δυσμαῖς ἔλθῃ, σβέννυται διὰ τὴν ἐκείσε ψύξιν.

²⁷ ὁ Ἡράκλειτος ὁ Ἐφέσιος, φυσικὸς ὢν, ἔλεγεν ὅτι ὁ ἥλιος ἐν τῇ δυτικῇ θαλάσῃ ἐλθὼν καὶ καταδὺς ἐν αὐτῇ σβέννυται, εἶτα διελθὼν τὸ ὑπὸ γῆν καὶ εἰς ἀνατολὴν φθάσας ἐξάπτεται πάλιν, καὶ τοῦτο αἰεὶ γίγνεται.

Likewise, Aetius II 20, 15, records: “Heraclitus, regarding ignition, (says that) kindling (ἔξαψιν) takes place in the east while quenching (σβέσιν) in the west”.²⁸

Although these sources are relatively late, we also have the testimony of Plato, one of our earliest sources to Heraclitus, who alludes to this idea in *Rep.* 498a, ed. 2013: “but as they become older, except for a very few, they are extinguished (ἀποσβέννυνται) far more than Heraclitus’ sun, inasmuch as they do not rekindle (ἐξάπτονται) again”.²⁹

The usage in these testimonies of the same Heraclitean terminology as in B30 strengthens the idea that the fragment refers to the kindling and extinguishing of the heavenly bodies, especially the sun.

3.b Secondly, new evidence from Philodemus’ *De Pietate*, drawn from one of the Herculaneum Papyri, seems to support an astronomical interpretation of B30. *P. Herc.* 1428, *Col.* 330, 27-29 reports:

[Heraclitus] states in his [writings/sayings = Worte (Vassallo)] that the divine fire is Zeus, the thunder (Ζ[εὺς] Κεραυνός), which governs everything and is everlasting (κάκ' ἐίζ[ωον]). And he also shows that the divine is all the contraries: night [day...].³⁰

In this passage, Heraclitus identifies the divine fire with Zeus. It is noteworthy that the adjective ἀείζωον is attributed to the Olympic deity. Since the same adjective characterizes πῦρ in B30, it is possible to make an equivalence between the πῦρ ἀείζωον and Zeus,³¹ who in other parts of the Heraclitean corpus represents the divinity most closely related to the Ephesian’s supreme principle.³² Consequently, Zeus, by having a main role in Heracli-

²⁸ Ἡράκλειτος ἄναμμα, ἐν μὲν ταῖς ἀνατολαῖς τὴν ἔξαψιν ἔχοντα, τὴν δὲ σβέσιν ἐν ταῖς δυσημαῖς.

²⁹ πρὸς δὲ τὸ γῆρας ἐκτὸς δὴ τινῶν ὀλίγων ἀποσβέννυνται πολὺ μᾶλλον τοῦ Ἡρακλειτείου ἡλίου ὅσον αὐθις οὐκ ἐξάπτονται. My translation is based primarily on that by Emlyn-Jones & Preddy 2013.

³⁰ τὸ πῦρ θ[ε]όν, ἐν οἷς φησιν ὅτι Ζ[εὺς] Κεραυνός “π[ά]ντ[α] οἰα[ί] κίζει”, κάκ' ἐίζ[ωον]· ζημ[ί]αι δὲ κα[ὶ] πάντ' ἐναντία θε[ῶ]ν [εἶ]ναι, νύκτα [καὶ] ἡμέραν... Greek from Vassallo 2018.

³¹ This relation was already suggested in Cleanthes’ *Hymn of Zeus*, where the adjective ἀείζωον was attributed to κεραυνός, an epithet of Zeus (Kirk 1962, p. 354; Vassallo 2018, p. 724, n. 15): “αἰεζώοντα κεραυνόν” (*SVP* I 537, 10) and by Hippolytus in *Haer.* IX 10, 7, where the κεραυνός was assimilated to the πῦρ αἰώνιον (Greek from Marcovich 1967), which might reflect the Christian version of the term πῦρ ἀείζωον. Additionally, Pindar in *Pyth.* I, 5 describes κεραυνός in possession of a αἰέναν πῦρ. However, it was not certain whether κεραυνός in B64 should be read as just the thunderbolt or Zeus himself. The latter interpretation now finds confirmation in *P. Herc.* 1428, *Col.* 330. Additionally, the connection of the divinity with fire was already present in “Zeno’s allegorical explanation of Vulcan (i. e. Hephaestus) as fire, *SVP* I, 169” (Long 1975, p. 142, n. 28).

³² Indeed, beyond fire, Zeus can be equated with τὸ σοφόν: “One (being), the only (truly) wise (τὸ σοφόν), is both unwilling and willing to be called by the name of Zeus” (Translation

tus' thought, may also correspond to the θεός mentioned in fragment B67.³³ Indeed, the final part of Philodemus' excerpt suggests that the divine Zeus, by encompassing the opposites as B67, can be linked with the divinity (θεός) referenced in that fragment: "He shows that the divine is all the contraries: night [day...] (πάντ' ἐναντία θε[ῖ]ον [ε]ῖναι, νύκτα [καὶ ἡμέραν...)]."³⁴ As we have seen, the θεός can be equated with the Ζ[εὺ]ς Κεραυνός. Since we have identified Ζ[εὺ]ς Κεραυνός with the πῦρ ἀείζωον of B30 through *P. Herc.* 1428, *Col.* 330, 27-29, the ever-living fire can likewise be identified with the θεός in B67.³⁵ Then, the pair of opposites of B67, which identify with the shifting nature of the θεός, could reflect the transformations of the ever-living fire.

Thus far, we have observed an equivalence between θεός (B67) = Ζ[εὺ]ς Κεραυνός (*P. Herc.* 1428, *Col.* 330, 27) = πῦρ ἀείζωον (B30), suggesting that the pair of opposites mentioned in B67 might represent changes of fire. I will now show that these opposites, which depict changing states of fire, may be interpreted as meteorological cycles of days and seasons. If this proves to be valid, it might confirm that meteorological cycles, expressed through the opposites in B67 as facets of the god, can be ascribed to the πῦρ ἀείζωον, providing ground for an astronomical interpretation in B30.

The key fragment for our argumentation is the following.

by Marcovich 1967). Although the fragment may appear confusing due to its striking contradiction, I follow Marcovich's interpretation (1967, p. 446) that it reflects a "conflict between the religious mentality and the philosophical thought (...) In the one sense, the divine principle, the only truly wise being, could be called by the name of Zeus, because he is the supreme principle (...): the wise Steersman of the world-processes and the powerful Shepherd and Judge of the mankind too (...). In the other sense, he could hardly be called Zeus (...) weil Zeus allzusehr mit dem Mythos durch Homer belastet ist (Gigon)". In this sense, Zeus, as a supreme principle, can be identified with τὸ σοφόν, but his mythological figure, characterized by lust, deceit, and impulsiveness, would hardly be identified with τὸ σοφόν. Moreover, the equivalence between the Olympian god and the supreme principle of Heraclitus is bolstered by the relationship between Zeus and πόλεμος. Indeed, πόλεμος is depicted (B53) as "father and king of everything", which are attributes easily transferable to Zeus. This suggestion is further confirmed by later sources "War and Zeus (πόλεμον καὶ τὸν Δία) are the same, as also Heraclitus says" (καὶ τὸν πόλεμον καὶ τὸν Δία τὸν αὐτὸν εἶναι, καθάπερ καὶ τὸν Ἡράκλειτον λέγειν, *SFV* 2.636).

³³ The fragment is displayed a little further down.

³⁴ Clear lexical correspondences can be established between B67 and *P. Herc.* 1428, *Col.* 330, 27-29: ὁ θεός = θε[ῖ]ον; ἡμέρη εὐφρόνη = νύκτα [καὶ ἡμέραν...; τάναντία ἅπαντα = πάντ' ἐναντία.

³⁵ This was already insinuated by Marcovich 1967, p. 416, and Verdenius 1975, p. 4, but this new evidence seems to confirm it since "In der Tat rechtfertigt genau die Gleichsetzung von Gott und Feuer die folgende theologische These der Koinzidenz der Gegensätze in Gott und der physiologischen Gleichstellung mit der Veränderung des Feuers, sobald es in Kontakt mit den verschiedenen Räucherwerken kommt" (Vassallo 2018, p. 726). In addition, the reading of Vassallo 2018, p. 722, also equates Zeus and πῦρ ἀείζωον with the κεραυνός of B64.

Analysis B67

ὁ θεός
 ἡμέρη εὐφρόνη, χειμῶν θέρος,
 πόλεμος εἰρήνη, κόρος λιμός,
 (τάναντία ἅπαντα, οὗτος ὁ νοῦς)
 ἀλλοιοῦται δὲ ὄκωσπερ <πῦρ>,
 ὁπότεν συμμιγῆ θυώμασιν,
 ὀνομάζεται καθ' ἡδονὴν ἐκάστου.

God
 is day and night, winter and summer;
 war and peace, satiety and hunger;
 and he takes various shapes (or undergoes alteration) / just as fire does,
 which, when it is mingled with spices,
 is named according to the scent of each of them.³⁶

At least the first two pairs of opposites, ἡμέρη-εὐφρόνη and χειμῶν-θέρος, clearly suggest that Heraclitus is talking about meteorological cycles regulated by the cosmic fire. Regarding the third pair, κόρος-λιμός, we have already seen above in the analysis of B65 that, due to their connection with the opposites κόρος and χρῆσιμος in that same fragment, they can be linked with the cosmic cycles of the seasons, according to Plutarch's testimony (*De E* 389C).

However, the remaining pair of opposites, πόλεμος and εἰρήνη, poses a more intricate interpretative challenge. On the one hand, Finkelberg 1998a, pp. 210-213, argues that the couple should be interpreted in a cosmogonical way following the reading of Diogenes Laertius IX, 8, which interprets them as cosmic cycles: "Of the opposites that which tends to birth or creation (γένεσιν) is called war and strife (πόλεμον καὶ ἔριν), and that which tends to *ekpúrōsin* (ἐκπύρωσιν) is called concord and peace (ὁμολογίαν καὶ εἰρήνην)". However, the supremacy of πόλεμος's nature depicted in B53 undermines Diogenes' attribution of cosmic cycles to Heraclitus. According to B53, πόλεμος, as "father and king", would be the ruler principle of the κόσμος. Since both adjectives can be easily attributed to Zeus, then πόλεμος can finally be equated to the divinity of B67 (θεός), an assumption confirmed by *P. Herc.* 1428, cols. VII.3-VIII.13 27-30 and *SVF* 2.636, which state that "the war and Zeus (πόλεμον καὶ τὸν Δία) are the same, as Heraclitus also says".³⁷ According to Vasallo's interpretation of *P. Herc.* 1428, Kol. 330, 27-29 seen above, the θεός of B67 (= πόλεμος of B53) can ultimately be linked to the πῦρ ἀεὶζῶον of B30. If we accept that fire represents

³⁶ Translation by Marcovich 1967.

³⁷ καὶ τὸν πόλεμον καὶ τὸν Δία τὸν αὐτὸν εἶναι καθάπερ καὶ τὸν Ἡράκλειτον λέγειν.

the principle of conflict (πόλεμος), then the event of conflagration, where all things are transformed into fire, cannot coherently be related to peace. Even more, it would be inconsistent to posit a time of peace in a κόσμος ruled by conflict. Therefore, to understand πόλεμος and εἰρήνη as cosmic cycles cannot rightly reflect Heraclitus' doctrine, as Diogenes believes.

Finally, Finkelberg 2017, p. 50, uses Olympiodorus' passage as an argument to defend ἐκπύρωσις: “‘Fire is a beginning (ἀρχή) because the totality of things is from it; and it is an end (τέλος) because the totality of things is resolved into it’; Olymp. *in Mete.* 118.28: ‘... according to Heraclitus who said that the world’s end (τέλος) is to be burnt’”. And also Hesychius' gloss: “the shift from ‘war’ to ‘peace’ can only mean obliteration of the world, a deduction which is confirmed by Hesychius' gloss: ‘Peace: satiety, end (εἰρήνη: κόρος, τέλος)’” (Finkelberg 2017, p. 50). However, this evidence can barely refer to conflagration. Since conflagration consists in a process of successive changes of fire, there could not be an end (τέλος) of the process. Additionally, Hesychius is a relatively late Christian source (V-VI century AC), which further complicates its application to the Pre-Socratic context. Therefore, the conflagrationist interpretation of πόλεμος and εἰρήνη does not seem to rely on solid grounds.

On the one hand, the pair πόλεμος and εἰρήνη can offer an astronomical interpretation. Indeed, εἰρήνη is considered one of the cosmic Greek cycles (ῥοαί), alongside εὐνομία and δίκη (Hes. *Th.* 901, ed. 2006). On the other hand, one of the ῥοαί, δίκη, is, according to B80 of Heraclitus, equated with ἔρις: “One must know that war is common and *strife is justice* (δίκην ἔρις) and that all things come to pass by strife and necessity”.³⁸ Since ἔρις shares almost the same meaning as πόλεμος and is explicitly linked to it as attested in D.L. IX, 8: “Of the opposites that which tends to birth or creation is called war and strife” (πόλεμον καὶ ἔρις),³⁹ then the season δίκη can be correlated with πόλεμος. Therefore, πόλεμος and εἰρήνη might represent different cycles of the cosmic fire.

Why did Heraclitus choose the term πόλεμος instead of ἔρις or δίκη in B67? The choice of δίκη seems unlikely, as it does not evidently express a nature opposite to peace. In fact, δίκη and εἰρήνη might not only fail to function as opposites, but even verge on synonymy if not properly contextualized, as, for instance, in B80. Moreover, it is improbable that Heraclitus would have employed δίκη to denote the season of conflict, since it more aptly reflects the abstract figure of justice (as seen in B23 and B28) than a cosmic season. Therefore, why did he choose πόλεμος instead of ἔρις? I

³⁸ This relation is also bolstered by *De Is.* 370D, ed. 1936, where Plutarch quotes a series of Heraclitean fragments related to conflict (B53, A22). B94 is included in these series, however, its appearance would be odd if Δίκη did not have an adversarial meaning.

³⁹ Τῶν δὲ ἐναντίων τὸ μὲν ἐπὶ τὴν γένεσιν ἄγον καλεῖσθαι πόλεμον καὶ ἔρις.

would suggest that the choice was driven in part by the stylistic symmetry of the fragment. Πόλεμος mirrors εἰρήνη in syllabic structure, just as each word in the pair ἡμέρη-εὐφρόνη at the beginning of the fragment is metrically balanced. This concern for symmetry might also explain Heraclitus' use of εὐφρόνη, which can mirror ἡμέρη, rather than the more common νόξ, as well as his preference for λιμός, which stands in parallel to κόρος, instead of χρησιμοσύνην from B65, to denote the final stage of the last pair of the opposites.

Another alternative reading of the opposites πόλεμος-εἰρήνη and κόρος-λιμός is to interpret them as effects of the meteorological changes of fire, which would finally rule over as the cause of them. On the one hand, while war (πόλεμος) takes place during the day (ἡμέρη), during night (εὐφρόνη) peace (εἰρήνη) domains. On the other hand, while during summer (θέρος) there is satiety (κόρος) due to the prosperous harvest, during winter people suffer starvation (λιμός). In this sense, the cycles of the heavenly fire control human affairs, such as war periods and alimentation stages. Although this interpretation is cogent, it must face the shortcoming that it does not follow the quaiastic structure of the fragment.

3.c Finally, a closer examination of the term μέτρα in B30 lends further support to the astronomical interpretation. The closest concept to the μέτρα of B30 within Heraclitus' framework is not, as held by the cosmological reading, its verbal form μετρέεται in B31, but rather the μέτρα found in B94. As discussed above in the analysis of B94, μέτρα in this fragment depicts the circuit of the sun marked by the dawn and the twilight. Taking into account this meaning of μέτρα, then the kindling and quenching of the πῦρ ἀείζωον by μέτρα in B30 might represent the rise and decline of the cosmic fire, especially of the sun.

However, one might claim against this interpretation that B6, which states that “the sun is new every day” (ὁ ἥλιος νέος ἐφ' ἡμέρη ἐστίν), contradicts the eternity of the πῦρ ἀείζωον of B30. Indeed, it is reasonable to assume that a sun, which extinguishes during night, cannot be equated with the ever-living fire, which, due to its equivalence with the θεός of B67 mentioned above, would not only embrace the day (ἡμέρη) but also the night (εὐφρόνη, B67). However, I might argue, the πῦρ ἀείζωον is not strictly the sun, but rather the fiery source of the sun (and all other ἄστρα). This might find support in the following passage:

The ever-living fire (ἀείζωον πῦρ) is attributed to Hestia because it also seems to be a being, and indeed, since all the fires in the *kosmos* (heaven?) (τὰ πυρὰ τὰ ἐν κόσμῳ πάντα) are nourished from here (Cornut. *Theol. Gr.* 28, 13, ed. 2018).⁴⁰

⁴⁰ τὸ δ' ἀείζωον πῦρ ἀποδέδοται τῇ Ἑστία διὰ τὸ καὶ αὐτὸ δοκεῖν εἶναι ὄν, τάχα δ' ἐπεὶ τὰ πυρὰ τὰ ἐν κόσμῳ πάντα ἐντεῦθεν τρέφεται.

In this passage, if we interpret τὰ πῦρὰ τὰ ἐν κόσμῳ πάντα as the heavenly bodies, then the πῦρ ἀείζων seems to be the nourishing source of the ἄστρα. Furthermore, this ever-living fire (ἀείζων πῦρ) might find some correspondence to the πῦρ κατὰ τὸν κόσμον of Anaximander (A11) from which the celestial bodies come to be.⁴¹ Additionally, this idea finds support in Pl. *Crat.* 413B5, ed. 1926, where it asserts that the sun administers all things (ἐπιτροπεύειν τὰ ὄντα). According to Kahn 1979, p. 156: “the term for ‘administer’, *epitropeuein*, means literally ‘to rule in another’s name’, ‘to rule as governor or viceroy’. It is a good Ionic form and could have been used by Heraclitus”. In this sense, the sun would be ruling on behalf of the πῦρ ἀείζων, serving in the preservation of the cosmic order.

It can also be argued that not only is the sun an agent of the πῦρ ἀείζων, but the ἄστρα as well through B99: “If there were no sun, due to the other ἄστρα, it would be night” (Εἰ μὴ ἥλιος ἦν, ἔνεκα τῶν ἄλλων ἄστρων,⁴² εὐφρόνη ἂν ἦν). This fragment conveys the idea that even without the presence of the sun, the cosmic cycle of the fire described in B67, which embraces εὐφρόνη, would still prevail through the illumination of the other ἄστρα, whether the moon⁴³ or the remaining heavenly bodies. Although not as powerful as the sun’s light, the other ἄστρα, as manifestations of the πῦρ ἀείζων, would provide the remaining light to illuminate the universe. On this interpretation, the πῦρ ἀείζων would never end its appearance in the

⁴¹ “And the ἄστρα come to be a circle of fire, separated from the cosmic fire, and enclosed by air” (τὰ δὲ ἄστρα γίνεσθαι κύκλον πυρός, ἀποκριθέντα ἐκ τοῦ κατὰ τὸν κόσμον πυρός, περιληφθέντα δ’ ὑπὸ ἀέρος).

⁴² Kirk 1962, p. 163, claims that ἔνεκα τῶν ἄλλων ἄστρων is an addition of Plutarch, while Diels in Marcovich 1967, p. 324, Burnet 1892, p. 135, and Marcovich 1967, pp. 324-325, advocate for its authenticity within the fragment. In support of this position, one could argue that if B99 was only limited to expressing the words: Εἰ μὴ ἥλιος ἦν, εὐφρόνη ἂν ἦν, its meaning would be trivial, and we would agree with Kirk 1962, p. 165, that “this can scarcely be intended as a piece of significant astronomical observation”. However, a fragment with such a seemingly insignificant meaning would hardly have been preserved by the tradition unless it conveyed a deeper, more profound meaning beyond the obvious, evident fact that, without the sun, there would be night.

⁴³ The common presocratic view is that the light of the moon depends on the sun. Here are some Presocratic authors, who subscribe to this position: Anaximander (A1), although against A22; Anaximenes (A16, A18); Anaxagoras (*Cra.* 409b; B18); Empedocles (B42, B43, B47); Parmenides (B14, B15, *Aet.* II. 26.2); Democritus (*Fac. lun.* 929c). Against this position, Xenophanes (A43). However, in the case of Heraclitus, the source of the moon’s light does not come from the sun, but rather from the exhalations (*Aet.* II 28, 6; D.L. IX 10). The thesis is relevant since, if the moon’s light depends on the sun, the celestial body, despite its absence, would still exert its “ever-living” influence in the cosmic order through the moon, thereby allowing it to be identified with the πῦρ ἀείζων. Nevertheless, even if we accept that the moon has no light by itself, that does not jeopardize our argument since “τῶν ἄλλων ἄστρων” include other ἄστρα, whose light does not depend on the sun. In fact, Anaxagoras *Meteor.* 345a25, ed. 2007, supported the view that the ἄστρα have light of their own.

celestial realm, explaining why the cosmic light would “never set” (B16).⁴⁴ This also explains the criticism addressed to Hesiod in B57: “Teacher of most (people) is Hesiod: they are confident that he knew most things, a man who did not recognize day and night (ἡμέρην καὶ εὐφρόνην). For they are one”.⁴⁵ In this fragment, both ἡμέρη and εὐφρόνη may represent two different manifestations of the same πῦρ ἀείζωον.

Ultimately, since the πῦρ ἀείζωον is not strictly identical to the sun, the statement of B6 would not undermine the astronomical interpretation of B30. Rather, it provides a deeper and more significant perspective on it. Indeed, it leads to the recognition that the kindling and quenching of the πῦρ ἀείζωον does not exclusively refer to the dynamic phases of the sun, but also to those of the other ἄστρα, thereby sustaining the ever-living order of the πῦρ ἀείζωον.

So far, we have considered three potential readings of B30: a) cosmogonical, b) cosmological, and c) astronomical. While a) presents certain shortcomings that prevent us from fully supporting this interpretation, b) and c) are not only plausible, but also find a more solid ground within Heraclitus’ framework. Since only a) presupposes a belief in Universal Conflagration, while the more satisfactory interpretations b) and c) do not, it is unlikely that this doctrine can be derived from B30.

Analysis B66

πάντα γὰρ τὸ πῦρ ἐπελθὼν
κρινεῖ καὶ καταλήψεται.

For the fire, by coming over,
judges and will condemn everything.

Before proceeding with the analysis of this fragment, it is essential to deal first with the allegation that B66 is a forgery (Reinhardt 1942, p. 22; Kirk 1962, pp. 359-361). Several factors have led scholars to question its authenticity, despite potential replies to these doubts:

- a) The fragment is attested exclusively in a single citation by Hippolytus, with no other ancient source offering any mention or report of it. However, there are other fragments only quoted once, whose authenticity has not been challenged (for instance, B17, B34, B59, B63, B72, B81, among others).

⁴⁴ “How could anyone ignore what never sets?” (τὸ μὴ δύνόν ποτε πῶς ἂν τις λάθοι;).

⁴⁵ Διδάσκαλος δὲ πλείστων Ἡσίοδος· τοῦτον ἐπίστανται πλείστα εἰδέναι, ὅστις ἡμέρην καὶ εὐφρόνην οὐκ ἐγίνωσκεν· ἔστι γὰρ ἓν. My own translation is based mostly on Marcovich 1967.

- b) According to Kirk 1962, p. 360, “in this chapter of Hippolytus every quotation is followed by an exegesis, but there is no exegesis to this so-called fragment, which is in fact a further expansion of Hippolytus’⁴⁶ interpretation of κόρος in fr. 65”. However, an exception in Hippolytus’ *modus operandi* does not in itself entail a forgery.
- c) The fragment is permeated with Christian terminology, which raises the suspicion of a Christian forgery: “The verbs ἐπέρχεσθαι, κρίνειν (meaning ‘to judge’ with a direct object), and καταλαμβάνειν are all frequently used in Christian eschatological contexts [...] On the other hand, κρίνειν with the personal object meaning ‘condemn’ is rare before Christian literature [...] The diction, in fact, is un-Heraclitean and typically Christian” (Kirk 1962, p. 360). However, as Reinhardt 1916, p. 165, points out, Heraclitus uses the word καταλήγεται on another occasion (B28). Furthermore, even though the words align with Christian terminology, they do not align with its eschatological doctrine as Finkelberg 2017, p. 45, argues: “B66 has nothing to do with Christian eschatology, in which fire is not the judge but the instrument of divine judgement and the torment of the wicked, judgement is not of all things but only of human beings, and condemnation does not befall all things, nor even all humans, but only the sinful”.
- d) “Φησί in Hippolytus does not necessarily introduce a quotation, but is often explanatory and implies no more than ‘means’” (Kirk 1962, p. 359). Finkelberg 2017, p. 45, challenges this statement by observing that: “Now in Hippolytus’ section on Heraclitus φησί with direct speech occurs eleven more times, nine times between or after the words of a quotation (ix 9.2.1, 9.5.6, 9.6.1, 10.1.3, 10.2.1, 10.3.2, 10.4.2, 10.4.5, 10.5.3) and twice between the words of a paraphrase followed by the paraphrased quotation (ix 10.2.4, 10.4.1)”. Since in B66 φησί appears with direct speech between the words of the quotation, then B66 can be considered a fragment of Heraclitus. In fact, “Hippolytus’ use of ‘he says’ shows a clear and unvarying pattern and it will be a case of special pleading to contend that B66 must be considered an exception” (Finkelberg 2017, p. 45).

In sum, although the scholarly tradition has raised several concerns that cast doubt on the authenticity of B66, these concerns do not entirely undermine the authenticity of the fragment. Nevertheless, even if we accept the fragment as genuine, the Heraclitean idea of the judgment by fire seems rather unrelated to conflagration.

On the one hand, B66 can be interpreted astronomically, as Plutarch *in Plat.* 1007D-E shows:

As overseer and guardian, the sun defines, arbitrates (βραβεύειν), reveals and displays changes and seasons (μεταβολὰς καὶ ὥρας) which, according to Heraclitus,

⁴⁶ I correct the *lapsus* of Kirk 1962, p. 360, who wrote “Clement’s” when it should be “Hippolytus”.

bring all things, and turns out to be collaborator for the sovereign and primary god not in minor or trivial matters but in the greatest and most decisive.⁴⁷

The passage displays the regulation of the meteorological events by the sun. Since βραβεύειν can carry the same meaning as κρίνειν, that is, to “act as a judge” (LSJ 1968, s. v. βραβεύω, I), this passage likely indicates that the sun’s act of judging refers to its governance over the changes of the seasons. Indeed, Heraclitus could also have used ἐπελθόν and καταλήψεται in an astronomical sense. Regarding ἐπελθόν, it can denote the path of the sun through the sky:

Heraclitus of Ephesus, being a natural philosopher, said that the sun, upon reaching (ἐλθών) the western sea and sinking into it, extinguishes, then, passing beneath the earth and reaching the east, it reignites again, and this happens perpetually (*Schol. in Rep.* 498 A).⁴⁸

The passage illustrates that ἐλθών refers to the sun’s circuits; thus, the ἐπελθόν in B66 might represent the sun that is in the process of coming, but not only coming, but *coming over* the world as during the sunrise. Regarding καταλήψεται, one of its senses includes the onset of meteorological cycles of decay, particularly night and winter: “*that had befallen* [...], τῆς νυκτὸς -λαμβάνουσης as *night was coming on*, D.S. 20.86; χειμῶνος ἤδη -λαμβάνοντος Hdn.7.2.9.” (LSJ 1968, s. v. καταλαμβάνω, IV). Taking into consideration these senses of the words within the fragment, then ἐπελθόν (an aorist expressing completed action and thus anteriority) might describe the earlier sunrise, while καταλήψεται (in future) would represent the eventual sunset. Finally, κρίνειν would symbolize the sun’s constant function as overseer of the cosmic cycles, a function which can be correlated with its role of arbitrating (βραβεύειν) the seasons (*in Plat.* 1007D-E).

However, it is necessary to bear in mind that *Schol. in Rep.* 498A is not a direct quotation from Heraclitus, which leads us to remain hesitant whether Heraclitus himself used the term ἐλθών in this sense. In addition, Heraclitus already used the term καταλήψεται in a clearly judicial sense in B28, which, although it does not entirely exclude an astronomical reading in B66, might nevertheless weaken it. While these objections do not entirely rule out an astronomical interpretation, they cast doubt on its likelihood, prompting us to rely on a more suitable explanatory framework.

⁴⁷ ὢν ὁ ἥλιος ἐπιστάτης ὢν καὶ σκοπός, <τοῦ> ὀρίζειν καὶ βραβεύειν καὶ ἀναδεκνύειν καὶ ἀναφαίνειν μεταβολὰς καὶ ὥρας αἰ πάντα φέρουσι καθ’ Ἡράκλειτον (οὐ φαύλων οὐδὲ μικρῶν ἀλλὰ τῶν μεγίστων καὶ κυριωτάτων), τῷ ἡγεμόνι καὶ πρώτῳ θεῷ γίνεται συνεργός. My own translation is based in a large extent on Cherniss 1976.

⁴⁸ Greek in footnote 27.

Alternatively, B66 can also be understood through a cosmological interpretation, as supported by Kahn and Reeve, which depicts fire as the regulating principle of the transmutation of the elements described in B31 and B36. According to this view, the fire, by coming over the elements, discerns (κρίνει) the proportion (λόγος) of heat in the continual interchange between elements along the cosmological path: “Even earth is fire albeit of a very low degree of heat. Fire will ‘discern, separate, select or judge (*krinei*) all things’ (B66) because what something is is determined by how much fire it is” (Reeve 1982, p. 303). This judgment of the proportion of fire will subsequently define the fate of the elements and their next transformations: “According to the merits of the case, the seizure of a thing by fire will entail either its punishment or its reward, its promotion upwards to enhanced life or downwards to elemental death” (Kahn 1979, p. 273). This interpretation is also supported by the use of μεταβολὰς in Plutarch *in Plat.* 1007D-E, a term typically associated with cosmological changes.⁴⁹

If these arguments are not sufficiently cogent to support an alternative reading to the cosmogonical one in B66, whether an astronomical or cosmological interpretation, there are additional reasons to exclude a conflagrationist view of the fragment.

Although I am fully aware that καταλαμβάνειν can mean “befall” (LSJ 1968, s. v. καταλαμβάνω, II), depicting an eventual event of conflagration, this interpretation overlooks the verb’s explicit judicial use in B28 and disrupts the judicial meaning of the remaining verbs (ἐπέλθον⁵⁰ and κρίνει). More importantly, if we accept that the aorist ἐπέλθον can describe the fulfillment of a conflagrationist event, in which all the elements become fire, there would be nothing left afterwards for the fire to judge. The fiery judge would have nothing to judge but itself, which does not make any sense. Therefore, it is more plausible that the fragment depicts a judgement by fire, whether of the cosmological or meteorological cycle, rather than describing a cosmic destruction by fire.

Finally, the fact that the fragment is exclusively quoted by Hippolytus, and by no other source, not even among the Stoics, reinforces the view that it does not pertain to the doctrine of conflagration. If its meaning unequiv-

⁴⁹ D.L. IX 9: καὶ τὴν μεταβολὴν ὁδὸν ἄνω κάτω (B60), which refers the cosmological process of B31 (Kirk 1962, p. 107); Chrysipp. *SVF* II 413: ἐκ πυρὸς κατὰ σύστασιν εἰς ἀέρα μεταβολῆς; Chrysipp. *SVF* II 579: ἡ δὲ πυρὸς μεταβολὴ ἔστι τοιαύτη· δι’ ἀέρος εἰς ὕδωρ τρέπεται, καὶ τοῦτου γῆς ὑφισταμένης ἀῆρ ἀναθυμᾶται, λεπτυνομένου δὲ τοῦ ἀέρος ὁ αἰθὴρ περιγεῖται κύκλῳ·; Epicet. fr. 8: αὐτὰ τὰ τέτταρα στοιχεῖα ἄνω καὶ κάτω τρέπεται καὶ μεταβάλλει, καὶ τὸ ὕδωρ γίνεται καὶ ὕδωρ ἀῆρ, οὗτος δὲ πάλιν εἰς αἰθέρα μεταβάλλει, καὶ ὁ αὐτὸς τρόπος τῆς μεταβολῆς ἄνωθεν κάτω; Ocell. Lucan. 15: ἀπὸ δὲ γῆς πάλιν ἢ αὐτὴ περίοδος τῆς μεταβολῆς μέχρι πυρὸς, ὅθεν ἤρξατο μεταβάλλειν.

⁵⁰ LSJ 1968, s. v. ἐπέρχομαι, 1.d: “in Law, proceed against”.

ocally pointed towards conflagration, one would expect it to be cited by at least one Stoic author; instead, it appears only once in Hippolytus.⁵¹

CONCLUSION

In conclusion, it is possible to ascribe to Heraclitus a doctrine of cosmic fire, which proposes that fire regulates its proportion in the elements along the cosmological path or governs the days and seasons of the meteorological cycles. However, this paper has shown that this doctrine is unlikely to be related to periods of total cosmic destruction by fire at least in the fragments B94, B65, B30, B31, B67 and B66. Indeed, a close analysis of these Heraclitean fragments recently associated with the doctrine of Universal Conflagration reveals certain aspects that exclude a conflagrationist interpretation. On the other hand, alternative interpretative frameworks, whether cosmological or astronomical, offer more plausible readings for the relevant passages.

For instance, B94 explicitly denies a cosmic consummation by the sun's fire through the promise that the sun will not transgress its boundaries. Regarding B65, a sceptical stance is preferable due to the scant content of the fragment, although it slightly points to an astronomical reading. In the case of B30, cosmological or astronomical interpretations provide a firmer basis and a more coherent connection with the broader Heraclitean corpus of fragments, in contrast to the cosmogonical interpretation, which exhibits notable shortcomings. Moreover, the *μετρέεται* in B31 precludes an event of conflagration, which could exceed the proportion (*λόγος*) of changes. Regarding B67, although the pair *κόρος-λιμός* might still reflect cosmogonical changes, this has not been the case for the couple *πόλεμος-ειρήνη* due to the identification of fire with *πόλεμος*, thereby preventing the identification of conflagration with *ειρήνη*. Hence, an astronomical interpretation of the opposites in B67 has been favoured. Finally, B66, beyond its questionable authenticity, holds certain aspects which appear incompatible with the idea of conflagration, while other interpretative frameworks are more cogent.

⁵¹ This does not rule out the possibility that the fragment might have been in a Stoic source from which Hippolytus got the passage. However, this is improbable as Hippolytus seems to rely on a collection of documents, presumably with special attention to Aenesidemus' book (Osborne 1987, p. 133), rather than to a Stoic source, which seems unlikely according to Osborne 1987, p. 133, n. 4. However, against Osborne's position, in the section related to B66 (*Ref. IX 7*), Hippolytus talks about the *πῦρ φρόνιμον*, that follows the Stoic idea of a rational fire (*SVF* 1.120), and relates *χρησιμοσύνη* and *κόρος* with *διακόσμησις* and *ἐκπύρωσις*, which clearly represent Stoic terminology. Nevertheless, it is meaningless to make any definitive judgment based on hypothetical sources.

In closing, despite the apparent thematic affinity of certain fragments with conflagration, such as B30 and B66, the Stoics do not appear to have drawn any inspiration from them for the development of this doctrine.

Finally, this work has offered a new view regarding Heraclitus' doctrine of cosmic fire through the astronomical interpretation. This interpretative framework has not only provided an alternative reading to the fragments recently associated to Universal Conflagration, but also enables a broader understanding of other fragments such as B16, B57, and B99. This paper has also contributed to the study of the relationship between Heraclitus and the Stoics, by confirming Long's claim that "Heraclitus' impact upon the early Stoics was relatively insignificant" (1975, p. 137),⁵² given that the Stoics, in their treatment of conflagration, do not appear to have been notably influenced by Heraclitus' fragments.

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⁵² Cleanthes' *Hymn of Zeus* can be considered a singular exception.

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