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## Pythagorean Cosmogony and Vedic Cosmogony (RV 10.129). Analogies and Differences\*

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### Abstract

Allusions to a cosmogony contained in a Vedic hymn (RV 10.129) present striking analogies to a cosmogony attributed to the Pythagoreans by Aristotle, Simplicius and Stobaeus. The aim of the paper is to evaluate the extent to which they are similar and to which their differences respond to different cultural premises.

### Keywords

cosmogony, Pythagoreans, Philolaus, Greek philosophy, Vedic Hymns, Indian thought

### 1. Introduction

A Vedic hymn (Rig Veda [RV] 10.129) contains allusions to a cosmogony that presents striking analogies to the initial phases of the configuration of the cosmos attributed to the Pythagoreans by Aristotle, Simplicius and Stobaeus. Our knowledge of the Greek cosmogony is only partial, since no more than indirect references have survived, in authors of various times and of varied interests; the Indian cosmogony, for its part, is known to us only through a ritual hymn which makes incomplete and allusive reference

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to it. So the first aim of the present article is to reconstruct the main features of both cosmogonies from a detailed analysis of the texts. This will allow us to go on to examine and evaluate the analogies and the differences between them.

## 2. A Pythagorean Cosmogony

### 2.1. *The Evidence*

The Pythagorean cosmogony we shall consider is described in a series of testimonia from, or ultimately based on, Aristotle. These texts ascribe the cosmogony to ‘the Pythagoreans’ without further specification but, as Huffman has argued, it is quite likely that they look back to the work of Philolaus in particular (see Huffman 1993, 202-15: his argument is based on their convergence with two fragments which explicitly name Philolaus, 44 B7 and 17 DK). The texts are as follows:

T1. For they [the Pythagoreans] clearly say that, after the One was constructed, whether out of planes, or surfaces, or a seed, or out of they know not what, immediately the closest part of the unlimited ‘began to be drawn in [sc. breathed in] and limited by limit’ (φανερῶς γὰρ λέγουσιν [sc. οἱ Πυθαγόρειοι] ὥς τοῦ ἐνὸς συσταθέντος, εἴτ’ ἐξ ἐπιπέδων εἴτ’ ἐκ χοιῶδες εἴτ’ ἐκ σπέρματος εἴτ’ ἐξ ὧν ἀποροῦσιν εἰπεῖν, εὐθὺς τὸ ἔγγιστα τοῦ ἀπείρου ὅτι<sup>1)</sup> εἴλκετο καὶ ἑπεραίνετο ὑπὸ τοῦ πέρατος) (Aristotle, *Metaphysics* 1091a15-18 = 58 B26 DK).

T2. Only the Pythagoreans [sc. place the infinite] among objects of sense, since they do not regard number as separable from these, and assert that what exists outside heaven is infinite (πλὴν οἱ μὲν Πυθαγόρειοι ἐν τοῖς αἰσθητοῖς [sc. τὸ ἄπειρον] (οὐ γὰρ χωριστὸν ποιοῦσιν τὸν ἀριθμὸν), καὶ εἶναι τὸ ἔξω τοῦ οὐρανοῦ ἄπειρον) (Aristotle, *Physics* 203a6-8 = 58 B28 DK).

T3. The Pythagoreans too held that vacuum exists and that it entered heaven itself from the infinite, as if the latter had also inhaled vacuum besides breath. Furthermore, it is vacuum that distinguishes the nature of things, as if it were what separates and distinguishes the terms of a series. This holds primarily in numbers, for the vacuum distinguishes their nature (εἶναι δ’ ἔφασαν καὶ οἱ Πυθαγόρειοι κενόν, καὶ ἐπεισιέναι

<sup>1)</sup> The word ὅτι is missing in Alexander’s paraphrase, and therefore is deleted by Christ, but Burkert (1972, 36 n. 41) rightly points out that it ought not to be deleted because: ‘it shows a citation is to follow, and probably separates paraphrase from quotation.’ We agree, and take it that the following words are a literal quotation.

αὐτῷ τῷ οὐρανῷ ἐκ τοῦ ἀπείρου πνεῦμά τε<sup>2</sup> ὡς ἀναπνέοντι καὶ τὸ κενόν, ὃ διορίζει τὰς φύσεις, ὡς ὄντος τοῦ κενοῦ χωρισμοῦ τινος τῶν ἐφεξῆς καὶ [τῆς] διορίσεως· καὶ τοῦτ' εἶναι πρῶτον ἐν τοῖς ἀριθμοῖς· τὸ γὰρ κενὸν διορίζειν τὴν φύσιν αὐτῶν) (Aristotle, *Physics* 213b22-7 = 58 B30 DK).

T4. In the first book of *On the Philosophy of Pythagoras*, he [Aristotle] writes that heaven is one, and that, from the unlimited, time and breath were brought in, as well as the vacuum which distinguishes the place of each thing in each case (ἐν δὲ τῷ Περὶ τῆς Πυθαγόρου φιλοσοφίας πρώτῳ γράφει τὸν μὲν οὐρανὸν εἶναι ἓνα, ἐπεισάγεσθαι δὲ ἐκ τοῦ ἀπείρου χρόνον τε καὶ πνοὴν καὶ τὸ κενόν, ὃ διορίζει ἐκάστων τὰς χώρας αἰεὶ) (Stobaeus, *Eclogue* 1.18.1c = Aristotle, fr. 201 Rose<sup>3</sup> = 58 B30 DK).

T5. They [the Pythagoreans] used to say that the vacuum penetrates the cosmos as if the latter inhaled it or exhaled it as the breath of what surrounds it from outside (ἔλεγον γὰρ ἐκεῖνοι τὸ κενὸν ἐπεισιέναι τῷ κόσμῳ οἷον ἀναπνέοντι ἥτοι εἰσπνέοντι αὐτῷ ὥσπερ πνεῦμα ἀπὸ τοῦ ἔξωθεν περιεχυμένου) (Simplicius, *On the Physics* ix. 651.26-8 Diels).<sup>3</sup>

## 2.2. Analysis

2.2.1. What the Pythagoreans call the One is identified, according to Simplicius, with the Cosmos.<sup>4</sup> According to T1, this One has been constructed (τοῦ ἐνὸς συσταθέντος): i.e. it does not exist from the beginning, and there must have been a state before its construction.

2.2.2. The One is surrounded by the indefinite (τὸ ἄπειρον) (T2), what Simplicius in T5 calls τοῦ ἔξωθεν περιεχυμένου. It could be thought that the original formulation was τοῦ ἀπείρου ἔξωθεν περιεχυμένου 'the indefinite that surrounds it on the outside' (cf. T2: τὸ ἔξω τοῦ οὐρανοῦ ἄπειρον).

2.2.3. The One 'breathed' (εἴλκετο) (T1). The verb here (probably quoted verbatim: cf. n. 1) is an aorist, referring to a cosmogonic moment. ἔλκω in

<sup>2</sup>) πνεῦμά τε Diels : πνεύματος cod.

<sup>3</sup>) Cf. Alexander, *On the Metaphysics* i. 39.12 Hayduck. (Aristotle fr. 203 Rose<sup>3</sup>), where the Pythagoreans are said to have believed that the One was mind and substance. This passage may shed light on Aristotle's idea of the Pythagorean 'One'.

<sup>4</sup>) Aristotle, *Metaphysics* 1091a18 (ἀλλ' ἐπειδὴ [sc. οἱ Πυθαγόρειοι] κοσμοποιούσι) may indicate that the philosopher also identifies the One with the Cosmos. For the Pythagorean 'One', cf. Schibli 1996.

the sense of ‘breathing’ is a technical term,<sup>5</sup> which corresponds to ἀναπνέοντι in T3 and to ἀναπνέοντι ἥτοι εἰσπνέοντι in T5. We find a similar process described in the Hippocratic treatise *De natura pueri*, according to which the embryo develops in the womb as a seed, breathes in and is divided and articulated by the breath;<sup>6</sup> and Huffmann points out the similarities with Philolaus’ own embryology:<sup>7</sup>

Philolaus of Croton says that our bodies are constituted out of hot... Sperm is hot and this is what constructs the animal (Φιλόλαος δὲ ὁ Κρο[τωνιά]της συνεστάναι φ(ησὶν) τὰ ἡμέτερα σώμ[ατα ἐκ] θερμοῦ... τὸ σπέρμ[α (εἶναι) θερ]μόν, κατασκευαστικὸν δὲ τοῦτο τ[οῦ ζώου].

In this account, it is specifically the hot of the seed that is responsible for the articulation of the animal.<sup>8</sup> Although Aristotle does not mention ‘the hot’ in his description of the Pythagorean cosmogony, it is very important for understanding the process of respiration in other parts of his work.<sup>9</sup> The point is that the growth of the cosmos is described as that of a living being, as if it were an embryo. It is not clear whether the reference to a ‘seed’ (σπέρμα) in T1 should be understood within this context: the use of ὥς by Aristotle in T3 (ὥς ἀναπνέοντι) and of οἶον by Simplicius in T5 (οἶον ἀναπνέοντι) could lead us to think that, in the original, the ‘breathing’ of the One was merely a simile. On the other hand, the apparently verbatim quotation in T1 uses the same term, εἴλκετο, without a

<sup>5</sup> Burkert 1972, 37 and n. 46, quoting Hippocrates, *De natura pueri* 12, *De natura hominis* 5, *De flatibus* 3, *De carnibus* 6; Diogenes of Apollonia 64 A31 DK, and Empedocles 31 A74 DK.

<sup>6</sup> *De natura pueri* 17 [vii. 498 Littré]. The similarity with Pythagorean ideas was noticed by Olerud 1951, 53 ff; cf. Burkert 1972, 37 and n. 47.

<sup>7</sup> Meno ap. Anon. Lond. 18.8-13 [38 Manetti] = Philolaus 44 A27 DK. See Huffman 1993, 213 and 289-96 (the translation here is taken from 290; and see esp. 291-2 for Meno’s testimony).

<sup>8</sup> Schibli 1996, 126 n. 44 tentatively (as he says) spells out the parallel with the cosmogony: ‘The body is originally a “one”, in the sense of being solely constituted of the hot; it then draws in the cold air from outside and emits it again, thus starting the process of respiration (which is vital for cooling the body). If in this process the external air may be seen as the unlimited element, the hot is somehow the limiting element... Similarly the central fire, the one, takes on a limiting function by drawing in breath (and vacuum and time) from the unlimited, thereby initiating the further development of the cosmos.’

<sup>9</sup> See e.g. Aristotle, *De respiratione* 474a13-14: ἀναπνεύουσιν (αἶρειν δὲ τὸ θερμόν εὖλογον, ἔχειν δὲ τὸ αἷμα τὴν τοῦ θερμοῦ χώραν) κ.τ.λ.

qualifying particle, and Aristotle might have introduced ὥς in the *Physics* passage because he supposes that the inhalation of breath is ‘as if’ the One had inhaled the vacuum as well; and Simplicius might have introduced οἶον either because he thought that this explanation was philosophically sustainable only if understood as a metaphor, or because he misinterpreted Aristotle’s ὥς (or both). Stobaeus, for his part, uses a verb more suited to his own time in T4: ἐπεισάγεσθαι. But the overriding impression is that in Pythagorean cosmogony the idea was fundamental: the One breathes because it is conceived as something living.

2.2.4. Thus, something coming from the outside enters the One. According to Aristotle in T3, it is πνεῦμα... καὶ τὸ κενόν; according to Stobaeus in T4, χρόνον τε καὶ πνοὴν καὶ τὸ κενόν. Probably πνεῦμα or πνοή was the term used in the original formulation,<sup>10</sup> interpreted as vacuum by Aristotle (cf. above on his use of ὥς here). Simplicius, from the perspective of a later philosopher, transposes the terms and says that the One inhales vacuum as if it were breath (T5) – which is the opposite to what the original had said. Stobaeus adds time (T4), perhaps because in the original text the inhalation of air did not only introduce discontinuity in space, but also in time, thus making the non-time into measurable time.

2.2.5. The introduction of breath coming from the indefinite into the One generates the possibility of the One’s finding itself limited; the breath acts, that is, as a limit (πέρας and the corresponding verb ἐπεραίνεται in T1). The process is described in T3 with later terminology:<sup>11</sup> διορίζει... χωρισμοῦ τινος [this τινος seems to suggest that Aristotle was translating the original terms into his own language] καὶ διορίσεως.

The indefinite thus becomes a defining agent, and the separation of what was originally united, as Burkert pointed out, is comparable to the

<sup>10</sup> πνεῦμα (already Homeric) and πνοή (documented since Anaximenes: 13 B2 DK) are practically synonyms.

<sup>11</sup> The verb περαίνω has been recorded since Pindar, *Pythians* 10.28, πέρας/ρ since Alcaeus (350.1 Hahn: περάτων) and, in its epic form πείραρ, since Homer (*Iliad* 8.478 etc.); while διορίζω is recorded only from the fifth century (e.g. Herodotus 4.42, Sophocles, *Oedipus Rex* 723), and διόρσις since Plato (*Laws* 777b).

myths which described the separation of heaven and earth from an original 'single form' (μορφὴ μία).<sup>12</sup>

2.2.6. In conclusion, the Pythagorean cosmogony referred to by Aristotle, Simplicius and Stobaeus could be summarised as follows. In some way unknown to us, the One (τὸ ἓν) was configured inside the indefinite (τὸ ἄπειρον), so that, once it was configured, the One would be surrounded by the indefinite. The One 'inhaled' (ἐίλκετο) breath (πνεῦμα) from the surrounding indefinite. This breath, which is understood as being endowed with the properties of a vacuum, has the ability to produce separation inside the One, so that it acts as a limit (πέρας) between things that thus become differentiated. The One is hence limited by a limit (ἐπεραίνεται ὑπὸ τοῦ πέρατος), and this limitation makes multiplicity possible in spatial terms – and is probably responsible as well for the creation of time, possibly understood as a series of moments.

This reconstruction can be clearly visualised in the table on p. 38 (below) which juxtaposes the four versions. We underline what we consider to be the most probable original formulations (although it is not possible for us to choose between ἔξω or ἔξωθεν, or between πνεῦμα and πνο(ι)ή). Remaining formulations would be 'translations' of the original ones.

2.2.7. Diogenes Laertius reports a Stoic cosmogony, which he attributes to Posidonius and Antipater, and which shares many relevant concepts and terms with the Pythagorean cosmogony reported by Aristotle and Simplicius (DL 7.140 = Posidonius F8 Edelstein-Kidd):

The cosmos, they say, is one and limited, having a spherical shape... Outside is suffused the unlimited vacuum, which is incorporeal... There is no vacuum in the cosmos, but it is wholly united. For this necessarily results from reciprocal breathing and tension of the heavenly things to the terrestrial things (ἓνα τὸν κόσμον εἶναι καὶ τοῦτον πεπερασμένον, σχῆμ' ἔχοντα σφαιροειδές... ἔξωθεν δ' αὐτοῦ περιεχυμένον εἶναι τὸ κενὸν ἄπειρον, ὅπερ ἀσώματον εἶναι... ἐν δὲ τῷ κόσμῳ μηδὲν εἶναι κενόν, ἀλλ' ἡνώσθαι αὐτόν· τοῦτο γὰρ ἀναγκάζειν τὴν τῶν οὐρανίων πρὸς τὰ ἐπίγεια σύμπνοιναν καὶ συντονίαν).

<sup>12</sup> Burkert 1972, 37 and n. 42, in which he quotes Euripides, *TrGF* F484; Staudacher 1942. As Kahn points out (2001, 29): 'no distinction seems to be made here between the generation of numbers, the emergence of geometric point, and the production of sensible magnitudes. Such conceptual refinements will be the work of Plato and his associates.'

| Elements of<br>the account               | T1<br>(Aristotle)                                     | T2<br>(Aristotle)                                              | T3<br>(Aristotle)             | T4<br>(Stobaeus)                              | T5<br>(Simplicius)                 |
|------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------|-------------------------------|-----------------------------------------------|------------------------------------|
| 1. The One<br>(= Heaven);                | <u>τὸ ἓν</u> <sup>13</sup>                            | οὐρανός                                                        | οὐρανός                       | <u>τὸ ἓν</u> =<br>οὐρανός                     | κόσμος                             |
| 2. outside is the<br>indefinite;         | <u>τοῦ</u><br><u>ἄπειρου</u>                          | <u>τὸ ἔξω</u><br>τοῦ<br>οὐρανοῦ<br><u>τὸ</u><br><u>ἄπειρον</u> | <u>τοῦ</u><br><u>ἄπειρου</u>  | <u>τοῦ ἀπείρου</u>                            | <u>τοῦ ἔξωθεν</u><br>περικεχυμένου |
| 3. the One<br>inhales;                   | <u>εἴλκετο</u>                                        |                                                                | ὥς<br>ἀναπνέοντι              | ἐπεισάγεσθαι                                  | ἀναπνέοντι<br>ἦτοι<br>εἰσπνέοντι   |
| 4. vacuum and<br>breath enter;           |                                                       |                                                                | <u>πνεῦμά</u> καὶ<br>τὸ κενόν | χρόνον τε καὶ<br><u>πνοήν</u> καὶ τὸ<br>κενόν | <u>πνεῦμα</u>                      |
| 5. thus is the<br>indefinite<br>defined. | <u>ἐπεραίνετο</u><br><u>ὑπὸ τοῦ</u><br><u>πέρατος</u> |                                                                | ὁ διορίζει<br>τὰς φύσεις      | ὁ διορίζει...<br>τὰς χώρας                    |                                    |

The striking coincidences of vocabulary cannot be by chance. It seems clear that some Stoics adopted and ‘Stoicized’ the very Pythagorean cosmogony referred to by Aristotle, Simplicius and Stobaeus.

2.2.8. This same Pythagorean cosmogony has links back to Anaximander as well as forwards in the Stoics. We note only some obvious shared features: (a) Anaximander appealed to an ἄπειρον, just as our Pythagorean cosmogony does; and cf. τὸ κενὸν ἄπειρον in DL’s report of the Stoics above; (b) for Anaximander, κόσμος arises from ἄπειρον, and ἄπειρον surrounds the world:<sup>14</sup> the same occurs in the Pythagorean and Stoic accounts; (c) embryologic language in Anaximander finds an echo in Philolaus’

<sup>13</sup> The origin of this ‘One’ is not specified: cf. Aristotle, *Metaphysics* 1091a15 (T 1 above).  
<sup>14</sup> Hippolytus, *Refutatio* 1.6.1 = 12 A11 DK: οὗτος ἀρχὴν ἔφη τῶν ὄντων φύσιν τινὰ τοῦ ἀπείρου, ἐξ ἧς γίνεσθαι τοὺς οὐρανοὺς καὶ τὸν ἐν αὐτοῖς κόσμον. ταύτην δ’ αἰδίον εἶναι καὶ ἀγήρω, ἣν καὶ πάντας περιέχειν τοὺς κόσμους (‘he said the source and element of existing things was a certain nature of the boundless, from which come to be the heavens and the cosmos in them. And this is everlasting and ageless, and it also surrounds all the cosmos’).

embryology;<sup>15</sup> (d) the image of breathing present in the Pythagorean account is developed in the Stoics' πρὸς τὰ ἐπίγεια σύμπνοιαν καὶ συντονίαν. Breathing is not part of Anaximander's account, but we can find some roots of this conception in Anaximenes' πνεῦμα;<sup>16</sup> (e) Anaximander's idea of necessity is reflected both in the embryological passage reported by Meno and in the Stoic formulation.<sup>17</sup>

### 3. A Vedic Cosmogony

#### 3.1. *The Evidence*

Presenting a description of the cosmogonic conceptions of Vedic religion at its oldest stage is an almost impossible task, since Vedic hymns are texts written to accompany ritual, and do not present a systematic cosmogony.<sup>18</sup> The cosmogony we consider here is found in a group of hymns belonging to the most recent parts of the Rig Veda, books 1 and 10. (We do not know the date of composition, but it must have been before 800 BC.)<sup>19</sup>

<sup>15</sup> For Anaximander, see ps.-Plutarch, *Stromateis* 2 = 12 A10 DK: φησὶ δὲ τὸ ἐκ τοῦ ἰδίου γόνιμον θερμοῦ τε καὶ ψυχροῦ κατὰ τὴν γένεσιν τοῦδε τοῦ κόσμου ἀποκριθῆναι καὶ τινα ἐκ τούτου φλογὸς σφαῖραν περιφυῆναι τῷ περὶ τὴν γῆν ἀέρι ὡς τῷ δένδρῳ φλοῖον ('he says that that part of the everlasting which is generative of hot and cold separated off at the birth of this cosmos and out of this a sort of sphere of flame grew around the air surrounding the earth like bark round a tree'). Cf. Baldry 1932, 29-30; Guthrie 1962, 90-1. For Philolaus, see Huffman 1993, 289-306.

<sup>16</sup> Anaximenes, 13 B2 DK: οἶον ἢ ψυχὴν, φησὶν, ἢ ἡμετέρα ἀήρ οὐσα συγκρατεῖ ἡμᾶς, καὶ ὅλον τὸν κόσμον πνεῦμα καὶ ἀήρ περιέχει ('as our soul, he says, which is air, controls us, so the breath and air encompass the whole cosmos').

<sup>17</sup> Anaximander 12 B1 DK: καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι κατὰ τὸ χρεών ('into them too does destruction place, according to that must be'). Meno ap. Anon. Lond. 18.19-24 [39 Manetti]: εἰς δὲ τούτου τὴν κατασκ[ευὴν ὑ]πομνήσει π(ροσ)χρήται τοιαύτη· με[τὰ γ(άρ)], φ(ησιν), τὴν ἔκτεξιν εὐθέως {το} τὸ ζῶον ἐπισπάται τὸ ἐκτὸς πνεῦμα ψυχρὸν ὄν· εἴτα πάλιν καθαπερὲι χρέος ἐκπέμπε[ι] αὐτό ('he also mentions the following sort of consideration regarding the construction of the animal: Immediately after birth the animal breathes in the external air which is cold. Then it sends it out again like a debt'). It is worth noting that Meno uses also πνεῦμα in this context.

<sup>18</sup> Cf. Varenne 1982.

<sup>19</sup> The chronology of the RV is contested, but a certain degree of consensus has been reached in considering the year 800 BC as the *terminus ante quem* for the final compilation of the work. The composition of hymns included in it, even of the most recent ones, must, therefore, predate this date by at least one or two centuries.

These later hymns already present examples of poets who aim at extracting abstract, speculative inferences from ancient tales about the origin of the world. The text serving us as a base is RV 10.129,<sup>20</sup> although we will also use some other hymns as complementary texts, particularly the extremely brief RV 10.190. First, then, RV 10.129:

v. 1: There was then neither Being nor Not-Being.<sup>21</sup> There was neither this space nor the heaven beyond. What was moving? Where? Under whose supervision? What were the abyssal, bottomless Waters? (*násad āsīn nō sād āsīt tadānīm nāsīd rājo nō vyōmā parō yāt | kīm āvarivah kūha kāsya śārmann āmbhaḥ kīm āsīd gāhanām gabhīrām*)

v. 2: There was then neither death nor not-death, nor distinction between day and night. The One by its own impulse breathed without wind. Apart from this, nothing else existed (*nā mrtyūr āsīd amṛtam nā tārhi nā rātryā āhma āsīt praketaḥ | ānīd avātātīm svadhāyā tād ēkam tasmāddhānyān nā parāḥ kīm canāsa*).

v. 3: At the beginning, Darkness was hidden by Darkness, everything was an indistinct Flood. By the power of Heat the One was born, what was hollowness covered by hollowness (*tāma āsīt tāmasā gūḥām āgre 'praketām salilām sārvaṃ ā idām | tuchyēnābhv āpihitām yād āsīt tāpasas tāmahinājāyataikam*).

v. 4: At the beginning, Desire emerged, the first seed of thought. The wise men, searching in their hearts, due to their wisdom found the link of Being in the Not-Being (*kāmas tād āgre sām avartatādhi mānaso rētaḥ prathamām yād āsīt | satō bāndhum āsate nīr avindan hrīdī pratīśyākavāyo mānīṣā*).

v. 5: They laid their measuring rod diagonally. Was there a 'down'? Was there an 'up'? There were semen-carriers, there were Powers. The impulse below, the donation above (*tīrāścīno vītato rāsmīr eṣām adhaḥ svīd āsīt | retodhā āsan mahimāna āsan svadhā avāstāt prāyatiḥ parāstāt*).

v. 6: Who, then, knows, who could proclaim here where it was born from, whence this creation? The gods (were born) later, by means of this creation, but the creation, who knows whence it comes? (*kō addhā veda kā ihā prā vocat kūta ājātā kūta iyām vīṣṭīḥ | arvāg devā asyā visārjanenāthā kō veda yāta ābabhūva*)

v. 7: Where this creation comes from, and whether it has been created or not, only the one watching in the furthest reaches of heaven knows, or perhaps does not know (*iyām vīṣṭīḥ yāta ābabhūva yādi vā dadhē yādi vā nā | yō asyādhyakṣaḥ paramē vyōman sō āngā veda yādi vā nāvēda*).

<sup>20</sup> The hymn, known as *Nāsadiya* due to the initial word, has often been translated (e.g. in Griffith 1951, Geldner 1951, Doniger 1981) and discussed (see e.g. Renou 1956, Maurer 1973, Gonda 1975, Varenne 1982).

<sup>21</sup> Cf. comments below, 3.2.2.

Note that, in verse 4, the speculative character of the hymn is highlighted ('Wise men, searching in their hearts, due to their wisdom found the link of Being in the Not-Being'). These wise men are hymn-composing poets (*ṛṣi*s) of Veda. The cosmogony described in the hymn, therefore, is presented as the result of rational reflection applied to traditional cosmogonic myth, in an attempt to clarify precisely that part with which the myth did not deal: the situation previous to the cosmos, and the initial process of its formation. The wise men, who 'have their own measuring rod' (5) which they can use to find out whether the 'directions of space' already existed, present in the final verses (6-7) an explicit statement of the limitations of their knowledge, as well as of their awareness that their speculation is leading them to a limit, the knowledge of which it is doubtful anyone possesses. Perhaps it is even unknown to the god 'who watches from above', Varuṇa, the Sovereign who is presented in the Veda as the legislator, omniscient, knower and founder of Cosmic Order (*ṛtā*).

RV10.190 is as follows:

v. 1: The Order and the Truth<sup>22</sup> were born from Burning Heat. From it, the Night was born, from it the waving Ocean (*Ṛtām ca satyām cābhīddhāt tāpasó 'dhy ajāyata | tāto nātry ajāyata tātaḥ samudró aṇavāḥ*).

v. 2: And from the waving Ocean the year was born: the Days and Nights were distributed by him who rules over everything that opens its eyes (*Samudrād aṇavād ādhi samivatsaró ajāyata | ahorātrāṇi vidādhad víśvasya miśató vaśi*).

v. 3: The Sun and the Moon in turn were shaped by the Instaurator, as well as heaven and earth, the space in between (or: intermediate space) and, finally, Light (*sūryācandramāsau dhātā yathāpūrvām akalpayat | divam ca prthivīm cāntárikṣam ātho svāḥ*).

### 3.2. Common Features to RV 10.129 and 10.190

3.2.1. In an indeterminate past, referred to by the adverb *tadānīm*, 'then', there was a phase typically described by the negation of opposite pairs, sometimes even expressed by means of a term and its corresponding negative compound (with the negative prefix *a-*).

3.2.2. A first pair of opposites, *sát* / *ásat*, 'being' and 'not being', consists of an abstract concept and its negation, which together summarize and

<sup>22</sup> *Satyám*, that is, 'what is true, authentic'.

encompass all the other concepts that are going to be specified subsequently. It is the first time that the neuter form of the participle of the verb 'to be' occurs in an abstract use. It is plausible that the strict philosophical, metaphysical sense of 'being' ('das Sein') has not yet been developed, and perhaps a more existential nuance ('what exists, the existing') should be kept in the translation (as Maurer 1975 proposes). Nevertheless, it seems quite clear that both terms already have an abstract, generalising sense here, evidenced not only by reiterated negations in the specification of the fundamental pairs of opposites which are basic in the structure of the cosmos, but also by the way it is formulated in 10.129.4b: 'Wise men, searching in their hearts, due to their wisdom found the link of Being in the Not-Being' – which agrees with what is stated in RV 10.72.2b.<sup>23</sup>

3.2.3. The other three pairs of opposites whose existence is denied will be the elements of the three basic and primeval spheres constitutive of the Order of the world which results from the cosmogonic process:

- (a) space: *rājas* / *vyóman*, that is, the space between our world and the space of the beyond, the vault of heaven;
- (b) life: *mṛtyúḥ* / *ámṛtam* ('death / immortality'), that is, the basic distinction between human beings and gods;
- (c) time *rātri* / *dhar* ('night / day'), the minimum unit of time calculated.

3.2.4. The first stage, when elemental distinctions have not taken place yet, is reinterpreted by the metaphor of the waters. It is not a 'water', however, which is 'distinct' from earth and heaven, but rather waters that are, at the same time, everything that will eventually come into existence and nothing of it, because there are no distinctive signs within them. The adjective attributed to this primeval element, this Flood, is *apraketás*, 'indistinct': i.e. it does not have any distinctive features that would allow for a differentiation within it of different parts, or for singling it out from other elements. This Flood lacks the *praketás*, 'distinctive feature', which it is said (RV 10.129.2) permits the differentiation between day and night.

<sup>23</sup>) RV 10.72.2b: 'in the ancient time of the gods, from the Not-Being, the Being was created.' This hymn celebrates the birth of the gods.

3.2.5. In this timeless past, there is an initial point referred to by the adverb *āgre*, ‘at the beginning, in the initial point’. This adverb occurs frequently in the hymns, complemented by the genitive *ahnām*, ‘of the days’, indicating the initial point of the temporal count.

3.2.6. At that initial moment, a force, *tāpas* (‘heat’),<sup>24</sup> of whose origin nothing is told, activates an internal warmth that acts as the energy required for the unleashing of a creative process. It should be noticed that *tāpas* is not the creator, but the energy which allows the process to take place.

3.2.7. The power of the heat provokes the birth of the first element, *ékam*, ‘the One’. From this One, which emerges from the energy of *tāpas* and remains enveloped in the indistinct Flood, a number of features are pointed out. First, that it ‘breathed without wind’ (*ānīd avātam*) and, additionally, that it did it by itself, by its own state or condition (*svadhāyā*). The breathing of the One is what probably characterizes it as ‘living’, and as such, as having the power to germinate. That is how the reference in RV 1.129.4 to *kāma*, ‘desire’ should be understood: it is emergent desire as well as seed to the consciousness of thought (*mānas*). Secondly, ‘it was born a vacuum and covered in vacuum’ (*tucchyénābhv āpihitam*). That is, the vacuum was born with the One, as a condition of its ‘differentiated’ character. An interpretation could be that the One needs external vacuum as a border with the ‘indistinct Flood’, and internal vacuum perhaps to be able to breathe, and introduce something inside. Thirdly, at the moment of its emergence it was the only existing thing: ‘apart from it, nothing else existed’ (*tāsmād dhānyān nā parāh kīm canāsa*). This implies that the vacuum is part of the One, and that the Flood is interpreted as something other than existence. This would mean that existence is conceived as ordered existence, as a link between what-it-is and what-it-is-not, between the *sāt* and the *āsat*.

The hymn does not identify this *tād ékam* with any of the distinguishable elements listed before in the pairs of opposites, not even with the *sāt* ‘the existing’. It is rather a first step, the differentiating principle from

<sup>24</sup> In later texts, *tapas* comes to mean ‘asceticism’, on the assumption that it is what generates the most powerful energy in the person practising it. In the RV it is still the active impulse, the internal heat, the energy responsible for the first steps of creation. This is how we find it in almost all hymns presenting a clearly monistic version of creation, e.g. RV 10.190.1a: ‘Order and Truth were born from heated Ardour’. Cf. Varenne 1982.

which this present Universe can now be developed and can be subjected to Order, to the *ṛtá*, which guarantees stability in our world.

The following table may help visualize more easily the elements described above:

|                                      |                                                                                             |                         |                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------|
| 1. Original state                    |                                                                                             |                         |                                         |
| atemporal past                       | lack of opposition                                                                          | undifferentiation       | waters                                  |
| <i>tadānīm</i>                       | <i>sāt / āsat</i><br><i>rājas / vyóman</i><br><i>mṛtyúḥ / āmṛtam</i><br><i>rātrī / āhar</i> | <i>apraketás</i>        | <i>āmbhas</i><br><i>salilām</i>         |
| 2. The beginning                     |                                                                                             |                         |                                         |
| Initiation Time<br>(beginning-point) | active energy                                                                               | the One                 | is born /<br>generated                  |
| <i>āgre</i>                          | <i>tāpas</i>                                                                                | <i>ékam</i>             | <i>ajāyata</i>                          |
| 3. Definition of the One             |                                                                                             |                         |                                         |
| The One                              | solely existent                                                                             | breathes<br>without air | vacuum                                  |
| <i>ékam</i>                          | <i>tásmād dhānyān</i><br><i>nā parāḥ kīm canāsa</i>                                         | <i>ānīd avātām</i>      | <i>tucchyénābhv</i><br><i>āpibhitam</i> |

3.2.8. The process of differentiation which gives rise to the cosmos, the stages by which different elements emerges, and the type of generation of each of them cannot be deduced directly from this hymn. Nevertheless, from the initial negations of opposites we could at least deduce what are the fundamental, basic elements of the process. In both RV 10.129 and 190, the generated entities are the elements constituting the fundamentals of this world, conceived as an ordered group which consists of ‘differentiating’ units subject to a taxonomy and which are, consequently, measurable:

- time, understood as measurable time, in a succession of days and nights, to which RV 10.190 adds the year, the higher unit of calculation of time;
- space, the one in our world and the one in heaven far beyond, *rājas / vyóman*, with their directions, regarding whose existence the sage inquires in RV 10.129.5. In 10.190 attention is focused on the ordered world, and on the elements of which it consists: heaven, earth and the space between;

- (c) life, understood as an opposition between mortal and immortal (*mṛtyúḥ* / *ámṛtam*), which opposes human beings with gods, and without which the gods, who are necessary to put these elements in order, cannot come to be.

RV 10.190 actually focuses on the process of ordering. In it, the fundamental abstract concept of existence, expressed by the opposites *sát* / *ásat* in 10.129, is replaced by the derivative *satyám*, ‘the true’, ‘(what is related to) what really is’, and the process headed by the ruling principle, *ṛtá*, ‘the Cosmic Order’, emerges. This *ṛtá* is at the same time the physical and moral law of the ordered world. The following table may illustrate the parallels and differences between both hymns.

|                  | 10.129                                                        | 10.190                                                                                                                        |
|------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| existence        | <i>sát</i> / <i>ásat</i> , ‘what-it-is / what-it is-not’      | <i>satyám</i> , ‘what it is, what is true’                                                                                    |
| ruling principle |                                                               | <i>Ṛtás</i> , ‘cosmic order’                                                                                                  |
| time             | <i>rātri</i> / <i>áhar</i> , ‘night / day’                    | <i>rātry</i> , ‘night’<br><i>saṁvatsarás</i> , ‘year’                                                                         |
| space            | <i>rájas</i> / <i>vyóman</i> , ‘this space / vault of heaven’ | <i>sūryācandramásau</i> , ‘sun and moon’<br><i>dīvaṁ ca pṛthivīm</i> , ‘heaven and earth’<br><i>antárikṣam</i> , ‘atmosphere’ |
| life             | <i>mṛtyúḥ</i> / <i>ámṛtam</i> ‘mortal / immortal’             |                                                                                                                               |

#### 4. Comparison of the Pythagorean and Vedic Cosmogonies

##### 4.1. Initial Stage

In both cosmogonies, there is a prior initial situation which is differentiated from the subsequent state of the universe, that is, the ordered world we are familiar with. In that first stage, there is an indefinite matter, described as *ἄπειρον* in the Pythagorean cosmogony, and as *apraketám* in the Vedic. The Greek formulation is more abstract, more philosophical, despite our scant information about the details. The Vedic formulation is poetic and metaphorical: the initial stage is an indistinct Flood, defined by

the negation in it of pairs of opposites. But it is understood that these opposites do not exist in this initial matter because there is no differentiating element; there are no internal boundaries which could give rise to different entities. It is particularly stressed that neither space nor heaven exist. What we have, therefore, is a pre-cosmogonic moment.

#### 4.2. *Formation of the One*

In both cosmogonies, the next stage is the formation of the One. Once again, our information about the process in Greek cosmogony is deficient. Not even Aristotle seems to have a clear idea of the way it emerges 'from surfaces, from colour or from a seed, or from elements they cannot specify'. In the Vedic version, it is Heat, a sort of energy, that unleashes the process (and one might note that the hot is an important element in the account of Philolaus' cosmogony by Meno: cf. Anon. Lond. 2). In any case, for both cosmogonies, the One is born amidst the undefined.

#### 4.3. *References to Vacuum*

In both versions there is a reference to vacuum, but the vacuum has a different function in each. While in the Vedic cosmogony the vacuum seems to be a property of the One, both internal and external to it, and is used to establish its border with the indefinite, in the Pythagorean version, the vacuum is inhaled in order to trigger differentiation within the One.

#### 4.4. *The Breathing of the One*

The most significant element common to both cosmogonies, since it is rare and striking, is undoubtedly the fact that in both cases references are made to the One breathing. In the Greek version, a technical term for breathing is used (ἐΐλκετο), although we get something more curious in the Vedic: 'it breathed without wind by its own impulse': it seems that the poet wants to tell us that the One breathes, but not air, because air has not been created yet. In both cases, anyway, it seems that the attribution to the One of an ability to breathe is related to the fact of it being alive.

#### 4.5. *Function of Breathing in the One*

In the Pythagorean cosmogony, the breathing of the One has a clear function: the One inhales air (identified with vacuum or an image of it)

thus allowing for multiplicity. We do not know its function in the Vedic version, since it is not possible to be sure that what is breathed in is the vacuum.

#### 4.6. *References to the Interpreter*

The Vedic hymns often provide references to their authors, including either the name of the family of priests, or the name of individual priests, the *ṛsis*, who composed the hymns and are usually called and regarded as 'sages'. The reference, however, in 10.129 to the 'sages' goes beyond the usual vindication of the hymn's authorship, because the result of the sages' reflection is the very process being described. The narration is not based on a known and inherited story, as is the case in other hymns when restoration of order is glorified by the killing of the dragon at the hands of the god of lightening, Indra, or when Order is instituted by the wisdom of the sovereign Varuṇa. The wisdom transmitted in this hymn is a product of autonomous reflection, of the use of intellect to penetrate further beyond by means of a myth and to find the abstract truths hidden behind the stories.

In the Vedic hymn, there is a very early reference to the interpreter, not only as the transmitter of a dictated truth or one shown by the divinity, but as a searcher for what is hidden under perceived reality and inherited wisdom. 'Wise men, searching in their hearts and by their own reflection' are the ones who uncover this truth, already more metaphysical than mythological, which they express by means of a new vocabulary capable of expressing the abstract.<sup>25</sup> That is why the hymn focuses on the initial process and not on subsequent stages of creation and the order of the material elements of the cosmos. This was already narrated in the myth and refers to specific, visible reality. The Vedic sage wishes to go beyond what is unveiled by myth, to the initial part that traditional religion keeps hidden. And the premise that the sage can discover what is hidden by means of reflection, without parting with religion, is a tribute to the power of the mind. What we have is the first step of the evolution of Vedic thought towards an ethical and metaphysical philosophy, whose final development will be presented in the *upaniṣads*.

<sup>25</sup> Compare, in the Greek world, Xenophanes 21 B18 DK (= fr. 20 Gentili-Prato): 'the mortals were not taught everything by the gods from the beginning | But rather they, in their search throughout time, gradually find something better'.

#### 4.7. *Time and Multiplicity*

The subsequent cosmogonic processes follow quite different courses in the two traditions. Nevertheless, there is something common to both, which is that there is a change from unity to multiplicity, and measurable time appears. In the Greek version, it is the insertion of the vacuum in the One that generates this multiplicity as well as discontinuity in time; in the Vedic, the process is not described (although we are told that certain generative forces, such as desire, appear). We do not know whether in the Greek version the One was thought of as a 'seed' of things.

### 5. Colophon

We have analysed two speculative cosmogonies that emerged in very different times and settings but which, nevertheless, present common elements. Some of these elements, such the idea that the One existed, or was indistinct, at the beginning, are not very significant, inasmuch as they are very general speculative solutions. In this sense, they could either be the result of independent developments or of parallel developments of mythological cosmogonies in which the negation of opposites was the way to express an initial stage of the non-existence of things – as the sum of opposites is the resource to express totality.<sup>26</sup> But other elements, such as the breathing of the One, its presence in the bosom of the indefinite and its association with the vacuum, or such as the references to heat, involve particularities that lead us to see more than mere coincidence. Moreover, these parallels involve, on the one side an Indian text which is our earliest explicit formulation of a cosmogonic monism which would subsequently become common doctrine in India, culminating in the philosophical monism (cosmogonic and cosmologic) of the *upaniṣads*; and on the other side, a Greek text composed by philosophers (namely the Pythagoreans) working in an area (Magna Graecia) rich in immigrants from Asia Minor – Ionians displaced by the expansion of the Persian Empire. Could it be that, at the time of the Achaemenids, the Persian Empire allowed

<sup>26</sup> On initial formulas in Indo-European cosmogonies, cf. Mendoza 1995; on reversal and antithesis as achievements of the speculative thought of the cosmogonies cf. Burkert 2008; on polar expressions in a Pre-Socratic philosopher, Heraclitus, cf. Bernabé 2009.

ideas to travel much wider geographical distances than is usually thought?<sup>27</sup> It should not be forgotten that the empire, before the rebellion in Miletus, already included some regions of Northwest India, as well as all Greek cities in Asia Minor, and that the court of the Great King, and maybe also those of the principal satrapies, were places of convergence for ambassadors, dignitaries, priests, sages, mercenaries and all sorts of adventurers, which made them an ideal centre of cultural contact and transmission of tales, myths and ideas.

In the development of Presocratic thought an important role belonged to cosmogonical tales, not only those of the Greek mythological tradition, but also (and more importantly) those transmitted from eastern tradition which, unleashed from the ritual and religious links of their original contexts, were able to acquire greater speculative dimensions. It is possible that some of these cosmogonies arrived to the Greeks through direct contact between wise men and priests; but it is also probable that some of them were transmitted through secondary channels, for example by way of traders, soldiers or slaves, in the same way that other fables and folk-tales travel from one culture to another.<sup>28</sup> The parallels between some features of Greek and Indian religious traditions that we have studied in previous work<sup>29</sup> lead us to consider the possibility that some cosmogonic tales underlying Indian speculative texts were also transmitted through the forum for communication and interchange constituted by the Achaemenid Empire and its fluid geographic and cultural connexions, and reached the Greeks as one more of the alien – more precisely, eastern – wisdom traditions that inspired the Presocratic thought.

If the Pythagoreans were building on ideas derived from Indian philosophy, they nevertheless carried out a process of reinterpretation *more Graeco* that explains the differences between the Pythagorean and the Vedic visions – the result of very different world-views. Theirs was less mythical, neither religious nor ritual, more philosophical and rational, less poetic, and last but not least practised by a different intermediary.

<sup>27</sup> Cf. West 1971; Burkert 2004.

<sup>28</sup> Cf. Bernabé 1995; Burkert 2008, 68-72.

<sup>29</sup> Cf. Mendoza 2008.

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