Chaos and Creation

Ἀπολλόδωρος δ' ὁ Ἐπικούρειος ἐν τῷ πρώτῳ περὶ τοῦ Ἐπικούρου βίου φησὶν ἐλθεῖν αὐτὸν ἐπὶ φιλοσοφίαν καταγνόντα τῶν γραμματιστῶν, ἐπειδὴ μὴ ἐδυνήθησαν ἑρμηνεῦσαι αὐτῷ τὰ περὶ τοῦ παρ' Ἡσιόδῳ χάους.

Apollodorus the Epicurean, in the first book of his *Life of Epicurus* says that he [Epicurus] turned to philosophy in disgust at his schoolteachers, when they were not able to explain to him the meaning of *chaos* in Hesiod. (Diog. Laert. 10.2)[1]

Chaos Theory and the Alphabet

In the *Opera Aperta*, Umberto Eco recounts how 'open works' are 'not just a conglomeration of random components ready to emerge from the chaos' (Eco 1989: 20). A work such as Ovid's *Metamorphoses* does not randomly coalesce, nor is its meaning or arrangement fully determined in advance. Rather, its structure is open to multiple readings and interpretations and this openness allows it to continue to transform. There must be some structure, even if that structure is never fully fixed and is in a state of constant change. In the beginning of the *Metamorphoses*, Ovid questions the relationship between chaos and order as it appears to arise in a determined universe or written text. The *Metamorphoses* begins with the creation of the universe from chaos. Chaos is the primordial state of the universe before it receives structure and shape; for both the text and the world to continue to transform, however, chaos is also envisaged as productive force present in the 'formed' world. In this sense, the *Metamorphoses* also shares a certain affinity with contemporary chaos theory, which Kellert defines as 'the qualitative study of unstable aperiodic behaviour in deterministic nonlinear dynamical

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[1] Edition Dorandi 2013; trans. adapted Hicks 1925.

systems'.[2] The *Metamorphoses* and the world it portrays can be perceived as unstable, aperiodic, and non-linear, while its meaning is unfixed and undetermined. It challenges and disturbs the hierarchy between order and chaos.

Chaos theory and non-linear dynamics have been applied to the study of ancient literature and especially Lucretius' *De Rerum Natura*; chaos theory became for Michel Serres a way of conceiving of how the *clinamen*, or 'swerve' functions in Lucretius' worldview, whereby randomness, in the form of the slightest possible deviation of the downward flow of atoms falling in the void, gives rise to a wholly determined universe.[3] Ovid appears to reverse the Lucretian logic, whereby an intentional act of creation gives rise to a world of flux and change. The model of chaos theory, which shows periodic shifts between what appears to the human subject as ordered and unordered form, reveals the potential falseness of conceiving the world in terms of this dichotomy. In the quotation from Diogenes Laertius above, chaos evades definition. This is also reflected in Epicurus' turning to philosophy in order to ascertain the meaning of chaos in Hesiod's *Theogony*, whereby the modes of poetry and natural philosophy are also challenged. Turning back to Ovid, we may be seen to enter the imaginative space of what Michel Serres calls 'liquid history', where 'models informed by the turbulent logic of rivers and seas and the capacity of water to make connections across vast distances' might provide an opening for the fluid and fluctuating nature of the *Metamorphoses*.[4]

In the *Metamorphoses*, the oscillating tension between order and design on the one hand and chaos and randomness on the other can be seen as operating at both the level of the text and the world it portrays. Is the world formed through purely abstract and random forces or is it carefully crafted by a universal demiurge? Is the text the product of the craftsmanship of the poet alone or is it simply a conglomeration of its influences and sources that are given a variety of forms by its readers? Can there be an underlying stability in the structure of reality or is it no more than a multitude of conflicting appearances? One of the difficulties that this chapter addresses at its outset is that the persistent analogizing of textual and cosmic structures lends itself all too quickly to a negative view of deconstruction and the perceived privileging of texts over reality. The analogy between the world and the textual artefact, and the set of interconnected ideas that this

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[2] Kellert 1993: 2.   [3] Serres 2000.
[4] Holmes and Marta 2017: 31. On Serres' concept of 'liquid history' and its application to Lucretius, see also Holmes 2016b.

analogy is used to illustrate, was live and real for the ancient reader and should not be mistaken for a post-modern or post-structuralist trope.[5]

This can be seen, for instance, in ancient Greek philosophy, where the formation and structure of the world is often envisaged through language. The Atomists, Democritus and Leucippus, use the way in which letters and words appear on the page to display how alterations to the atomic structure result in changes to the perceivable world: διαφέρει γὰρ τὸ μὲν A τοῦ N σχήματι τὸ δὲ AN τοῦ NA τάξει τὸ δὲ N τοῦ Z θέσει, 'for A differs from N in shape, AN from NA in arrangement, N from Z in position' (*Metaphysics* 985b 17–19). If we alter the shape, arrangement, or position of the letters, the text is transformed just as the material world changes through the alteration of atomic compounds. The text makes tangible the relationship between atomic structure and mutability in the perceivable world, as the variation of a single constituent can transform something into its opposite, as Aristotle states: ἐκ τῶν αὐτῶν γὰρ τραγῳδία καὶ κωμῳδία γίνεται γραμμάτων, 'for tragedy and comedy both come to be from the same letters' (*De Generatione et Corruptione* 315b9–15 = fr. 42a Taylor, tr. adapted following Barnes 1984). Ovid enacts a comparable dynamic at the beginning of the *Amores*, when Cupid steals the final foot of the second hexameter, causing the poem to transform from epic to elegy; the loss of this metrical foot instigates a wholesale transformation (*Am.* 1.1–4).

Lucretius at numerous points in the *De Rerum Natura* uses a similar metaphor to express the relationship between atomic structure and the mutability of the material world. Lucretius argues that all things are formed from atoms combined in a limited number of ways in the same way that the multitude of words in a given language are formed from the letters of the alphabet.[6] Lucretius uses the fact that the same letters can be found in different words to make tangible the way in which atoms can be rearranged to form different compounds, allowing for one thing to transform into another. In book 1, Lucretius gives the example of how forest fires occur from the friction of trees rubbing against each other to demonstrate how the atoms that constitute a given object have no direct relationship with the object they compose, and so can readily be recombined to form something different: he states that in the same way, the words themselves, *ignis* 'fire' and *lignum* 'wood', consist of mutual letters rearranged. Both the object

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[5] Volk 2012: 212, in relation to a similar parallelism between the world and the text in Aratus, states that 'one might therefore suspect the scholarly trope of Aratus' "cosmic text" to be nothing more than a handy postmodern metaphor'.

[6] The alphabet analogy is widespread, occurring overtly at least five times (*DRN* 1.196–198; 1.814–829; 1.908–914; 2.688–699; and 2.1013–1019).

and the word used to denote it are transformed through the reconstitution of their *elementa*, 'atoms' and 'letters' (*DRN* 1.907–914).

In Lucretius' materialist worldview, randomness is a key component in the generation of the world; the slight swerving of atoms results in the chance collisions necessary to generate different compounds. The process is only governed by the number of possible atomic combinations, just as a relatively small number of letters can give rise to an enormous yet still limited number of words. Cicero frequently takes aim at Lucretius' theory of the swerve, which he describes as a childish fiction entirely unfit to account for the formation of the cosmos (*De Finibus* 1.18–20). Key to his argument is that this theory of matter, as laid out by both Democritus and Epicurus, lacks a force or agency responsible for its generation. The world in his view cannot be dictated by random and chaotic forces. The metaphor of the alphabet is reappropriated to illustrate this very point. The Stoic interlocutor, Balbus, in Cicero's *De Natura Deorum* (2.120–53) emphasizes how intelligent design is omnipresent in nature and the universe. The alphabet analogy, as expressed by Lucretius and the Atomists, is turned against itself on the basis that a text cannot be formed from the random combination of letters and words, just as the beautifully formed universe cannot be formed from the chaotic collision of atoms (2.93):

> hoc qui existimat fieri potuisse, non intellego cur non idem putet, si innumerabiles unius et viginti formae litterarum vel aureae vel qualeslibet aliquo coiciantur, posse ex iis in terram excussis Annales Enni ut deinceps legi possint effici; quod nescio an ne in uno quidem versu possit tantum valere fortuna.

> I do not understand why the person that thinks this does not also suppose that if countless numbers of the twenty-one letters of the alphabet, fashioned in gold or in some other substance, were thrown into the same receptacle and then shaken out upon the ground, they could form the *Annals* of Ennius made immediately readable before our eyes. Yet I doubt if as much as a single line could be so assembled by chance.[7]

The Stoic outlook places authorial intentions and the formation of text at the very heart of the universe. The world is beautifully formed by a divine creator just as the text is crafted and given shape by the poet. The poet operates as a guise for the demiurge and vice versa, and the text stands as testament to the world's artifice and design.

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[7] Trans. adapted from Walsh 1998.

The Proem of the *Metamorphoses* and the Swerve

This philosophical debate between Epicurean materialism and Stoic tele-ology forms the immediate philosophical backdrop to the creation and ordering of the world at the beginning of Ovid's *Metamorphoses*. The tension between design and randomness is evident in the proem, where the first transformation to take place in the text is in the perceived meaning of the opening sentence (*Met.* 1.1–4):

> In nova fert animus mutatas dicere formas
> corpora; di, coeptis (nam vos mutastis et illa)
> adspirate meis primaque ab origine mundi
> ad mea perpetuum deducite tempora carmen!

> My spirit moves me to speak of shapes changed into new bodies;
> o gods inspire my beginnings (for it was you that changed them
> also), and from the first creation of the world, lead down my
> continuous song to my own times.[8]

The parallelism between form and content in the proem has long been noted and has been discussed at length.[9] The meaning of the opening sentence of the *Metamorphoses* transforms as we are in the process of reading it, thus immediately establishing an analogical relationship between the mutability of the world and the text. As we begin to read the first part of the opening line, *in nova fert animus*, our initial interpretation of the beginning of the sentence reads: 'my spirit carries [me] onto new things'. This sense unit, however, is immediately altered by *mutatas* which challenges and transforms our initial reading, and which is further modified by the enjambed *corpora*, so that taken as a whole the sentence reads: 'my spirit carries me to speak of shapes changed into new bodies'. Meaning is generated at the moment of metamorphosis and yet multiple meanings remain potentially live as the 'mistaken' reading persists beyond its 'correction'.

   The transformation that takes place in the proem not only immediately highlights the general parallelism between the text and the material world but can also be compared to Ovid's depiction of the generation of the cosmos that directly follows.[10] As Andrew Feldherr states, 'this transformation in the

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[8] Translations of the *Metamorphoses* are my own, with Hill 1985–2000 at times providing a guide.
[9] Nelis 2009: 250 and Wheeler 1999: 8, for example, treat in detail the shifting structure of the opening sentence of the proem.
[10] Wheeler 1999: 30 states that 'the poem's opening sequence of "The Creation" (1.5–451) parallels the witty false start we noted in the inaugural statement of the proem. This time the reader is seduced into accepting a strikingly stable philosophical, ideological, and aesthetic view of the world, which is dissolved and reconstructed again'.

linguistic surface of the text already suggests that the literary work itself comprises an entity parallel to the outer universe'.[11] The initial or primordial state of the universe is one of chaos and confusion, described as *rudis indigestaque moles*, a 'rough and unordered mass' where the *discordia semina rerum* 'the discordant seeds of things' are heaped together (*Met.* 1.7–9).[12] The universe at the beginning of the *Metamorphoses* lacks stable form, being composed of warring elemental forces that are neither themselves nor their opposite but adopt opposing characteristics and continually transform, as *nulli sua forma manebat*, 'to none did its form remain' (*Met.* 1.18). The creation of the stable universe results from two processes: first, unlike elements which had so far been mixed up together (*Met.* 1.17–20) are separated out from each other before like elements are brought together and bound in position (*Met.* 1.21–25). The overall dynamic is one of reconfiguration, as the primordial mass must be first separated into its constituent elements before these elements are placed in their correct position. In much the same way, the reader must separate the 'sense elements' from the chaotic opening lines before reorganizing these elements and fixing them in place; Ovid has his reader form new bodies of meanings through rearranging the initial matter before them on the page, thus enacting the very processes which will result in the cosmos taking shape.[13]

The proem follows the same principle of reconstitution as evident in Lucretius' alphabet analogy, albeit that in the *Metamorphoses*, the primary semantic units that must be reorganized to enact transformation are words rather than letters. Ovid's premise of beginning *primaque ab origine mundi* 'from the first beginnings of the world' points to Lucretius' cosmogony in book 5 of *De Rerum Natura*: *sed pariter prima concepta ab origine mundi* (*DRN* 5.548). This has the effect of evoking materialist physics at the very outset of the *Metamorphoses* and placing it at a programmatic level for the entire work. Yet, just as the reader is forced to readjust their understanding of the opening sentence, this philosophical position is far from fixed;

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[11] Feldherr 2010: 2. Spentzou 2009: 387 similarly states that 'meaning starts one way and in the process shifts to accommodate the needs of the new structure'. For a detailed discussion of the complexity of the semantic shift in the proem, see especially Wheeler 1999: 8–33.

[12] Ovid uses one of Lucretius' terms for atoms, *semina rerum*.

[13] The Technopaegnia or 'Pattern Poem' may be seen as the most obvious example of the visual appearance of a poem being made to mirror its content. Technopaegnia were Hellenistic and Latin poems which visually reproduced the subject with which they dealt through the positioning of words and sentence length. The terms usually refer to six texts transmitted by the *Greek Anthology* and the *Corpus Bucolicorum*, ascribed to Simmias of Rhodes (*Wings*, *Axe*, and *Egg*), Theocritus (*Syrinx*), Dosiadas ('*Doric' Altar*), and Besantinus ('*Ionian' Altar*) (Guichard 2006: 83). To this we may add the Latin Laevius' *Phoenix* (Kyriakidis 2010: 10). Kyriakidis, referring to *Heroides* 21.81, states that 'it was more than likely that Ovid was fully acquainted with this literary device' (10).

Ovid's evocation of Lucretius' materialist physics stands in direct opposition to the creationist cosmogony that follows.[14] The shift from materialism to creationism that takes place in the opening cosmogony is already embodied in the proem's semantic structure; the change in meaning that the reader experiences could easily be mistaken as a natural or unintended result of the way in which language operates rather than a precisely designed execution of the poet.[15] The confusion or disorder of the opening line gives way to a dynamic of separation in the remainder of the proem; not only are nouns continually separated from the adjectives which modify them, *coeptis* from *meis*, *prima* from *origine*, *mea* from *tempora*, and *perpetuum* from *carmen*, but the parenthetical phrase (*nam vos mutastis et illa*), which occurs at the precise moment of beginning (following *coeptis*), also opens a cosmic void and enacts the elemental separation that is necessary for creation to occur.

   The initial parallelism in the proem between the cosmos and the text is not just restricted to the semantic structure. It extends to the intertextual substrate. Ovid's premise of beginning *primaque ab origine mundi* alludes not only to book 5 of *De Rerum Natura* but also to Ennius' Annals via book 1 of the *Aeneid*, where Aeneas states that if he were to continue retracing from the very beginning (*si prima repetens ab origine pergam*) and tell the 'annals' (*annalis*) of his wanderings, it would take more than the rest of the evening (*Aen.* 1.372–373).[16] Indeed, the presence of *repeto* in the Vergilian passage could also indicate the centrality of imitation for the Ovidian project, as he 'retraces' the Lucretian and Vergilian passages while simultaneously 'striking out anew'.[17] The immensity of the endeavour is placed in opposition to another series of references. The presence of *deducere* in the final line of the proem functions as a further intertextual marker and instigates another allusive chain stretching back to τὴν Μοῦσαν λεπταλέην, 'the slender muse' of Callimachus' *Aetia* (fr. 1.24). This is mediated especially via the Song of Silenus in *Eclogue* 6 (4–5), as well as Catullus (64.311–314), Horace (*Epist.* 2.1.224–225), and Propertius (1.16.41). In the

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[14] Wheeler 1999: 30 shows how 'Ovid's choice of a demiurgic cosmogony stands in obvious contradiction to Lucretius, who holds that the evolution of the universe was undesigned and haphazard'.

[15] Wheeler 1999: 12 states that 'the stable and indeed artful word-order disguises the process by which the reader was duped'.

[16] Wheeler 1999: 23 describes this as a double allusion to Ennius' *Annals*, a further model for the *Metamorphoses*.

[17] Wheeler 1999: 25–26 argues that Ovid's 'plan of an immense cyclic epic' portrays itself as 'a universal history, whose scope outdoes other exemplars of epic such as Homer, Hesiod, Lucretius, Ennius, and Vergil'.

context of the proem, the slender spun poems of the Callimachean tradition adopt a subversive relationship to the *perpetuum carmen*.

The reader is faced with a multitude of references and generic possibilities that morph in and out of each other in a form of intertextual chaos; apparent oppositions between philosophy and myth, grand epic narrative and light elegy operate in fluctuating yet calibrated tension; as further intertexts lie beneath each allusive veneer, and as one intertext shades into the other, the boundaries of discourse threaten to collapse. It would seem then at the beginning of the *Metamorphoses* we encounter a literary black hole, where each allusion and generic convention is contradicted, and where continuity and change exist within each other. The result is a text that can only be read through simultaneously attempting to distinguish and link a series of allusions, while continually reordering and resolving this framework in order to create a substantially new discourse that challenges and highlights how meaning is constructed. This provides a means of instilling mutability into the text, while allowing it to remain epistemologically productive through removing any notion that it can be perceived as a singular or static object. It approaches the flux inherent in the perceivable world and embodies its resultant biodiversity. If the semantic structure displays authorial and cosmic design, the intertextual structure proves more problematic; if successful in generating a mutable and open discourse, its formation necessitates an element of randomness through the multiplication of interpretations and voices that present an immediate challenge to the singular voice of the author and in turn the creationist perspective.

As we have seen, *deducere* is an aesthetically loaded term pointing especially to the thinly spun poetry of Callimachus. Specifically, it looks to the art of spinning or drawing down of fine threads from the clump of wool held on the distaff. This not only matches the activity of the poet but also enacts the process the reader must undertake when identifying the attenuated allusive threads from the intertextual whorl, as well as the way in which the primary cosmic elements will be distinguished from the initial state of *chaos*. Read next to Lucretius, the drawing down of the finely attenuated fibres of the poem may also evoke the continuous stream of atoms falling in the void. Lucretius describes the initial swerve or *clinamen* of the atoms in the void as follows (*DRN* 2.217–224):

> corpora cum deorsum rectum per inane feruntur
> ponderibus propriis, incerto tempore ferme
> incertisque locis spatio depellere paulum,

> tantum quod momen mutatum dicere possis.
> quod nisi declinare solerent, omnia deorsum
> imbris uti guttae caderent per inane profundum
> nec foret offensus natus nec plaga creata
> principiis; ita nihil umquam natura creasset.

> When the atoms are being drawn downward through the void by
> their property of weight, at absolutely unpredictable times and
> places they deflect slightly from their straight course, to a degree
> that could be described as no more than a shift of movement. If
> they were not apt to swerve, all would fall downward through the
> unfathomable void like drops of rain; no collisions between
> primary elements would occur, and no blows would be effected,
> with the result that nature would never have created anything.[18]

The atoms are carried downward through the void in an image that may well look to the art of drawing down the finely attenuated threads in Callimachean aesthetics. Lucretius after all frequently uses the imagery of spinning and wool-spinning when thinking about the structure of the cosmos.[19] The state which prefigures the conceptual structures of reality is envisaged as the linear falling of atoms through the void. The catalyst for generation is the initial swerve or deflection in this stream, which occurs at an uncertain time and place before the generation of the world. It is a random event conceptualized almost as a pure abstraction, spatially and temporally unknowable. It sets off a chain reaction as the laminal flow of atoms gives way to turbulence. As Anthony Long states, 'the swerve of an atom enables a world and its living inhabitants to get under way *by chance* – not meaning that a world has no determinate causal history or that it springs out of nowhere, but that its occurrence has nothing to do with any aim, design, or divine intention'.[20]

   Cicero describes it as *atomorum turbulenta concursio*, 'the confused concourse of atoms' (*De Finibus* 1.20). The image of flow is immediately encapsulated in the comparison with the raindrops falling as both singular particles and as a collective shower. The atoms swerve only slightly, to an infinitesimal degree (*nec plus quam minimum*), at a level that eludes sense perception. In order to extract divinity from the world, chaos, in its simplest form as the smallest unpredictable change in momentum, must become the organizing principle; we are given a solution to the paradox of

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[18] Translation adapted from Smith 2001.
[19] Note, for example, Lucretius' frequent use of *exordium*, such as at *DRN* 1.149–150. For a detailed discussion, see Snyder 1983.
[20] Long 2006: 164.

how order, or several orders, can emerge from disorder, without the need for the deistic principle.

We might note a series of subtle parallels with the proem of the *Metamorphoses*: Lucretius describes how the atoms (*corpora*) are carried (*feruntur*) downwards through the void; they then slightly deflect, 'to a degree that could be described as no more than a change of movement' (*momen mutatum dicere possis*).[21] In the proem of the *Metamorphoses*, Ovid describes how his spirit carries him to speak of forms changed into new bodies (*In nova fert animus mutatas dicere formas | corpora*).[22] Ovid's repetition of this Lucretian terminology, coupled with the downward force of *deducere*, may suggest an allusion to the primordial vision of the universe provided by Lucretius, precisely at the moment when the creation of the universe is about to occur. Ovid simultaneously turns to and swerves away from Lucretius; if order is seen to emerge in the Ovidian universe, it is illusory and temporary. In the *Metamorphoses* the fluid and non-linear dynamics of the *clinamen* becomes a characteristic of the formed rather than unformed world.[23]

The Language of Flux

In Lucretius' alphabet analogy and Cicero's polemic metaphor of the scattering of letters from Ennius' *Annals*, the conflict between design and materialism is expressed through the structure of the text. Lucretius' polysemous use of the term *elementum* to simultaneously denote both 'atom' and 'letter' has antecedents in both the Atomists and Plato's responses to such theories in the *Theaetetus*, *Cratylus*, and *Timaeus*, where he uses the term στοιχεῖον to interchangeably denote both

[21] In the exile literature, Ovid coins the term *indeclinatus* which he uses to denote constancy, especially with regard to friendship (*Pont.* 4.10.83; *Tr.* 4.5.24). This can be read as an ironic adaptation of Lucretius' technical use of *declinare* when describing the swerve at *DRN* 2.313, which is itself an uncommon verb. Maguinness 1958: 12 includes *indeclinatus* in his list of words likely invented by Ovid.

[22] Ovid refers to Lucretius' swerve elsewhere in the *Metamorphoses* and in particular the simile of the drops of rain; as both Bömer 1969–86 (1973) on *Met.* 5.633 and Folwer 2002: 313 on *DRN* 2.222 note, the pairing of *guttae* with *cadere* (*DRN* 2.222) recurs at *Met.* 5.633 in the drops which flow from Arethusa's hair as she is transforming into a fluid body.

[23] This may look forward to Harold Bloom who turns to the *clinamen* as a trope for envisaging the intertextual swerve. Bloom 1973: 14 states, 'I take the word from Lucretius, where it means a "swerve" of the atoms so as to make change possible in the universe. A poet swerves away from his precursor, by so reading his precursor's poem as to execute a clinamen in relation to it. This appears as a corrective movement in his own poem, which implies that the precursor poem went accurately up to a certain point, but then should have swerved, precisely in the direction that the new poem moves.'

a primary physical constituent of matter and a letter of the alphabet. The term στοιχεῖον by the time of fifth century BC could mean a variety of different things depending on the context in which it was used: (1) in language, it could refer to a simple sound of speech or the first component of a syllable, such as a letter of the alphabet (or its corresponding phoneme);[24] (2) in physics, it generally refers to the primary component into which matter is ultimately divisible;[25] (3) in argumentation, it is frequently used to denote the basic stipulations in general reasoning or a fundamental principle.[26]

The *Cratylus*, which contains Plato's most detailed treatment of the nature of language and its relationship to the material world, may be read as a reaction against the competing philosophy of the Atomists; the *Cratylus* includes a lengthy discussion where Socrates appears to initially advocate an Atomist view of language, whereby each word can be refined through etymology into its 'original' meaning and so offer us insight into the primary nature of the object being denoted. This suggests an intrinsic relationship between a word and what it represents, which gives etymology, through a continual process of reduction and refinement, the ability to 'reveal' and 'discover' the 'true nature' of the phenomenal world. Plato appears to set up this far-reaching analogy, at least in part, to parody the rival philosophy of the Atomists; in doing so, however, he shows that for the Atomists at least, language was more than a handy metaphor for the

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[24] στοιχεῖον is used to denote a letter in Plato (*Cra.* 424d; 426d; *Tht.* 202e) and in Aristotle (*Poet.* 1456b22; *Metaph.* 998a23). These passages are discussed further later in this section.

[25] Plato uses it as a term to denote a primary physical element (*Tht.* 201e; *Plt.* 278d; *Ti.* 48b), as does Aristotle (*Gen. Corr.* 314a29; *Metaph.* 998a28). Aristotle (*Metaph.* 985a32) says that Empedocles was the first to use the term στοιχεῖον to refer to a physical element such as earth, water, air, or fire. Empedocles, however, is not seen to use this term to denote the elements in any of the surviving fragments. Crowley 2005: 367, noting how Empedocles does not use this term for the elements but instead calls them the ῥιζώματα 'roots of all things', states that the use of the term στοιχεῖον in the sense of element is usually believed to be a later innovation. I see no reason, however, why Empedocles could not have used more than one term to denote the elements and why Aristotle could not have been referring to a portion of Empedocles' text that is not extant. According to Eudemus (ap. Simpl. *In Phys.* 7.13), Plato was the first to use στοιχεῖον for the four Empedoclean elements. Crowley 2005: 367–368, however, argues that Plato's use of στοιχεῖον to denote a fundamental constituent of matter is adopted from the Atomists or the Pythagoreans. Crowley points to Simplicius (*In Phys.* 154.14), who states that Anaximander called the elements σωματικά στοιχεῖα.

[26] Aristotle (*Metaph.* 1014b1) uses it to denote the primary component of an argument or demonstration, while Xenophon (*Mem.* 2.1.1) uses it for an elementary or fundamental principle. Wigodsky 2007: 525 also considers the use of the term in mathematics: Proclus, *In Euc.* 72.23 ff. cites Eudoxus' student Menaechmus as distinguishing two meanings of στοιχεῖον as a 'common postulate' and 'any theorem used to prove another'. στοιχεῖον is later used by Manetho (4.624) for the stars and Diogenes Laertius (6.102) as a sign of the zodiac. The scholia on Dionysius Thrax discuss the etymological connection with Zeus's title Στοιχαδεύς.

structure of the material world; the idea that etymological analysis allows us to understand the ontological nature of objects, which is entertained throughout the majority of the *Cratylus*, demonstrates to a certain degree that Plato is considering the ways in which the world can be seen as constituted in words.

The *Cratylus* concludes by evoking the Heraclitean theory of flux and how both language and the phenomenal world are subject to uncertainty and constant change. At the end of the dialogue, Socrates, using the example of 'the beautiful', appears to convince Cratylus that if everything is in a state of constant flux, then there will not be enough time to speak of a given object before it becomes something else (*Cra.* 439d8–11):

> ἆρ᾽ οὖν οἷόν τε προσειπεῖν αὐτὸ ὀρθῶς, εἰ ἀεὶ ὑπεξέρχεται, πρῶτον μὲν ὅτι ἐκεῖνό ἐστιν, ἔπειτα ὅτι τοιοῦτον, ἢ ἀνάγκη ἅμα ἡμῶν λεγόντων ἄλλο αὐτὸ εὐθὺς γίγνεσθαι καὶ ὑπεξιέναι καὶ μηκέτι οὕτως ἔχειν;

> Then is it possible to speak of it correctly, if it is always slipping away? First, to say that it is that thing, next to say that it is of that kind? Or is it inevitable that, as we speak, it is instantaneously becoming something different, and slipping away and no longer the way it was?[27]

Plato's contribution to the theory of flux will be discussed further in Chapter 5; for now, however, it is worth restating that not only do we find a great deal in the dialogues concerning the parallel structures of the text and the world but such fluid ontologies as described here are also deeply connected with the difficulty of expressing anything meaningful in words. The influence of the *Cratylus* was certainly felt in Rome and Roman Stoicism, with its theory of linguistic naturalism evident in Posidonius, Nigidius Figulus, and likely Varro.[28]

Aristotle in the *Metaphysics* (987a32–b10) recalls how Plato arrived at the theory of forms as a result of his early interest in the views of Heraclitus and Cratylus:

> ἐκ νέου τε γὰρ συνήθης γενόμενος πρῶτον Κρατύλῳ καὶ ταῖς Ἡρακλειτείοις δόξαις, ὡς ἁπάντων τῶν αἰσθητῶν ἀεὶ ῥεόντων καὶ ἐπιστήμης περὶ αὐτῶν οὐκ οὔσης, ταῦτα μὲν καὶ ὕστερον οὕτως ὑπέλαβεν·

> In his youth Plato first became acquainted with Cratylus and the Heraclitean doctrines – that the whole sensible world is always in a state

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[27] Trans. from Sedley 2003a: 19.
[28] The 2019 volume *Language and Nature in the Classical Roman World* edited by Pezzini and Taylor contains important contributions on the pervasive influence of the *Cratylus*. See especially the introduction, pp. 4–7, and the chapters by Verlinsky (2019) and Garcea (2019).

of flux, and that there is no scientific knowledge of it – and in after years he still held these opinions.[29]

For Plato, the fluid and fluctuating nature of the world which we perceive led him to seek to discover a world below or beyond that of the phenomenological world. For Ovid, there is no world beyond, whether it be constituted of forms or atoms; instead, we are imbedded and entangled in the world of flux and change; in other words, we are part of and never outside this open and non-linear system. By immediately highlighting the inherent ambiguity of what we are reading and how language is subject to change, Ovid in effect begins his major work, where the *Cratylus* leaves off, although arriving at a different conclusion.

The Origins of Chaos

Returning to the beginning of the *Metamorphoses*, in order to understand Ovidian chaos, it is necessary to trace the origins of the term. χάος derives from √χα, meaning to gape or yawn as in χαίνειν, χάσκειν; for Hesiod, it provides the gaping chasm of space needed for generation to occur (*Theog.* 116). It lent a useful mythological antecedent for the concept of void, which, along with atoms, predated the formation of the world in the Epicurean system, and which, in turn, will survive its dissolution. Seneca describes the *chaos* of Epicurus as *inane, sine termino*, 'empty, without limits' (*Epistles* 72). The association with flux, and by extension unpredictability and randomness, was possibly attached to χάος (via an etymological link to χεῖσθαι to 'flow' or 'pour') as early as the sixth century BC.[30] Chaos by its nature is a state that is fundamentally unknowable, and this is reflected in the range of different ideas and etymologies it attracts. Its primacy and its role as a potential catalyst in the formation of the world introduces a question, evident across ancient cosmogony, of how an ordered and determined world can result from a primordial state of chaos. Ovid encapsulates this potential paradox in a single phrase when describing the regeneration of plants and animals after the flood (*Met.* 1.433): *discors concordia fetibus apta est*, 'a discordant concord is adept at procreation'.

Epicurus' turning to philosophy to understand χάος in Hesiod (Diog. Laert. 10.2, quoted earlier) indicates that χάος held a place in both poetic and philosophical discourses. It also features in Plato's *Timaeus* (discussed

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[29] Translation adapted from Aristotle 1933.
[30] See Pherecydes 7 B 1A DK. On the fluctuating representations of chaos, see Sedley 2007: 3.

further later) where it is envisaged as a malleable fluid body. In his rarefied cosmogony, chaos contains aspects of space, flux, and randomness; it is in essence a semi-solid matrix that provides both a space and substance upon which the forms of reality are imprinted. In the *Timaeus*, if matter were left to its own devices, it would behave in a purely random or irrational fashion;[31] it must be harmonized and ordered by the divine intelligence of the male demiurge and his counterpart, the philosophical reader.

The capacity for chaos, stretching back to Hesiod to encapsulate both space and matter, provides the basis for ancient cosmogonies that view creation as the imposing of form or order upon a pre-existing disorderly substrate, with order and disorder easily mapping on to gender- and power-based hierarchies.[32] In the *Timaeus* the demiurge imposes order upon the primordial chaotic state; for Lucretius and Epicurus, in whose materialist system the deistic principle has been fully banished, the initial randomness must conversely account for both the creation of the world and the order of the *foedera naturae*. In other words, Lucretius, likely following Epicurus, reappropriates the fluid nature of pre-cosmic matter in the Timaean system as the force needed to substitute the demiurge as the creative agent in the universe.[33]

The chaos of Ovid's primordial universe is not an inert substrate, state, or condition, confined to cosmic prehistory, but an active agent with a growing role throughout the *Metamorphoses*, expressed through each transformation. Chaos is first presented as the prehistoric state of the universe, from which the warring state of elementary oppositions must be separated for generation to occur. Chaos at first appears to be confined to the primordial past before returning to the world as an ongoing challenge to its structure and stability. Its origin as the gaping chasm allows

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[31] The modern conception of chaos as disorder is well established by the time of Lucian (*Amores* 32): σὺ γὰρ ἐξ ἀφανοῦς καὶ κεχυμένης ἀμορφίας τὸ πᾶν ἐμόρφωσας. ὥσπερ οὖν ὅλου κόσμου τάφον τινὰ κοινὸν ἀφελὼν τὸ περικείμενον χάος ἐκεῖνο μὲν ἐς ἐσχάτους Ταρτάρου μυχοὺς ἐφυγάδευσας, 'For you gave shape to everything out of dark confused shapelessness. As though you had removed a tomb burying the whole universe alike, you banished that chaos which enveloped it to the recesses of farthest Tartarus.'

[32] Kirk, Raven, and Schofield 1983: 37 state that χάος originally meant a great yawning or chasm: 'the noun is derived from √χα meaning gape, gap or yawn as in χαίνειν, χάσκειν', pointing in particular to Aristophanes (*Av.* 693; *Nub.* 627). KRS also quote Philodemus (*On Piety* 137.5), who states that Acusilaus says that all things come from *chaos*, which was first. Hesiod positions χάος as the gap between the earth and sky and this may have led to its alternate interpretation as 'air' or the region in which birds fly, as seen in Bacchylides (5.27), Euripides (fr. 488), and Aristophanes (*Nub.* 424; *Av.* 1218). West 1966: 192 likewise describes Hesiod's χάος as a 'yawning space' but also says that, far from being empty, it is stuffed with darkness and has sufficient substance so as to catch fire.

[33] Despite Lucretius removing the demiurge from his cosmogony, the falling of (male) *semina* through the feminine void retains traces of the gendered and power hierarchies still dominating the universe.

it to function as a non-binary open space for a variety of readings, while its links to fluidity and non-linear dynamics easily shade into metamorphosis. This is expressed both within the human body, as each physical transformation builds upon the latent chaos present in the formed world, and in the world at large, most demonstrably in the flood (*Met.* 1.244–312) and Phaethon (*Met.* 2.31–328) narratives (discussed in Chapter 3), where the world teeters on the brink of destruction due to conflagration or deluge. Perhaps the clearest example of the embodiment of *chaos* in the human frame can be seen in the transformed Hermaphroditus (discussed in Chapter 6), who upon corporeally uniting with the nymph Salmacis displays the specific characteristics of the primordial universe. Both Hermaphroditus and the cosmos are said to be compounded (*iunctus*, *iungere*) where binary oppositions are deconstructed and pluralities occupy a single body (*corpus*) and adopt a single appearance (*vultus unus*, *facies una*) (*Met.* 1.6–9 and *Met.* 4.374–375).

By the time we reach the conclusion of book 15 of the *Metamorphoses*, *chaos* has been so thoroughly ingrained within the world that it has become a fundamental law of nature:[34] *Nec species sua cuique manet, rerumque novatrix | ex aliis alias reddit natura figuras*, 'And none maintains its own appearance, but the innovatress of things, nature restores one shape from the other' (15.252–253). This is a rephrasing of the description of *chaos* at the beginning of the *Metamorphoses* (1.17): *nulli sua forma manebat*, 'to none did its form remain'.[35] The shift in tense from *manebat* to *manet*, however, gives this process a timeless constancy that highlights one of the central paradoxes of the *Metamorphoses*; that is, how can transformation continue indefinitely if each transformation results in a fixed state? The co-presence and alignment of *natura* and *chaos* makes permanent the inconstancy of form; by book 15, metamorphosis has become a byword for *chaos*, while *chaos* has been re-envisaged as the cosmic constant.

The tension between change and permanence and disorder and unity is encapsulated in Ovid's shifting representations of primordial *chaos* across his different texts (discussed further in Chapter 3). In the *Ars Amatoria* the primordial universe is first described as a confused mass without order, as *inane chaos* must withdraw to its own place in order for generation to occur (*Ars.* 2.470); in referring to *chaos* as *inane*, 'an empty space' or 'void', Ovid suggests a closer link to the 'gaping chasm' of χάος in the *Theogony* and the

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[34] Tarrant 2002: 351 states that what appeared at first as an 'aberrant pre-cosmic state is now alleged to be the constant and universal condition'.
[35] See Hardie 2013: 35 on *Met.* 15.252–258.

void of Epicurean physics, while also potentially alluding to the Song of Silenus from Vergil's sixth *Eclogue*, where a great *inane* 'emptiness' likewise prefigures universal creation (31–33). The retreating of *chaos* in the *Ars Amatoria* appears to instigate the creation of the cosmos, which takes shape through its own volition; this could also be compared to the retreating of Strife in the Empedoclean system. The significance of Ovid's inclusion of a demiurgic principle in the *Metamorphoses* is signalled by the absence of such a figure in the *Ars Amatoria*, where order develops in the universe without the need for a creationist divinity (*Ars.* 2.467–470). In the *Fasti*, *chaos* in the guise of Janus evolves from a globular mass or lump into a demiurgic figure, who fluctuates between being the formed world and a force responsible for its upkeep (*Fast.* 1.111–114). For *chaos* to remain a state of both ontological and epistemological paradox, Ovid must portray it in a variegated manner, as something always different from itself.

Intertextuality and the Primordial Universe of the *Metamorphoses*

Ovid's changing representations of *chaos* are designed to match the fluctuating interpretations of the nature of the primordial universe across the philosophical and literary traditions which he inherits. This makes it an attractive first principle for the *Metamorphoses*, being a paradigm as intertextually evasive as the state it describes (*Met.* 1.5–9):

> Ante mare et terras et quod tegit omnia caelum
> unus erat toto naturae vultus in orbe,
> quem dixere chaos: rudis indigestaque moles
> nec quidquam nisi pondus iners congestaque eodem
> non bene iunctarum discordia semina rerum.
>
> Before the sea and the lands and the sky which covers all things, there was one face of nature in her whole globe, which they called *chaos*: a rough unordered mass, nothing except inactive weight and heaped together the discordant seeds of badly joined together things.

In Ovid's representation of the primordial universe there is no form of distinction; since everything is mixed up together, the universe lacks the necessary separateness or space for the individuality of identity to emerge or generation to occur, while what does exist remains entirely unstable; *chaos* effectively functions as a singularity, in being a state where everything that has yet to undergo generation is confounded. The primary divisions of reality that allow a consistent image of the universe to be formed are absent

as the sky, sea, and earth do not yet sustain their boundaries but rather blend into each other. Each element has opposing characteristics in contrast to its normal state, as earth, like water, is unstable (*instabilis*) and the sea, more like something solid, is un-swimmable (*innabilis*), while the air, the opposite of which might be considered darkness and depth, is without light (1.16–17).[36] Linguistically, the words, like the elements themselves, easily shift from one to the other. Yet there is no space within which these transformations can occur as there is also the complete absence of void.

The opening description of primordial *chaos* contains a series of interconnected allusions to several different texts. The tripartite division of the universe, *ante mare et terras et caelum*, 'before the sea, land and sky', recalls the opening line of Homer's account of the shield of Achilles, upon which the entire cosmos was said to be depicted (*Il.* 18.483): ἐν μὲν γαῖαν ἔτευξ', ἐν δ' οὐρανόν, ἐν δὲ θάλασσαν, 'therein he made the earth, sky and sea'.[37] In naming the primordial state of the universe *chaos*, Ovid evokes the χάος of Hesiod's *Theogony* (116), which is likewise the starting point of Hesiod's evolutionary and genealogical cosmogony.[38] This may be refracted through Callimachus, who refers to Hesiod's 'birth of chaos' at the beginning of fr. 2 of the *Aetia*.[39] Ovid's use of the term *discordia*, although here used adjectively, marks the Empedoclean undertones in this passage. *Discordia* is the Latin equivalent of νεῖκος, 'strife', one of the two cosmic forces, the other being φιλότης, 'love', which control the cycles of cosmic generation and destruction in Empedocles' cosmogony.[40] Ovid's allusion to Empedocles also incorporates Apollonius Rhodius' reference to Empedoclean νεῖκος in the Speech of Orpheus (*Arg.* 1.496–98) to which we can also add the further intertext of Vergil's Song of Silenus (*Ecl.* 6).[41] Furthermore, Ovid borrows the term *semina*, which he uses to denote the components of the unformed cosmos, from Lucretius, who frequently uses it as a term for atoms in his representation of the materialist universe in the *De Rerum Natura*.[42]

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[36] *innabilis* is hapax in the sense 'un-swimmable', whereas *in-no* (= ἐν-νέω), 'swim *in*', is used frequently (Stray 2010: 141–143).

[37] Wheeler 1995b.   [38] Wheeler 1995b: 104 and Ziogas 2013: 58–59.

[39] Fragment 2 of the *Aetia* reads as follows: ποιμένι μῆλα νέμοντι παρ' ἴχνιον ὀξέος ἵππου | Ἡσιόδῳ Μουσέων ἑσμὸς ὅτ' ἠντίασεν | μ]ὲν οἱ Χάεος γενεσ[...

[40] Compare especially (Empedocles fr. Inwood 28.5–6 / DK 26): . . . . ἄλλοτε μὲν φιλότητι συνερχόμεν' εἰς ἕνα κόσμον, ἄλλοτε δ' αὖ δίχ' ἕκαστα φορούμενα νείκεος ἔχθει, . . . 'At one time [the elements] coming together by love into one cosmos, and at another time again all being borne apart separately by the hostility of strife.'

[41] Wheeler 1995b: 95–96 and Nelis 2009.

[42] Sedley 1998: 38 provides a useful list of Lucretius' different terms for atoms.

Ovid is not simply combining these different accounts of the formations of the world so as to create an all-encompassing textual cosmogony; at the very moment he alludes to these different works, he contradicts them as well: Homer's description of the cosmos depicted on Achilles' shield is a piece of ekphrasis; Ovid, at least superficially, is depicting the actual universe and not an artistic representation of it, and while using the same tripartite division of sea, land, and sky, Ovid is describing a point in universal history before these divisions existed.[43] Hesiod's χάος is imagined as a 'gaping chasm' or 'yawning', a dark space which opens up, allowing generation to begin. Ovid describes the primordial universe as comprising nothing except inactive mass (*pondus iners*) and where there is a complete absence of space or void; Ovid reverses the roles of Empedocles' cosmic forces. In Empedocles, νεῖκος, the equivalent of *discordia*, is a force which causes the elements to separate from each other, for Ovid instead it operates as a force of warring confusion, which causes the elemental opposites to remain indistinguishable.[44] Lucretius' *semina*, the primary components of his universe, are atoms. Ovid uses the term to denote the opposing qualities of the four elements. Ovid evokes a multitude of competing models before successively subverting them in order to forge a discordant aesthetic.

To paraphrase Duncan Kennedy's description of constructivism, Ovid's utilization 'of a multiplicity of competing images or representations drives the distinction between reality and appearance and generates and disturbs our sense of a fixed and stable reality'.[45] He uses the intertextual substrate of the opening of the *Metamorphoses* to form a singularity of divergent philosophical and literary perspectives and the result is an effect not dissimilar to the non-linear dynamics and the fluctuating models of chaos theory.[46] Ovid simultaneously evokes and contradicts a series of allusions to different philosophical and mythological works to achieve an epistemological state that matches the fundamental chaotic nature of the primordial universe he is depicting. Much as in the anecdote concerning Epicurus' schoolteachers, Sextus Empiricus (*Math*. 10.18–19) states that if someone asks Hesiod what χάος came into being from, he will have no

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[43] In contrast, at the beginning of book 2, Ovid overtly turns to ekphrasis in his depiction of the *imago mundi* on the doors of the palace of the sun god. See also Wheeler 1995b: 98.

[44] Wheeler 1995b: 96 discusses Ovid's 'revision' of the Apollonian model.

[45] Kennedy 2005: 10–11.

[46] Ovid revitalizes in a literary sense the Empedoclean idea that there is no generation and destruction but only the 'mixing and interchange of the things that are mixed exists' (ἀλλὰ μόνον μίξις τε διάλλαξίς τε μιγέντων ἔστι) (DK8/Inwood 21).

answer. Sextus describes Hesiod as literally ἐξ αὐτοῦ περιτρέπεται, 'turned back upon himself'.[47]

Ovid may well be using the prologue of the *Aetia* as a blueprint for his generation of intertextual chaos; a comparable dynamic can be seen in the first fragment of the *Aetia*, where Callimachus within thirty-two lines refers to and 'reverses the rhetorical force' of at least ten different literary figures or texts;[48] this 'reworking' of poetic intertexts becomes a means for both Callimachus and Ovid to define how their works relate to and transform their literary predecessors. Far from establishing a continuous chain, each allusion disturbs the linear sequence and turns the different texts back upon each other.

The mutability of the text and the crossing of generic divisions can also be observed as Ovid continues his description of the primordial universe (*Met.* 1.10–14):

> nullus adhuc mundo praebebat lumina Titan,
> nec nova crescendo reparabat cornua Phoebe,
> nec circumfuso pendebat in aere Tellus
> ponderibus librata suis, nec bracchia longo
> margine terrarum porrexerat Amphitrite.

> As of yet no Titan had provided light for the world; nor did new Phoebe grow and so restore her horns, nor was Tellus hanging in the surrounding air, balanced by its own weight, nor had Amphitrite stretched out her arms around the long edge of the lands.

As *chaos* is effectively indescribable, Ovid elaborates upon the primordial universe by contrasting it with the formed world, which has yet to come into existence, and which he describes as still lacking the cosmic and terrestrial bodies – the sun, moon, earth, air, and sea. As each of these elements are mentioned, however, they become manifest and effectively slip into existence.

This passage resonates with Lucretius' account of the cosmogony and primordial universe from the *De Rerum Natura*, where we find a similar contrasting of the formed and unformed worlds (*DRN* 5.432–437):

> Hic neque tum solis rota cerni lumine largo
> altivolans poterat nec magni sidera mundi
> nec mare nec caelum nec denique terra neque aër
> nec similis nostris rebus res ulla videri,

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[47] Burnyeat 1978: 202 discusses this passage and the likelihood of it being genuinely by Epicurus.
[48] Acosta-Hughes and Stephens 2002.

> sed nova tempestas quaedam molesque coorta
> omne genus de principiis . . .

> Here, at that time, the wheel of the sun, soaring with abundant light, could not be seen, nor the many stars of the universe, nor the sea, nor the sky, nor even earth, nor the air, nor anything similar to our things; but instead, there was some kind of strange storm and a shapeless mass formed of primary particles of every kind . . .[49]

Lucretius likewise describes the primordial state of the universe by contrasting it with the formed world that has yet to come into existence. He shows how this primordial state lacks the typical elements or divisions associated with reality, namely the sun, stars, sea, sky, earth, and air. Lucretius also describes this primordial cosmos as a chaotic mass of warring atoms. The world comes into being and continues to evolve through the chance collision and random combining and recombining of the atoms into different compounds. The ongoing chaotic behaviour of matter at an atomic level is crucial to its deterministic behaviour at a macroscopic level.

There is, however, a distinct difference between these two passages. Ovid takes Lucretius' account of the unformed world and personifies the different cosmic elements. Instead of *sol*, Ovid refers to a Titan, while Phoebe, Tellus, and Amphitrite replace the *sidera*, *terra*, and *mare*.[50] Ovid alludes to Lucretius in order to further illustrate the collapsing of the divisions between myth and natural philosophy; he transforms Lucretius' philosophical image of the primordial universe into a mythological one, further highlighting the arbitrary relationship between truth and falsehood. Ovid is also following Empedocles in this regard, who uses elements of the formed world to conceptualize the primordial cosmos (fr. DK 27 / Inwood 31): ἔνθ’ οὔτ’ ἠελίοιο διείδεται ὠκέα γυῖα | οὐδὲ μὲν οὐδ’ αἴης λάσιον μένος οὐδὲ θάλασσα·, ‘There the shining form of the sun is not discerned nor indeed the hairy might of earth, nor the sea.’[51] Empedocles also personifies the different cosmic elements (fr. DK 38/ Inwood 39):

> εἰ δ’ ἄγε τοι λέξω πρῶτ’ ἐξ ὧν ἥλιος ἀρχήν
> τἆλλά τε δῆλ’ ἐγένοντο τὰ νῦν ἐσορῶμεν ἅπαντα,
> γαῖά τε καὶ πόντος πολυκύμων ἠδ’ ὑγρὸς ἀήρ
> Τιτὰν ἠδ’ αἰθὴρ σφίγγων περὶ κύκλον ἅπαντα.

[49] Text and translation are adapted from Gale's 2009 edition of *DRN* 5.
[50] While the degree to which Phoebe and Tellus are personified is left open, the way in which Amphitrite is said to stretch out her arms around the edges of the lands leaves no doubt that we are meant to imagine her as a fully personified deity.
[51] Hardie 1995: 209 shows that the passage from the *De Rerum Natura* above is in turn a 'close imitation' of this passage from Empedocles.

> Come then! I shall tell you first the sources from which the sun in the beginning and all other things which we now see became clear: earth and billowy sea and moist *aer* and Titan *aither* binding all of them around in a circle.[52]

Ovid challenges our ability to hold a single or stable image of the cosmos by presenting a world whose elements shift in and out of personification. The primordial universe fluctuates between a mythological cosmos populated and composed of deities and a philosophical one formed from abstract elemental qualities.[53] If the unformed world is characterized by continuous chaotic flux, then there can be no exact science or natural philosophy capable of representing it.

Ovid's Demiurge and Plato's *Timaeus*

Ovid marks the transition from *chaos* to creation by introducing a demiurge or craftsman god, whose task it is to bring apparent order to the cosmos. It is the actions of the demiurge that dominate the rest of the cosmogony. His introduction marks a significant shift in the philosophical outlook; if the account of *chaos* combined the materialist physics of Empedocles and Lucretius with Homeric and Hesiodic epic, what follows, at least superficially, is a creationist or teleological account of the formation of the world. It is here that we can see some of the more overt similarities with Plato's *Timaeus*, it being the canonical account of creationist cosmogony. Ovid may even be creating the illusion of a cosmogonic and textual history developing in tandem. Creationism gained prevalence in the history of Greek philosophy during the time of Socrates and Plato primarily as a reaction against the materialist physics of the Atomists, as 'the creative power of accident ... emerged as an explanatory model aspiring to compete with intelligent causation'.[54] If Ovid were presenting a complete textual as well as universal history that evolve simultaneously,[55] it would be fitting in his cosmogony for the myth and materialism of *chaos* to give

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[52] All translations from Empedocles follow Inwood's edition of the fragments.

[53] Myers 1994: 54–55 describes how Ovid 'reacts against Lucretius' purely materialistic explanation of natural phenomena, and by incorporating physics into his unrelentingly unnaturalistic and supernatural metamorphoses he consciously "remythologizes" Lucretius' rationalist allegorisations of myth'. See also Hardie 1988. Lucretius also frequently draws into question the relationship between myth and materialist physics; most notable for the current passage, he concedes that people may call the sea Neptune and corn Ceres, provided that they refrain from tainting their minds with such superstitions (*DRN* 2.655–660). On Lucretius' use of mythological imagery, see also Gale 1994 and Garani 2007.

[54] Sedley 2007: 82–83.   [55] See Volk 1997 on the concept of 'simultaneity' in the *Fasti*.

way to the harmonizing creationism of Platonic teleology. Such a vision, however, is diametrically opposed to the non-linear, fluid, and folded nature of Ovid's world-making. So why does Ovid turn to Plato at all?

One of the clear correlations between the cosmogonies of the *Timaeus* and the *Metamorphoses* is that both have a divine agency operating key processes in the formation of the universe and both picture this figure as a craftsman. Ovid refers to the demiurge using multiple titles. He is first introduced as a deistic principle which brings harmony to the cosmos by separating out the primordial mass, establishing the known divisions of the world and resolving the conflict which had characterized *chaos*: *hanc deus et melior litem natura diremit*, 'god and a better nature settled this dispute' (*Met.* 1.21). Even at the point of introduction, the identity of the demiurge is unfixed and questionable. The pairing of *deus* and *natura* indicates that the shift from chaos to order is not clear cut. *Natura* in the *Metamorphoses* may well be alluding to the *natura* of Lucretius (*DRN* 1.629), who is both 'Nature, the mother of things', *rerum natura creatrix*, and a fundamental law (*foedus naturae*). The primary role of *deus* and *natura* is to separate the world out into its constituent parts through the formation of a series of structural binaries; this effective gendering of the cosmos, however, is immediately subverted by having mother nature operate alongside her male counterpart rather than being the earth that the male god imposes his authority upon. There is a sense in which Ovid seeks to 'escape the exclusivity of "either/or" definitions of the male and the female', emphasizing the 'co–emergence' of cosmos and creative agent.[56]

Ovid's inclusion of *natura* also looks forward to the Speech of Pythagoras, where (as we saw earlier) *rerumque novatrix . . . natura* is responsible for turning *chaos* into a *foedus naturae*. The identification of *natura* with the craftsman god in the *Metamorphoses* also looks back to Cicero's *De Natura Deorum*, where Balbus states that *natura* surpasses our own handiwork in her creativity before recalling how Zeno also compared *natura* to the demiurge: *natura non artificiosa solum sed plane artifex*, 'nature is not only creative but in fact the craftsman' (*Nat. D.* 2.58). In effect, Ovid introduces a deistic principle in his cosmos to paradoxically undercut the idea of a creationist cosmogony, ensuring that the cosmos remains open to a multitude of conflicting theories and perspectives.

Ovid continues to emphasize the anonymity or uncertainty surrounding his deistic principle at *Met.*1.33, 'whichever of the gods he was' (*quisquis fuit ille deorum*), before adopting the titles *mundi fabricator*, 'the artificer of the

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[56] Spentzou 2019: 417.

world' (*Met.* 1.57) and *opifex rerum*, 'the craftsman of things' (*Met.* 1.79). It is only by the time we reach the creation of humans in the evolution of the world that the god, or ordering principle, transitions into a fully fledged craftsman. It takes the generation of humans to transform the principle of order in the cosmos into a vision of the craftsman. Rather than humans being fashioned as imitations of the divine, the idea of god develops in imitation of human creativity. In the *Timaeus*, the δημιουργός is referred to as ὁ τεκταινόμενος, 'framer' or 'artificer' (228d6). Cicero in his Latin translation of the *Timaeus* translates this as *artifex* (*Tim.* 6.7) and *ille fabricator* tanti operis (mundi), 'he that is the artificer of the many works of the world' (*Tim.* 6.3).[57] In Cicero's *De Natura Deorum*, the Epicurean Velleius, mocking the spherical shape given to the world in the *Timaeus*, refers to the demiurge as *opifex aedificatorque mundi Platonis de Timaeo deus*, 'the craftsman and builder god of the world in Plato's *Timaeus*' (*Nat. D.* 1.18.6). Ovid's choice to name his demiurge *mundi fabricator* and *opifex rerum*, and especially his use of the terms *opifex* and *fabricator*, specifically link his demiurge with that of the *Timaeus* and the position of the *Timaeus* in the Latin tradition, while simultaneously undercutting the hierarchical relationship between divine and human artistry upon which Plato's creationist cosmogony is founded.[58]

Ovid also found a readymade model for *chaos* in the *Timaeus*. Timaeus sketches an image of the nature of the primordial universe πρὶν οὐρανὸν γενέσθαι, 'before the heaven came into being', and describes how the demiurge imposed order on this chaotic state (*Tim.* 30a2–6):

> βουληθεὶς γὰρ ὁ θεὸς ἀγαθὰ μὲν πάντα, φλαῦρον δὲ μηδὲν εἶναι κατὰ δύναμιν, οὕτω δὴ πᾶν ὅσον ἦν ὁρατὸν παραλαβὼν οὐχ ἡσυχίαν ἄγον

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[57] Sedley 2013 has identified a number of difficulties concerning Cicero's translation of the *Timaeus*, arguing that the section of Cicero's translation which survives is not a large fragment of a complete translation of Plato's text; instead he states that it is more than likely that Cicero intended to translate only this specific section, which was designed to be part of a philosophical dialogue that would have also included an equally large section from one of Aristotle's works on physics, presumably either the *De Caelo*, possibly accompanied by *Physics* 8, or the *De Philosophia*. Sedley suggests that the work as a whole would have likely been called *De Universitate*, with the character Nigidius Figulus (one of the key figures in the revival of Pythagoreanism) voicing the section of the *Timaeus* and a Peripatetic representative voicing the Aristotelian text; this would then have been followed by a critique of both accounts. Sedley further argues that Cicero abandoned this text, so that what we have is a completed section of an incomplete work rather than an accident in the text's transmission. While this presents an interesting hypothesis for explaining the text of Cicero's translation that has come down to us, not enough evidence exists to confirm Sedley's theory.

[58] Ovid's initial identification of the demiurge with *natura* could also hint at Aristotle's use of divine craftsmanship imagery to illustrate natural processes. For Aristotle's reformulation of the craftsman imagery from the *Timaeus*, see Sedley 2007: 173–174.

ἀλλὰ κινούμενον πλημμελῶς καὶ ἀτάκτως, εἰς τάξιν αὐτὸ ἤγαγεν ἐκ τῆς
ἀταξίας, ἡγησάμενος ἐκεῖνο τούτου πάντως ἄμεινον.

Desiring, then, that all things should be good and, so far as might be,
nothing imperfect, the god took over all that is visible – not at rest, but in
discordant and unordered motion – and brought it from disorder into
order, since he judged that order was in every way the better.[59]

The primordial chaos of the *Timaeus* is represented as a disorderly state of
continuous motion. A clear hierarchy is established, with order deemed
superior to disorder in every way possible. Later in the dialogue, Plato
paints a more detailed picture of this primordial state when Timaeus
introduces the third principle, the receptacle or nurse of becoming; he
describes the receptacle as a matrix that provides both the venue and
material for generation to occur. He compares it to a lump of gold,
which can be transmuted into a variety of forms or shapes, but where the
gold alone has a true and permanent existence (*Tim.* 50a–b). The recep-
tacle must be utterly devoid of form to be able to receive the impressions of
all forms.

Included in the category of transient impressions are δυνάμεις,
'powers', or μορφαί, 'shapes', of the four elements, what Proclus would
call 'Forms immersed in matter' (3.357).[60] These powers are aspects of the
four elements categorized through a series of opposites: θερμὸν ἢ λευκὸν ἢ
καὶ ὁτιοῦν τῶν ἐναντίων, 'hot or cold or any of the other opposites'
(50a2–3), which are continually in a state of changing into one another.
They cannot be referred to using fixed names because of their fundamen-
tal impermanence. To do so would be to falsely utter them into existence.
This allows Plato to undercut Presocratic cosmogonies that attribute
primacy to one or more of the four elements, while installing the recep-
tacle as a viable alternative, capable of comprising within itself all poten-
tial matter. In the *Timaeus*, the receptacle is subsequently identified with
φύσις: ὁ αὐτὸς δὴ λόγος καὶ περὶ τῆς τὰ πάντα δεχομένης σώματα
φύσεως, 'the same *logos* applies to the universal nature which receives
all bodies' (*Tim.* 50b5–6). The demiurge's imposing of order upon this
amorphous state shows how the linear shift from chaos to order can be
conceived as a strict gendering of the universe.

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[59] All translations are adapted from Cornford's edition unless otherwise stated.
[60] For the Receptacle's 'mysterious' combination of space and matter, see Sedley 2007: 3, who
describes it as an 'indefinite substance or container'. On this passage in the *Timaeus* and the
fragments of Proclus' commentary, see further Cornford 1935: 182–183.

Primordial *chaos* in the *Metamorphoses* is likewise composed of the opposing properties of the elements rather than the elements themselves, which continually morph into each other (*Met.* 1.17–20):

> nulli sua forma manebat,
> obstabatque aliis aliud, quia corpore in uno
> frigida pugnabant calidis, umentia siccis,
> mollia cum duris, sine pondere, habentia pondus.

> To none did its form remain and one impeded the others, because in one body, the cold were fighting with the hot, the wet with the dry, the soft with the hard, and the weightless with those having weight.

Ovid follows Plato's linguistic choice of adjectival elemental qualities over named elements and both appear to use this as a means of counteracting the epistemological paradox of having primordial chaos composed of fixed elements at a point in time before creation has occurred.[61] Given that the elemental oppositions are characterized by their changeability and exchange between each other, the use of fixed nouns to categorize them would contradict the fundamental instability of their nature. Ovid, however, evokes this primordial state of the universe with a view to subverting rather than establishing a fundamental dichotomy between order and chaos.

Plato does not supply a complete list of the elemental qualities; this, however, can be extrapolated from book 10 of the *Laws*,[62] where the Athenian stranger explains how the exponents of materialism believe that the world comes into existence through the chance collision of elemental oppositions within a primordial state of disorder (*Laws* 889b5–c3):

> τύχῃ δὲ φερόμενα τῇ τῆς δυνάμεως ἕκαστα ἑκάστων, ᾗ συμπέπτωκεν ἁρμόττοντα οἰκείως πως, θερμὰ ψυχροῖς ἢ ξηρὰ πρὸς ὑγρὰ καὶ μαλακὰ πρὸς σκληρά, καὶ πάντα ὁπόσα τῇ τῶν ἐναντίων κράσει κατὰ τύχην ἐξ ἀνάγκης συνεκεράσθη, ταύτῃ καὶ κατὰ ταῦτα οὕτως γεγεννηκέναι τόν τε οὐρανὸν ὅλον καὶ πάντα ὁπόσα κατ' οὐρανόν.

> All move by the chances of their several powers, and according as they clash and fit together with some sort of affinity – hot with cold, dry with moist, soft with hard – and in other mixtures that result, by chance, of necessity, from the combination of opposites. From these things and in this way the entire world came into being and all things in it.[63]

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[61] Broadie 2012: 188–189 discusses Plato's linguistic choice of adjectival elemental qualities over named elements.

[62] Cicero's *De Legibus* draws significantly on Plato's *Laws* and indicates the significance of its position in a Roman context.

[63] Trans. adapted from Cornford 1935.

Plato of course strongly rejects the materialists' worldview. It could be argued that in the *Timaeus*, Plato deliberately cuts short his representation of the behaviour of elemental oppositions to avoid leaving himself open to opposing theories, such as that described in the *Laws*, where the universe can get underway purely through the chance collision of elemental oppositions. This would also account for the significant difference between Timaeus' initial depiction of the demiurge imposing order on a disorderly state and the more complex, if problematic, representation of the receptacle, which is portrayed as an inert matrix of indeterminacy rather than a chaotic state of warring discord. Indeed, Ovid clearly demonstrates in his contrasting representations of the primordial universe in the *Ars Amatoria* and *Fasti* how such cosmogonies which place a disorderly and chaotic state at the beginning of the universe can be easily adapted to fit opposing philosophical outlooks.[64]

World-Making and Mimesis in the *Metamorphoses* and *Timaeus*

The analogy between divine and human craftsmanship is fundamental for understanding the workings of the cosmos in the *Timaeus*. Towards the beginning of his speech (*Tim.* 27c–29d), Timaeus sets out the relationship between the universal craftsman and his eternal model. Following the argument laid out in *Republic* 10, Timaeus states that if a craftsman, here the demiurge, copies an eternal model, his work will be good; if the model is a generated thing, the work will not be as good. In the *Timaeus*, the demiurge creates the material world based upon the eternal model. He concludes by stating that since the visible or material world is only a likeness of the real or eternal model, we must be content with an account of it, which can be no more than likely. As David Sedley puts it: 'Because the world is a mere "likeness" (εἰκών) of an eternal model, the kind of discourse appropriate for it to aspire to is, he says, a "likely" (εἰκώς) one.'[65] The dialogue and the world it purports to represent share this fundamental characteristic. The natural philosopher or scientist, who attempts to represent the universe based upon the visible world, can at best produce something that is like the truth. As Cornford states, 'this means there can be no exact, or even self-consistent, science of nature' and that the 'truth to which it can approximate is not an exact and literal statement of physical laws' but is instead the belief that 'the world is not solely the outcome of blind chance or necessity but shows the working of a divine

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[64] For a fuller treatment of this topic, see Chapter 3.   [65] Sedley 2007: 110.

intelligence'. The world is 'like a work of art designed with a purpose', but the account of this world 'can never be more than "likely", because of the changing nature of its object'.[66]

Not only then is there a direct parallel between world-making and text-making but the epistemological dilemma of accurately representing the world is also intricately tied to the mutability of material reality and the effect this has on our ability to perceive and convey the world around us. It also highlights the relationship between the world and the artistic representation of that world, while simultaneously eliding this distinction. In other words, the cosmos as outlined in the *Timaeus* is fundamentally ekphrastic and draws upon the shield of Achilles from the *Iliad*. Karel Thein, considering this connection, says, 'the more Plato demeans human artists or craftsmen, the more he exalts the divine craftsmen who do not copy, but *create* nature including the whole "natural" world'.[67] There is a clear hierarchy with each mimetic level in the genealogical sequence representing an abasement of the original. The craftsman analogy easily allows for this hierarchy to be disrupted or overturned. Ovid may be seen to allude to this connection and exploit a comparable dynamic at the beginning of the *Metamorphoses* where ekphrasis is used as a means of eliding the distinction between reality and representation at the juncture between myth and natural philosophy.

In the *Timaeus* the craftsman analogy appears to look past the difficulty that if the work of the demiurge is like that of a human craftsman, then its design and order reflects a human, rather than divine, endeavour. There is the possibility that Plato allows a destabilizing reading to persist, where the world is based upon its own replica and is dependent on human interpretation to establish its intrinsic meaning. In the *Timaeus*, what first appears to be a precise 'scientific' account of cosmogony is represented as a myth that can only approximate the world which it seeks to represent. Plato turns to 'myth' as a means of counteracting the limitations of the dialogue and as a means of achieving a representation of the world that is *most* likely.

Luc Brisson argues that because the *Timaeus* appears in the form of a story that 'describes the making of a god, the world, by another god, the demiurge, [it] is akin to a myth (*muthos*) like that told by Hesiod in the *Theogony*'; however, Brisson indicates that 'it also wants to be an explanation (*logos*), backed up by arguments, of the origin of the world in which

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[66] Cornford 1935: 28–31.
[67] Thein 2021: 14. Thein 2008 provides a detailed discussion of the *Timaeus* and *Critias* in relation to ekphrasis.

we live. The major difficulty to be faced by the interpreter of the *Timaeus* resides in the fact that Plato adopts both viewpoints, without really choosing between them'.[68] In other words, Plato's dialogue may be read as achieving a degree of openness and fluidity, with its oscillation between myth and natural philosophy challenging their perceived dichotomy.[69] Plato in the guise of Ovid may be seen as crossing and re-crossing familiar generic boundaries, with the ultimate effect of calling into question the epistemological status of his own text and its relationship with the mutability of the material world.

It has been frequently illustrated that the ekphrastic elements of Ovid's opening cosmogony question whether there is a distinction between art and reality.[70] The *Timaeus*, and specifically the pervasive metaphor of the craftsman model and copy, provides a philosophical basis for this dynamic in Ovid's opening cosmogony. The Timaean dialogue concerning the ontological status between model and copy on a world scale also becomes an issue of intertextuality in its reception. Ovid disturbs the hierarchy between model and copy and order and chaos as found in the *Timaeus*. We might still ask, however, whether the turbulent logic of the *Metamorphoses* might be a fruitful way of reading the *Timaeus*. It could be argued that Plato in the *Timaeus* achieves a vision of myth and natural philosophy as deeply interconnected and co-emergent, which together can achieve an account of material reality that is 'most likely'. It is as close an approximation as possible of a single, determined, and universal truth or representation of the world written with an awareness of the distortive nature of the medium within which it is composed. Yet, as we have seen, the ekphrastic nature of Plato's cosmos might allow for this polarity to be reversed. In such a destabilizing reading, the εἰκὼς μῦθος might be seen to create an oscillating dialectic between model and copy, where interpretative and physical uncertainty is not a distortive effect of language but a means of achieving continual change through the creation of an 'open work' designed not only to foster its own reinterpretation but also to show how meaning is achieved through the multiplication of perspectives and fields of reference.

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[68] Brisson 2012: 390 and Grasso 2012: 344 also show that Plato presents the difficulties concerning the status of his cosmogony in the context of blurring the boundaries between μῦθος and λόγος.

[69] Sedley 2007: 97 states that 'the register of its discourse switches repeatedly between myth, fable, prayer, scientific analysis, and philosophical argument'.

[70] Hardie 2002a: 7 describes how the 'verbal artist's power to call up before his audience or readership a vivid vision has its analogue in the visual arts in the challenge to the painter or sculptor to successfully imitate reality as to elide the boundary between art and nature'.

Duncan Kennedy's statement concerning representation in the 'anti-platonizing tradition' can help us conceive how Ovid positively reworks Plato's vision of models and copies: 'Representation, rather than being seen as a degenerative process, as in the Platonizing tradition, with each copy being further removed from the truth than the last, emerges in the anti-platonizing tradition as bringing about the possibility of truths and know-ledges that change and variety – endless change and variety – can generate.'[71] Ovid reads Plato against the grain in order to counteract the notions of unity, order, determinism, and permanence. Ovid portrays truth and meaning as 'plural, contingent, and emergent' where the funda-mental flux and uncertainty of *chaos* is a means of opening out a multifaceted, transgressive, and mutable reality. In the next chapter, we will trace the roles of chaos in the world of the *Metamorphoses* after its creation.

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[71] Kennedy 2005: 39.