

**Onomatopoeia and iconic
poetry in Lucretius' *De Rerum
Natura***

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ABSTRACT

I consider the long-standing question of why Lucretius writes his treatise on natural philosophy in poetry. I choose onomatopoeia as a lens through which to consider the problem, as a phenomenon highly relevant both to ancient and modern debates about the relationship between a word's form and its meaning. Informed by modern linguistic models on the subject, I define onomatopoeia as a specific case of a much wider category of sound symbolism and, at its most general, linguistic iconicity. I then consider onomatopoeia's place within an Epicurean and Lucretian theory of language, pointing out in particular the relevance of the early, naturally defined vocabulary, and the role of the Epicurean *συνειδῶς* for the development of language. This leads to a consideration of the role of onomatopoeia and iconicity in three different parts of the *De Rerum Natura*: the *elementa* sections, the explanation of hearing in Book 4, and Lucretius' consideration of rival theories and his own linguistic task.

I engage particularly with the atomological school of thought within Lucretian scholarship, and I argue for a reading, not where language has a one-to-one correlation with physics or where there is an unflinching connection between words and the world, but where the iconic aspects of language are a useful tool by which Lucretius is able to exemplify Epicurean doctrine, and a major aspect of his poetic style. I conclude that this understanding of language, pregnant with onomatopoeic

and iconic possibility, is a major reason why Lucretius is drawn to write *De Rerum Natura* in verse.

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A long-standing question in Lucretian scholarship has been, why does Lucretius write his Epicurean treatise as poetry?¹ Although there were precedents to writing natural philosophy in poetic form,² it is a surprise that an Epicurean should write poetry considering the school's emphasis on directness of language. It is also surprising when Epicurus himself wrote prose,³ and, insofar as Lucretius wishes to translate the heritage of Greek philosophy for a Latin-speaking audience, poetry would seem only to complicate his task. Indeed, Lucretius' repeated insistence on the *egestas linguae* in Latin could be taken to imply that his task is only exacerbated by the restrictions placed upon him by the poetic mode.⁴

Such objections assume a certain view of poetic language as being more difficult than prose and less communicative for delivering propositional content.⁵ They also suppose a friction between the core, philosophical work Lucretius was undertaking in *De Rerum Natura*, and the less intrinsic poetic task.⁶ Indeed, Lucretius the philosopher

¹ The latest summary of the debate comes in Schindler (2022, 88-92); an earlier consolidation is in Classen (1968).

² Most especially Empedocles, composer of two poems *On Nature* and *Purifications*, according to Diogenes Laertius (8.77). Aratus is also notable, whose didactic hexameter poem the *Phaenomena* was so popular. Of course, Homer and Hesiod were treated as authorities on a wide range of matters in the ancient world, including scientific knowledge.

³ Epicurus was also reported to view poetry with disdain, e.g. Diog. Laert. 10.120. Schindler (2022, 88-9) gives a brief synopsis of such testimonies.

⁴ As an example, like for other ancient poets, commentators sometimes "explain" a word or phrase by indicating that Lucretius was restricted by the metre of verse, e.g. Gigon (1978, 170-1); but see also Wald (1968), an attempt to separate out metrically-influenced archaisms in Lucretius.

⁵ De Lacy (1939) considers Lucretius an "exception" to the normal Epicurean preference for philosophy in prose. Norden (1961) sees the poetic language as detracting from communication.

⁶ This view has been precipitated by misreadings of the famous "honey-on-the-cup" metaphor of *De Rerum Natura* 1.936-50. For my own reading, see "Rival theories" in Chapter 3 below.

and Lucretius the poet were for a long time opposing figures in *De Rerum Natura's* critical history.⁷ As it is, Lucretius' poetry has received much more attention, both for its own sake,⁸ and for its effect on his philosophical programme.⁹ Moreover, with a more positive view of the poetic form, and by understanding his philosophy and poetry as integrated, I suggest the question "Why poetry?" is much more easily answered.

In particular, my argument is that Lucretius wrote verse because it afforded him the best means of reflecting his subject: reality. Poetry was not just a convenient vehicle for teaching,¹⁰ or a glorious tradition in which to achieve his own famous position.¹¹ It was also the most appropriate means of describing the stuff of the universe. Indeed, without the poetic mode, Lucretius' Epicurean programme would have been the less convincing exactly because it would have been less accurate to the world he was describing.

⁷ See Dionigi (2005, 14-8) for an overview of the slow integration of classical disciplines in the critical engagement with *DRN*.

⁸ See, e.g. West (1969); also Kenney (1970), and in his wake, Nethercut (2018), who have written about the Hellenistic and Callimachean tendencies in Lucretius.

⁹ The atomological school: Deutsch (1939), whose dissertation was taken up by Friedländer (1941); thereafter Schrijvers (1970), Snyder (Snyder 1980), Ferguson (1987), Schiesaro (1994) and especially Dionigi (2005).

¹⁰ As argued, e.g., by Elizabeth Asmis (2016, 447): "Philosophical reasoning is what truly brings a person close to god; and the charm of poetry is merely a way of enticing the student to undertake this task."

¹¹ A view less common now, according to Schindler (2022, 89), but present in the works of Pierre Boyancé (1947) and Karl Büchner (1952).

A great deal of work has already been done on Lucretius' style and poetic language.¹² Onomatopoeia, however, has been largely neglected as a subject worthy in itself for Lucretian scholarship, though Campbell (2003) and Stevens (2008) give the best consideration.¹³ Indeed, Latin linguistics more generally has given little attention to onomatopoeia as a phenomenon worthy of interest.¹⁴ But three reasons justify a study devoted to the topic. First, Lucretius' use of onomatopoeia is plentiful and striking; it has sometimes been considered one of the tools less used in Lucretius' armoury, but its concentration in his Discourse on Language¹⁵ (5.1028–90) should pique our interest alone. Secondly, onomatopoeia occupies a special place in the study of language for the directness of its relationship between meaning and form. In modern linguistics, even amongst the many who stress an essentially arbitrary relationship between the two, onomatopoeia is the noted exception. In the ancient world, where φύσις and θέσις were the key terms of debate for questions of language, both as to its origin and its relationship to the world, onomatopoeia would seem a particularly pertinent category of language to study. Finally, onomatopoeia straddles the linguistic and the

¹² Snyder (1980) considers Lucretian puns; Dionigi (2005, 39-74) explores especially leonine rhyme and cacemphaton; Nethercut (2018) the Alexandrian footnote. Sedley (1998) studies Lucretius translation into Latin, Taylor (2020) his compounds and calques.

¹³ Even Deutsch (1939, 14-5) and Snyder (1980, 91) damn Lucretius with faint praise in their comparison to other Roman poets. Both agree that Vergil was "most sensitive among the Roman poets to sound imagery".

¹⁴ Onomatopoeia is not at all discussed in, for example, in some of the major recent linguistic collections of essays, such as Adams (2013), Adams, Chahoud and Pezzini (2023), or Clackson (2011).

¹⁵ My term for this significant passage, which I have so dubbed because I will refer to it often.

literary in a way that encourages us to bring together Lucretius the natural philosopher and Lucretius the poet.

To proceed, it will be necessary to lay out a working conception of onomatopoeia. The definition I shall set out will be a broad one that allows for a scale of onomatopoeic potency, and where consideration is given to the more general forms of sound symbolism and iconicity. Then I shall investigate Lucretius' understanding of language, focussing especially on the Discourse on Language in Book 5 and its relationship to Epicurus' theory as we have it in the *Letter to Herodotus* 75–6. I shall argue that onomatopoeia has a special role to play in the Epicurean and Lucretian narratives for the origin of language, in that they are examples of the first, primitive words on which later language developed, and that they constitute a principle by which Epicurean philosophers can rationally augment their language. With all this in hand, it will remain to see how onomatopoeia is used throughout the poem and consider its place in the wider question of Lucretius' poetic task and use of language.

CHAPTER 1: ONOMATOPOEIA AND ICONICITY

Plato's *Cratylus* first set the terms of a debate that have continued for two and a half millennia. In that dialogue Socrates talks with Hermogenes and Cratylus about the meaning of words. Cratylus, who takes the “naturalist” position, argues that “everything has a right name of its own, which comes by nature”.¹⁶ Hermogenes, who takes the “conventionalist” position, says “I cannot come to the conclusion that there is any correctness of names other than convention and agreement.”¹⁷ For much of the ancient world, this was a key question for those interested in language, and the natural and conventional views were held variously by the schools of philosophy according to their different creeds.¹⁸

Similar questions have continued into modern linguistics, though often dressed in different terminology. “Arbitrariness” and “iconicity” have tended to prove more useful terms in the debate. Since Saussure, it has been axiomatic that the relationship between a word's form and its meaning is indeed arbitrary.¹⁹ Saussure was criticised

¹⁶ ὀνόματος ὀρθότητα εἶναι ἐκάστω τῶν ὄντων φύσει πεφυκυῖαν... (*Crat.* 383a) English translation for this and subsequent quotation from the Loeb: Fowler (1926).

¹⁷ οὐ δύναμαι πεισθῆναι ὡς ἄλλη τις ὀρθότης ὀνόματος ἢ ξυνηθήκη καὶ ὁμολογία. (*Crat.* 384d)

¹⁸ Aristotle was a firm conventionalist. (*De Int.* 16a19–20.) The Stoics tended more towards a naturalist position, for which see Barnes et al. (1999) and Allen (2005). Epicureans were generally considered to be naturalist in their outlook by commentators in antiquity (see Atherton (2005, 122–3) on Proclus and Sextus Empiricus), though, as we shall see, their position was something of a mix of the two.

¹⁹ “The link between sign [Fr. *signifié*] and signification [*signifier*] is arbitrary.” (Saussure 1983, 67) Arbitrariness is one of fifteen fundamental “design features” of language in the influential article by Hockett (1960).

by some at the time for overstating his case,²⁰ and more recently there has been growing interest in aspects of language which are non-arbitrary.²¹ But for the most part arbitrariness has become fundamental aspect of modern linguistic theory.

Onomatopoeia, however, is the noted exception to the principle that the relationship between word-form and its meaning is arbitrary. When not ignored,²² it is typically accounted for as an exception because it is marginal or because its non-arbitrary nature is questionable.²³ Both objections, however, are somewhat misplaced.

It is not at all clear that onomatopoeia are²⁴ rare in language. Michael Ferber notes that onomatopoeia are typically newly invented.²⁵ Moreover, onomatopoeia only appears rare if it is considered a discrete category of language, and not a specific

²⁰ Otto Jespersen (1922) argued for a greater role of iconicity and sound symbolism in language. Roman Jakobson also opposed arbitrariness, as described—and critiqued—by Roy Harris (2022, 94-108).

²¹ Anderson (1998) provides a thorough, book-length argument for iconicity. Some reasons for the growing interest has been: the greater study of the many sign languages (Taub 2002); psychological and neurological studies of synaesthesia, e.g. through the Bouba-Kiki effect (Hubbard and Ramachandran 2001), also known as the Maluma-Takete effect (Köhler 1929). This effect shows a universal and synaesthetic tendency towards interpreting certain sounds (“kiki”) as visually sharp, hard or pointed, and other sounds (“bouba”) as rounded, soft or curved.

²² Michael Ferber (2019, 102, n. 7) notes the general absence of onomatopoeia as a topic worthy of mention in some of the leading linguistic textbooks. Lyons (1977) is a happy exception.

²³ E.g. “As for genuine onomatopoeia... not only is it rare but its use is already to a certain extent arbitrary.” (Saussure 1983, 69); Bynon (1977, 11 n.1) also acknowledges onomatopoeia as an apparent “violation” of the arbitrariness principle, but excuses it for being “sufficiently restricted to well-defined semantic fields” and for having “considerable latitude between the model and its linguistic codification.”

²⁴ Dissuaded by the ugliness of the etymologically correct plurals “onomatopoeias” or “onomatopoeiae”, I use this form throughout for singular and plural.

²⁵ (Ferber 2019, 90-1); we shall see later that in the ancient conception too, there was a connection between neologism and onomatopoeia.

instance of a more general iconicity. Words marked as onomatopoeic in the dictionary are a small percentage of the overall vocabulary. But this would be a subset of words for which one could usefully comment on their iconic elements. Ferber (2019, 92-5) gives a variety of linguistic phenomena which are difficult to explain in strict accordance with the arbitrariness principle: para-linguistic terms such as *tsk-tsk* or *uh-oh*; the apparent sound symbolism of small things using /i/, typically found in diminutive forms;²⁶ alliterative or rhyming attraction (“kith and kin”, “death” and “breath”); so-called phonaesthemes of the type in *glare*, *glitter*, *glisten*, *gleam*, *glimmer*, *glance*, etc.; nonsense, humorous words (such as Ferber’s “autonymous” word *discombobulate*); the curious pairs with regular front-back vowels (*ding-dong*, *pitter-patter*, *shilly-shally*, *tick-tock*, *bish-bash-bosh*,). Onomatopoeia, in other words, is not the only phenomenon in language which seems to display non-arbitrary aspects, and there is no reason to think that it is insignificant enough not to merit consideration.

In fact, onomatopoeia is a general property of language.²⁷ Certainly it is found across a wide range of languages, and some onomatopoeic effects even appear to be interpretable across language systems, such that an English speaker can appreciate the appropriateness of the Japanese rain sounds *zah-zah* and *shito-shito*, even if this is only apparent after he is told that the former refers to “hard, driving rain” and the

²⁶ (Jespersen 1933)

²⁷ (Perniss, Thompson and Vigliocco 2010); Bredin (1996) argues that onomatopoeia is a “language universal”.

latter to “light, fine rain”.²⁸ There is a surprising similarity between the words for a cock’s crow across a swathe of languages from different language families.²⁹ There is also the bouba-kiki effect I have already mentioned in note 21.

The second objection to onomatopoeia is that its iconicity is in fact reliant on an arbitrary or conventional interpretation. But this charge is based on a mistaken understanding. Anderson puts it well:

“The structuralists were right to insist that all linguistic signs are arbitrary, but wrong to leap to the conclusion that no linguistic signs are nonarbitrary: iconic signs, as partially resemblant forms, are composed of both arbitrary and nonarbitrary features.” (Anderson 1998, 29)

Likewise Lyons explains that “our recognition of the resemblance between a sign and its object... is frequently based upon our knowledge of certain cultural conventions of interpretation. It follows that ‘iconic’ cannot be equated with ‘natural’.” (Lyons 1977, 102) It is therefore not sufficient to point out that the same thing is expressed with different word-forms across different languages (such as the *cockerdoodledoo* calls, see note 29), or to discount more lexicalised terms because they exhibit “less” iconic

²⁸ Lyons calls this kind of iconicity “weak” in that one can interpret the appropriateness of the sounds only after understanding the meaning.

²⁹ omniglot.com [accessed 28 July 2023] lists the sound of the cockerel in 58 different languages, from a wide range of language families, and the similarities are fascinating, e.g. *cocorico* (French), *gū gū gū* (Mandarin Chinese), *kukuruyuk* (Indonesian), *kikeriki* (German). Commonalities are the reduplication of syllables, velar consonants (usually unvoiced), and front or rounded vowels. See also Ferber (2019, 93).

relationships. So, for example, while *growl* may seem to be “less” onomatopoeic or iconic than *grrr*, it would be a mistake to say that there was nothing onomatopoeic in the first word, even if the latter seems “more” so.

There are two important implications in this last example. First, the onomatopoeic qualities of a word are *possible* rather than always present, and second, there is a scale of sound symbolism or iconicity by which words may be said to be “more” or “less” onomatopoeic.³⁰ The first point is important in that iconicity is part of the performance of language rather than the competence of language (to use Chomskyan terms). In the case of a word like *tiny*, for example, it is unlikely that native speakers will consider it to have any onomatopoeic quality. But in the phrase “*he was playing with a teeeeny-weeeeny fire engine*” there is a perceived iconicity. The vowel has been elongated because it is an element of the word that has the potentiality for iconicity—in this case, the potential for describing smallness.³¹ What awakens the iconic aspect of the word is the semantic significance of the word in its particular context. (For this reason the sibilance of *whisper* is onomatopoeic in a way that it is not in *sister*.) There is then, not only a conventional aspect to onomatopoeia’s iconicity, but also a subjectivity in its interpretation, because one must correctly interpret the referent of iconic or onomatopoeic language.³² Words for sounds are therefore the easiest to

³⁰ “All onomatopoeia is partial.” (Ferber 2019, 92); “A primary characteristic of iconism is partial resemblance of an icon to its referent.” (Anderson 1998, 28)

³¹ For his famous argument for the symbolic value of the vowel /i/ see (Jespersen 1933)

³² Onomatopoeia also seems psychologically motivated in that we *want* words to sound like they mean, as Bredin emphasises. (Bredin 1996, 560, 566) An example is provided by J. D. Sadler for

interpret iconically, but other kinds of referents may also be worthily considered, depending on the context (such as the slow quality of *sluggish* or sharp taste of *bitter*). As an example, the first quartet of Gerard Manley Hopkins' "As kingfishers catch fire" goes as follows:³³

As kingfishers catch fire, dragonflies draw flame;
 As tumbled over rim in roundy wells
 Stones ring; like each tucked string tells, each hung bell's
 Bow swung finds tongue to fling out broad its name;

The words *tumbled*, *tucked*, or *fling* are not usually considered onomatopoeic. But here, knowing that Hopkins is describing stones in a well, the vowels and dental phonemes of *roundy* and *tumbled* take on a phonic meaning imitative of the stones whose echoes they describe. Equally, in the context of a church bell swinging, the movement of vowels and consonantal articulation from the back of the mouth (*tucked*, *string*, *hung*, *bow*, *swung*, *tongue*) to the front (*fling*, *broad*), are iconically representative of the movement of the bell's arc back and forth.

Hugh Bredin's formulation of onomatopoeia is informative for setting out some parameters along these lines:

the German word *Gesundheit* in English: "one reason that we may use it so enthusiastically may be that it *sounds* so much like a sneeze." (Sadler 1971, 176)

³³ Poets tend to have been more amenable to onomatopoeia than most linguists, a point noted by Ferber (2019, 96) and Anderson (1998, 42-3). Cf. also Jakobson and Waugh (2002, 218-20).

“onomatopoeia is a possibility whenever a word (1) denotes a sound, (2) denotes something associated with a sound, or (3) connotes at least one property such that a verbal sound can also have the property.”

(Bredin 1996, 568-9)

Onomatopoeia is therefore a subset of a wider phenomenon of sound symbolism, and both are subsets of the most general category of iconicity, which need not be sound-based. Bredin specifies it further: “Onomatopoeia is a relation of sound to sound. Sound symbolism is a relation of sound to semantic fields such as brightness and darkness.” (Bredin 1996, 568) Language iconicity, we might add, is a relation between any linguistic feature to semantic fields.

Onomatopoeia in the ancient world

The term onomatopoeia is of course Greek in origin (ὀνοματοποιία), sometimes transliterated into Latin, sometimes translated as *nominatio*.³⁴ Etymologically speaking, the terms suggest a derivational process closer to neologism than anything related to the iconic aspects which lie at the heart of the word in modern usage. This is how Aristotle uses the term, writing of the need for creating new words in the

³⁴ *nominatio est prima, quae nos admonet ut cuius rei nomen aut non sit aut satis idoneum non sit, eam nosmet idoneo verbo nominemus aut imitationis aut significationis causa* (Rhet. Her. 4.42); *in nominationibus, id est in ὀνοματοποιία* (Prisc. GL 2, p. 450.2–8).

absence of useful vocabulary.³⁵ Similarly, Quintilian defined onomatopoeia as the creation of words: *fictio nominis*. (*Inst.* 8.6.31, 9.1.5)

Other instances of the term appear to be much closer to the modern sense of the word in that it stands for words formed according to an auditory symbolism. In discussing the origin of the word βάρβαρον Strabo notes the general tendency of naming sounds with words that sound alike.³⁶ Even when the word is meant primarily in the sense of word-formation, the examples given sometimes tend to be skewed towards phonologically motivated terms. For example, having defined onomatopoeia as *fictio nominis*, Quintilian goes on to list words which he explicitly notes as having sounds suitable to their meaning: *mugitus, sibilus, murmur*. (*Inst.* 8.6.31)³⁷

Certainly there are a wealth of words in Latin which its speakers considered phonologically motivated or onomatopoeic. Iconic animal sounds are as plentiful as in any other language. A list of such sounds, *De Naturis Animantium*, was attributed to Suetonius and lists an impressive sixty-five characteristic animal cries.³⁸ Varro also notes various animal noises at *Ling.* 7.103–4, and elsewhere notes the variety of animals named after their cries. (*Ling.* 5.75) Nonius gives an example of a more generally onomatopoeic adjective—*mutus*, which he describes as *incertae vocis*, quoting

³⁵ Ἐνίοτε δὲ καὶ ὀνοματοποιεῖν ἴσως ἀναγκαῖον, ἐὰν μὴ κείμενον ἦ ὄνομα πρὸς ὃ οἰκείως ἂν ἀποδοθείη... *Aris. Cat.* 7a)

³⁶ εὐφρέστατοι γὰρ ἔσμεν τὰς φωνὰς ταῖς ὁμοίαις φωναῖς κατονομάζειν διὰ τὸ ὁμογενές· ἢ δὴ καὶ πλεονάζουσι ἐνταῦθα αἱ ὀνοματοποιαί, οἷον τὸ κελαρύζειν καὶ κλαγγή δὲ καὶ ψόφος καὶ βοή καὶ κρότος, ὧν τὰ πλεῖστα ἤδη καὶ κυρίως ἐκφέρεται· *Strabo Geog.* 14.2.28

³⁷ Cf. also *Rhet. Her.* 4.42.

³⁸ *Suet. Rel. Reiff. frag.* 161

Naevius' tragedy the *Lycurgus* as an example. (Non. 9.24 = Ribbeck (1871, 10), *Lycurgus* VI)

Besides explicit onomatopoeia, there was an interest in the iconicity and sound symbolism of certain aspects of language. Aulus Gellius relates the opinion of the neo-Pythagorean Nigidius Figulus, who argued that the Latin (and Greek) pronouns for the first and second person held a kind of articulatory symbolism. Nigidius considered how the lips move forward in pronouncing *vos* with a movement befitting the meaning of the word (*motu quodam oris conveniente cum ipsius verbi demonstratione*), whilst this is not the case in *nos*. (Gell. 10.4) Aulus Gellius notes how this interpretation was influenced by the φύσις—θέσις debate, and the first century BC Nigidius is here was drawing on the earlier Stoic philosopher Chrysippus, as set out by Alessandro Garcea (2019). Onomatopoeia and linguistic symbolism was as much recognised as a linguistic phenomenon in the ancient world as it is today.

There is one other relevant aspect: the question of style. Despite the association between onomatopoeia and the creation of new words, both Quintilian and the writer of the *Rhetorica ad Herennium* consider its use antiquated. The latter (*Rhet. Her.* 4.42) considers *rudere*, *mugire*, *murmurari* and *sibilare* to be words associated with their ancestors (*maiores*). The former notes that old instances of onomatopoeia are dying out (*multa cotidie ab antiquis ficta moriantur*—*Inst.* 8.6.31) but that without the judgment of antiquity (*iudicio vetustatis*), their use is hardly acceptable:

Sed minime nobis concessa est ὀνομασποποιία. Quis enim ferat si quid simile illis merito laudatis λίγξε βίος et σίζ' ὀφθαλμός fingere audeamus? Iam ne 'balare' quidem aut 'hinnire' fortiter diceremus nisi iudicio vetustatis niterentur. (Inst. 1.5.72)

The Greek instances Quintilian quotes are from Homer: *Il.* 4.25 of a bow's twang, and *Od.* 9.394 where the Cyclops' eye sizzles when stabbed by Odysseus' heated stake. Homer's fame and age have allowed him to be the exception to Quintilian's rule. New instances of onomatopoeic use are to be rare. We can surmise, however, the Roman as well as Greek instances of Quintilian's *iudicio vetustatis*: Ennius' use of *taratantara* for a trumpet sound (*at tuba terribili sonitu taratantara dixit*—Prisc. *GL.* 2, p. 450.2–8) is a famous, if extreme, example from Rome's own ur-poet.

CHAPTER 2: LUCRETIAN AND EPICUREAN LANGUAGE

In the second half of *De Rerum Natura* Book 5 the development of mankind and civilisation is narrated. After the beginnings of early man, Lucretius describes the coming about of language (5.1029–90), for which he draws upon material from Epicurus' *Letter to Herodotus* 75–6.³⁹ The importance of this model is such that it is worth studying these sections of the letter in detail and comparing it with Lucretius' account.

There are three major claims I want to make in this section. First, Lucretius' account of language development is a faithful following of Epicurus', and, contrary to a view sometimes taken, he includes an account of Epicurus' "second" stage of language. Second, Lucretius' method is not just exposition of material, but a poetic instantiation of the development of language; that is, Lucretius shows a kind of development of language in his very telling. Third, onomatopoeia are, in Lucretius' account, examples of words that have survived from the earliest vocabulary of language, as it is understood in the Epicurean model.

³⁹ This is well-studied, and the starting point for Pigeaud (1974), Atherton (2005), Verlinsky (2005) and Reinhardt (2008).

Epicurean language

Epicurus' *Letter to Herodotus* 75–6 is the philosopher's main, extant account of his theory of language.

[75] Ἀλλὰ μὴν ὑποληπτέον καὶ τὴν φύσιν πολλὰ καὶ παντοῖα ὑπὸ αὐτῶν τῶν πραγμάτων διδαχθῆναι τε καὶ ἀναγκασθῆναι· τὸν δὲ λογισμὸν τὰ ὑπὸ ταύτης παρεγγυηθέντα ὕστερον ἐξακριβοῦν καὶ προσεξευρίσκειν ἐν μὲν τισὶ θᾶττον, ἐν δὲ τισὶ βραδύτερον καὶ ἐν μὲν τισὶ περιόδοις καὶ χρόνοις [ἀπὸ τῶν ἀπὸ τοῦ ἀπείρου] * * , ἐν δὲ τισὶ καὶ ἐλάττους. Ὅθεν καὶ τὰ ὀνόματα ἐξ ἀρχῆς μὴ θέσει γενέσθαι, ἀλλ' αὐτὰς τὰς φύσεις τῶν ἀνθρώπων καθ' ἕκαστα ἔθνη ἴδια πασχούσας πάθη καὶ ἴδια λαμβανούσας φαντάσματα ἰδίως τὸν ἀέρα ἐκπέμπειν στελλόμενον ὑφ' ἐκάστων τῶν παθῶν καὶ τῶν φαντασμάτων, ὡς ἂν ποτε καὶ ἡ παρὰ τοὺς τόπους τῶν ἐθνῶν διαφορὰ εἴη· [76] ὕστερον δὲ κοινῶς καθ' ἕκαστα ἔθνη τὰ ἴδια τεθῆναι πρὸς τὸ τὰς δηλώσεις ἦττον ἀμφιβόλους γενέσθαι ἀλλήλοις καὶ συντομωτέρας δηλουμένας· τινὰ δὲ καὶ οὐ συνωρώμενα πράγματα εἰσφέροντας τοὺς συνειδόμενους παρεγγυῆσαι τινὰς φθόγγους τοὺς <μὲν> ἀναγκασθέντας ἀναφωνῆσαι, τοὺς δὲ τῶ λογισμῶ ἐλομένους κατὰ τὴν πλείστην αἰτίαν οὕτως ἐρμηνεῦσαι.

(*Ep. Hdt.* 75–6)

In these few sentences Epicurus sets out a sophisticated theory for the origin and history of language.⁴⁰ The most important elements for present purposes are these: language developed in two stages, and nature, reason, and humanity all had a part to play in that development.

Two stages of development

Epicurus sets out two stages for how language developed: an earlier stage (ἐξ ἀρχῆς), in which words were the instinctual responses humans made to the world around them; and a later stage (ὕστερον), in which human reasoning augmented language.⁴¹ But the philosopher does not launch into a discussion of language from nowhere. Language is one of the many phenomena (πολλὰ καὶ παντοῖα) that exemplify a more general principle.⁴² That principle is that reason (τὸ λογισμὸν) comes to improve upon what nature (ἡ φύσις) first began. Although it is only one such phenomenon, language is the example *par excellence* for such a discussion, because it was also the subject of great controversy according to the φύσις—θέσις debate.

⁴⁰ As pointed out by Atherton (2005, 102), whilst Epicurus' term is ὀνόματα, there is little to suggest that he saw much material difference between words and language.

⁴¹ Not all scholars agree on the two-stage categorisation. The arguments for a proposed three-stage division are discussed in Verde (2013, 141-6).

⁴² Allen (2005, 24) is sensitive to this "wider pattern" of which language is just "one instance". So too Campbell (2003, 285): "Epicurus... uses language to exemplify his approach to human development."

Nature

Epicurus' explanation of language can be thought of as natural in three ways: physical, intrinsic, and logical.⁴³

Words come about in the first instance because of a natural, *physical* process. Objects in the world cause emotions and create impressions (πάθη καὶ ... φαντάσματα) in human beings which cause them to expel air (τὸν ἀέρα ἐκπέμπειν) in the form of words. This is the most distinctive characteristic of Epicurus' theory, both because it is easily aligned with his materialist explanation of the world, and in that it appears to have been original. Indeed, Deborah Gera notes that previous Greek thinkers "saw language as a fabrication of sorts, by humans or by gods." (Gera 2003, 171)⁴⁴ In contrast, Epicurus specifically and emphatically denies the existence of a primary νομοθετής ("law-giver") such as was postulated by Socrates in the *Cratylus* (388d–389a). Epicurus sees language as an involuntary occurrence generated by a kind of law of nature.

Humans are naturally, *intrinsically*, adapted for language. Humans respond to the objects in the world with words, and not, for example, with stomach-rumblings, or

⁴³ Gera (2003, 171) considers two senses of natural here: "first words are doubly natural: they arise directly and naturally, and there is a natural fit between word and object, since impressions and feelings shape the very vocal sound." Taylor (2020, 16f.) also distinguishes two natures in Epicurus: a "functional" and a "referential" naturalism; the first is like to my "intrinsic" relationship between language and humanity; the second is similar to my "logical" relationship between word and referent.

⁴⁴ Also (Catrein 2003, 167-8): "Im Grunde ist Epikurs Sprachtheorie eine höchst originelle Erklärung dafür, wieso Sprache sich auf natürlichem Wege, ohne Vermittlung eines ‚Sprachschöpfers‘, bilden kann und die einzelnen Sprachen sich dennoch unterscheiden."

sudden blinking. Hence Epicurus' use of ἀὐτὰς τὰς φύσεις τῶν ἀνθρώπων, referring not to natural forces in general, but to the physiology of mankind. Such a propensity towards language is universal, as is clear from Epicurus' emphasis on language being dependent on the response of individuals (ἴδια πασχούσας πάθη καὶ ἴδια λαμβανούσας φαντάσματα ἰδίως) and of nations (καθ' ἕκαστα ἔθνη). The implication is that different languages originated independently, without a common ancestor, and that, despite their different vocalisations, all humans vocalised in response to nature.

Words have a natural, *logical*, relationship with their referents. This is to be inferred from Epicurus' repeated emphasis on the particularity of the phenomena acting on a human. Vocalisations were particular to each kind of experience (ἴδια... ἴδια... ἰδίως), and the effect of the stimulus-response productivity upon language was an ambiguous, long-winded vocabulary, presumably because each new experience brought about a new word. Words were not correlated one to one with experiences (they were ambiguities in early language, and the same experiences led to different words in different languages), but the directness of the relationship is apparent in the chain of reaction from external object to internal feeling, to vocalisation.

Reason and humanity's role

Epicurus names two groups who rationalise language. First the individual races (ἔθνη) established their own particular terms (τὰ ἴδια τεθῆναι) by internal cooperation (κοινῶς). Then there are the "knowledgeable men" (τοὺς συνειδότες) who introduced the οὐ συννορώμενα πράγματα ("imperceptible things") into language.

The two groups changed language in different ways. The synthesis of existing material, by making words less ambiguous and more concise, is rationalisation proper: refining but not adding to what was already provided by nature. This was effected by τὰ ἔθνη. The οὐ συνωρώμενα πράγματα, however, seem not to have been agreed upon by a language community, but discovered (or invented) by individuals. This begs the question, if the wise men introduced new terms into the language, how could they ensure that the words were useful and acceptable to the community? Epicurus explains that their new words (φθόγγους) were of two kinds: τοὺς <μὲν> ἀναγκασθέντας ἀναφωνῆσαι and τοὺς δὲ τῷ λογισμῷ ἐλομένους κατὰ τὴν πλείστην αἰτίαν οὕτως ἐρμηνεῦσαι.⁴⁵ I follow Bailey's reading here, such that Epicurus is returning to the first mechanism in his two-stage model. Some new words introduced by the wise men were according to the stimulus-response principle of word-formation. The other neologisms were created κατὰ τὴν πλείστην αἰτίαν. Here, πλείστην implies the conventional, community-based logic of the language groups.⁴⁶ The wise men were also able to create new words according to the rationalisation principle enacted by τὰ ἔθνη.⁴⁷

⁴⁵ Bailey explains the interpolation of μὲν as preferential to the alternative reading of Usener, who drops the first τοὺς and takes ἀναγκασθέντας ἀναφωνῆσαι with the whole clause. (Bailey 1926, 248, n. 76.5)

⁴⁶ Bailey takes κατὰ τὴν πλείστην αἰτίαν to be "in accordance with the usual cause', i.e. the usual method of formation in such cases, sc. normally analogy." (Bailey 1926, 249, n. 76.6)

⁴⁷ "Lastly, as new things and new ideas were introduced, names were found for them partly by natural imitation or suggestion, partly by deliberate invention or analogy." (Bailey 1926, 247, n. 75-6)

Epicurus gives three ways, then, in which reason was brought to bear upon language: communities rationalise language; individuals coin words analogous to those processes of rationalisation; and individuals coin words analogous to the “natural” process of stimulus-response. Interestingly, this suggests that even in later language, words from the primary stage of language survived.

Lucretian language

We have identified several interesting characteristics of Epicurus' theory of language. There were two stages in the development of language. In the first stage, contrary to views in which language was invented by a person or god, there was a physical law that meant humans responded to the stimulus of the world with words. This was because humanity is natively disposed towards language. The second stage saw communities and individuals refining and adding to early language, guided by the principles of early language. Lucretius' Discourse on Language at 5.1029–90 displays an account faithful to these distinctively Epicurean elements.⁴⁸

We start with the two-stage development of language. The Discourse on Language begins:

At varios linguae sonitus natura subegit

mittere et utilitas expressit nomina rerum (5.1028–9)

⁴⁸ Atherton (2005, 103-8) gives an exacting list of differences and (fewer) similarities. Piergiacomi (2020, 319-23) paints a more generous picture.

The two clauses have spurred considerable debate as to whether they describe the two-stage development written about by Epicurus, or whether they are two variations of a description of the first stage only.⁴⁹ Much of the discussion has focussed on the exact meaning of *utilitas* (“advantage”).⁵⁰

It is the verbs, however, which I want to focus on, as they so closely parallel Epicurus’ vocabulary. In Epicurus’ opening line of *Ep. Hdt.* 75, where he describes the general principle of which language is one example, the distinction is between ἡ φύσις and τὸ λογισμὸν. Each are given two infinitive verbs to describe their work—nature teaches and constrains (διδασκῆσαι τε καὶ ἀναγκασθῆναι) whilst reason refines and extends (ἐξακριβοῦν καὶ προσεξευρίσκειν). Lucretius’ two verses is a briefer summary than Epicurus’, but *subegit* and *expressit* are direct translations for ἀναγκασθῆναι and ἐξακριβοῦν.⁵¹ Moreover, Lucretius gains an advantage in using *expressit* since it holds a special sense, just as ἐξακριβοῦν does, in relation to speech. Both *expressit* and ἐξακριβοῦν, when said of a person about a speech or word, mean “to say something precisely”.⁵² As such Lucretius personifies *utilitas* in the refining role that τὸ λογισμὸν

⁴⁹ E.g. Bailey (1947, 1488, nn. 1028-90): Lucretius “entirely neglects the later stages.”

⁵⁰ Costa (1984, 120) sees a possible “oblique reference” to the second stage in *utilitas*, which he glosses “convenience”. Campbell (2003, 292-3): Lucretius “mainly” concentrates on the natural stage, and the second is only represented by *utilitas*. Piergiacomini (2020, 321) sees *utilitas* only implicitly in Epicurus, as a force which brought improved communication to language.

⁵¹ Schrijvers (1974, 347) “L’expression διδασκῆσαι ὑπὸ αὐτῶν τῶν πραγμάτων que nous trouvons chez Epicure, correspond donc avec le processus de développement et d’apprentissage impliqué par la phrase *utilitas expressit nomina rerum* chez Lucrèce (V 1029).”

⁵² OLD v. *exprimo* 9; LSJ v. ἐξακριβόω II; Bailey (1947, 1491, n. to 1029) notes the literal sense of *exprimo* as “forced out” (not unsuitable considering Lucretius’ physiological explanation of speech at 4.549–50: *Hasce igitur penitus voces cum corpore nostro exprimimus*); but he sees the sense here as derived from, e.g., sculpture to indicate “a more conscious process”.

has in *Ep. Hdt.* 75–6, and that personification renders *utilitas* as representative of the conscious role which humanity takes in improving language.

The two-stage process which Epicurus describes is at the very start of Lucretius' account. But scholars have repeatedly pointed out that Lucretius gives no space in the remainder of his discourse on language to the second stage.⁵³ Such a view does not do justice to Lucretius' poetic accomplishment over 5.1030–90, nor to the wider view he takes over the remainder of the book. We will return to consider the particularly poetic rendering of the Discourse of Language shortly, but there is no doubt that in the remainder of Book 5 Lucretius continues the wider principle that Epicurus also laid out in *Ep. Hdt.* 75. This is the principle that nature begins that which reason later works upon. In Epicurus, language was only ever one example of this wider law. So too for Lucretius. He goes on to describe the discovery of fire, the rise and fall of kingdom states, the occurrence of religion, metalwork, warfare, weaving, farming, music, knowledge of the seasons. In each of these sections the two stages of development may be found.⁵⁴ Fire was first instantiated by lightning, but the wise among humanity (*ingenio qui praestabant et corde vigeabant* 5.1107) showed how its power could be harnessed. The discovery of metals was due to forest fires that melted the ore into rivers of metal, but the moulding of metal into sculpture is described as a discrete invention (*tum penetrabat eos* 5.1262). Farming was brought about first by the growth

⁵³ Atherton (2005, 104)

⁵⁴ For a full consideration of this argument, see Manuwald (1980).

of natural produce (nature *creatrix* 5.1362), which mankind developed gradually (*aliam atque aliam* 5.1367) with cultivation.

These examples show how Lucretius follows the narrative of the nature-reason principle with the features of wise men, reference to reason, and the gradual process of time—all Epicurean elements. The end of Book 5 recapitulates the idea explicitly and draws the overall lesson:

*usus et impigrae simul experientia mentis
paulatim docuit pedetemptim progredientis.
sic unumquicquid paulatim protrahit aetas
in medium ratioque in luminis erigit oras.
namque alid ex alio clarescere corde videbant,
artibus ad summum donec venere cacumen.* (5.1452–1457)

The slow progress of cultural development is marked.⁵⁵ Three of the four words of line 1453 bring out this idea (*paulatim... pedetemptim progredientis*), joined together with the alliteration and their polysyllabic forms. The words even grow in length throughout the line, such that *paulatim* (and *docuit*) has three, *pedetemptim* four, and *progredientis* five syllables to produce a line eking out slow progress of time. The effect continues into the heavily spondaic 1454 where the alliteration continues, *paulatim* is repeated,

⁵⁵ NB also, as Bailey notes (1947, 1549, n. to 1455), the emphasis on *ratio*, equivalent to Epicurus' λογισμός, in the latter stage of cultural development. Costa (1984, 153, nn. to 1453-4) also notes the slow progress, though he does not recall the Epicurean precedent.

and *unumquicquid* is a gratuitously long compound for the ordinary *quicquid*. All this serves to emphasise the function of time which Epicurus also describes circumlocuitously (*Ep. Hdt.* 75), only with a poetic rendering in which words and sounds extend out, like time itself.

Let us turn to another Epicurean element: the inherency of language in humanity, a theme on which Lucretius is emphatic. Lucretius' analogy of the pointing infant is an illustration of how deeply embedded communication is in humanity.⁵⁶ The analogy evokes the Epicurean stimulus-response model, since the infants react to the world around them: the stimulus is immediately in front of them (*quae sint praesentia*). Moreover, the children are not yet speaking (*infantia linguae*) but they still point; the desire for communication precedes language.

The subsequent verses pay more attention to animals than humanity. But in doing so, Lucretius constructs several arguments *a fortiori* to show that, since even animals have a kind of sub-language facility, it should be no surprise that humanity has a much stronger facility. Lucretius states this early (5.1056–61) and again at the end of the passage (5.1087–90). But the first section in which animals appear comes straight after the analogy of the pointing child (5.1033–40). Everything has its own *vis* (5.1033)

⁵⁶ Reinhardt (2008, 134-5) sees the children as analogical for the prehistoric humans of early language, but this loses the parallel between the infants and young animals. Schrijvers (1974, 349) rightly considers newborn children and animals “non pas (encore) corrompus par l'éducation et les conventions, constituent 'les miroirs de la nature'”. Stevens (2008, 535-8) gives an interesting reading, in which, by using analogies of children and animals, Lucretius shows that he is considering intentionality as a secondary characteristic of language.

which even younglings have a tendency towards, although they do not exhibit the outward forms of that behaviour. So, just as calves butt (5.1034–5), cubs claw and bite (5.1036–8, and birds flutter their wings (5.1039–40), so babes communicate by whatever means they can. The relationship between each of these species and their behaviour is “natural” in the sense that we now are familiar with—it is inherent to the species.

Lucretius also follows Epicurus in making words a response to certain kinds of stimulus. Animals are again an argument *a fortiori*—since even animals make different sounds depending on their disposition, how much more we should think man capable of this. Lucretius attributes inward feelings (*metus... dolor... gaudia* 5.1061) to cattle, rather than the stimulus of those feelings, such as grass, predator, or sunshine. The vivid description of the Molossian dogs, horses, and birds (5.1063–90), see a mixture of inward emotions and external stimuli. The dogs snarl in anger (*rabie* 5.1065) but whimper at a beating (*fugiunt... plagas* 5.1072). The horses neigh in response to the spurs of love (*calcaribus ictus amoris* 5.1075). Some birds make different calls depending on the weather (5.1083–5). The distinction between external objects and inward feelings is not as clearly made in *De Rerum Natura*, but the overall model is recognisably Epicurean.

Lucretius emphasises the point about inherency so strongly because he is arguing against the idea of an inventor of language. He has poured scorn (*desiperest* 1043)⁵⁷ on that idea and argued that such a proposition is impossible, from the same principles as he has already been using; if language is intrinsic to humanity, why is it that one person out of the whole race should be able to speak? This impassioned criticism of a νομοθετής is another instance of where Lucretius closely follows Epicurus.

We have already explored how the second stage of cultural development is strongly supported in the second half of Book 5, but there is more to be said about the second stage of language in particular. The role of national communities to shape language is absent from Lucretius' Discourse on Language, but as for οἱ συνειδότες, Barnaby Taylor argues that Lucretius is himself acting in the role of such a person, a philosopher affecting the development of language in his poetry.⁵⁸ In the following section we shall follow Taylor's lead, and see a role for the second, rationalising stage of language in Lucretius' poetic description.

Lucretian poetry as illustration

We have discussed how Lucretius' account of language has closely followed Epicurus' own ideas. A plain difference is that Lucretius writes in verse. But the difference is

⁵⁷ (Campbell 2003): "the aggressive character of the dismissal of the νομοθετής is characteristically Epicurean."

⁵⁸ (Taylor 2020, ch. 1)

compatible within the Epicurean theory—it provides Lucretius an opportunity, as a *συνειδῶς* not only to describe the development of language, but also to illustrate it.

The first clue for this is the amount of material Lucretius devotes to the analogies of the animal world and their sounds (5.1059–86). The second clue is his dense use of onomatopoeia in this section. Atherton (2005, 114) considers the list of animal noises as a “non-sequitur”, whereas Reinhardt (2008, 137) attributes it to Lucretius’ need to account for how humans learned to control their voices. Neither of these interpretations give a sufficient account of the length of Lucretius’ description or its onomatopoeic quality. We have seen how, for Epicurus, words are particular to the experiences which excite them. Lucretius argues for the same idea by demonstrating the variety of noises made by animals, not only according to species, but according to their circumstances. So too do humans display a still greater variety. The section is bookended with this point (5.1059–60, 1087–8).

Dogs

*irritata canum cum primum magna Molossum
mollia ricta fremunt duros nudantia dentis,
longe alio sonitu rabie restricta minantur
et cum iam latrant et vocibus omnia complent.
at catulos blande cum lingua lambere temptant
aut ubi eos iactant pedibus morsuque petentes
suspensis teneros imitantur dentibus haustus,*

longe alio pacto gannitu vocis adulant
et cum deserti baubantur in aedibus aut cum
plorantes fugiunt summisso corpore plagas. (5.1063–72)

This passage has been well recognised for the aural effects of Lucretius' poetry.⁵⁹ There is noticeable alliteration and use of onomatopoeia throughout. But the appropriateness of these poetic effects for a discussion about the nature of language has not always been as forthcoming.

The central idea to Lucretius' *a fortiori* argument from animal noises is that animals vocalise a great variety of sounds. In his discussion of dogs, Lucretius makes full use of a wide range of onomatopoeic words to describe their various cries. He has at his disposal four different terms: *fremunt*, *latrant*, *gannitu* and *baubantur*.⁶⁰ The first, *fremunt*, "roar", he will go on to use of horses (5.1076), and whilst it is more generally used,⁶¹ it is the stereotypical verb for a lion. Varro (*Ling.* 7.104) reports Ennius using the verb for humans when it is typical for a lion. It is also one of two verbs attributed to the lion—*leonum est fremere uel rugire*—in the list of animals noises attributed to Suetonius (*Rel. Reiff. frag.* 161). The second, *latrant*, "bark" is more stereotypically the

⁵⁹ Bailey (1947) finds it a "masterly description of the noises made by dogs, and a wonderful series of words to express them." Costa (1984, 123) rightly calls it "a climactic argument with a display of poetic effects," and he points it out to be "one of Lucretius' most sustained onomatopoeic passages." Both Campbell (2003) and Stevens (2008) also note its onomatopoeic qualities, and do a better job at studying the reasons for this.

⁶⁰ Campbell (2003, 316, n. 1071) notes the variation of dog noises in across languages as being suitable for an Epicurean explanation of variation in language according to geography and physical make-up.

⁶¹ E.g. of natural phenomena, such as the sea; OLD v. *fremo* 1a etc.

noise of a dog. Suetonius' list includes it as one of two alternatives for a dog—*canum latrare seu baubari*—and Varro (*Ling.* 7.32) quotes Ennius again with a line displaying much of the same alliterative quality as Lucretius: *Tantidem quasi feta canes sine dentibus latrat*. The third, *gannitu*, “whimpering” is surprisingly enough listed as the sound of a fox in Suetonius' list, but Festus makes a clear association with dogs (*Gloss. Lat.* 177). Finally, *baubantur*, “howl”, is, as we have seen, typical for a dog in Suetonius' list. Lucretius is therefore able to furnish a variety of sounds with the onomatopoeia in this passage.

So much for the direct onomatopoeia of the passage. But the alliterative and assonantal qualities also stand out, for which there is a sustained use in reference to the very things he is describing. The labials of *canum cum primum magna Molossum/mollia* are articulated with the lips and draw attention to the lips (*ricta*)⁶² of the dogs described. The dentals of 1064 (*duros nudantia dentis*) directly relate to the description of their exposed teeth. The liquids of 1067 (*catulos blande cum lingua lambere*) are the consonantal sounds articulated with the tongue, in imitation of the licking of the hounds. The plosives of 1072 (*plorantes fugiunt summisso corpore plagas*) resemble the blows which the dogs are cowering from. Note also Lucretius' acknowledgement of the iconic character of the dogs' behaviour: they are said to

⁶² Properly, *ricta* is the opening of the mouth. However, as Bailey notes, *mollia* goes some way to realising the sense as “lips”. The onomatopoeic quality serves only to augment this conclusion.

imitate (*imitantur*) biting⁶³ one another in play. The diphthong of *haustus* appropriately opens the mouth wide, iconically symbolic of the action by the word's articulation.

Horses

*denique non hinnitus item differre videtur,
inter equas ubi equus florenti aetate iuventus
pinnigeri saevit calcaribus ictus amoris
et fremitum patulis sub naribus edit ad arma,
et cum sic alias concussis artibus hinnit? (5.1073–7)*

In these few lines, Lucretius has only two onomatopoeic terms (*hinnitus... fremitum*) to describe the horse, and he is forced to use the polyptoton of *hinnitus ... hinnit*.⁶⁴ There is no question that *hinnitus* and its related verb were considered onomatopoeic in our own sense of the word, since the word is both the stereotypical sound given to a horse,⁶⁵ and remarks upon its ungainliness when discussing onomatopoeia. (*Inst.* 1.5.72). There is, however, an assonance running all the way through these lines that suggests that Lucretius saw the limited onomatopoeia for the horse as an advantage. The high vowel /i/, central to the onomatopoeic *hinnitus*, repeatedly arises, particularly in 5.1075, where the Lucretian compound *pinnigeri* holds an internal rhyme with *hinnitus*. The passage is one long instance of an onomatopoeic description

⁶³ Costa (1984, 124, n. to 1068-9): “probably feigned ‘nips’ or ‘lunges’ at them, rather than swallowings.”

⁶⁴ Campbell (2003, 316, n. 1073) explains the repetition by suggesting that Latin may not have another suitable onomatopoeic term.

⁶⁵ Suet. *Rel.* Reiff. frag. 161: *equorum hinnire*; Plin. *HN.* 10.116; *Hist. Aug.* 14.5.5; Varro *Ling.* 7.103.

of the whinnying of a horse, in which Lucretius uses both direct onomatopoeia and sound symbolism in the assonantal colour of his poetry.

Birds

*postremo genus alituum variaequae volucres,
accipitres atque ossifragae mergique marinis
fluctibus in salso victum vitamque petentes,
longe alias alio iaciunt in tempore voces
et cum de victu certant praedaeque repugnant.
et partim mutant cum tempestatibus una
raucisonos cantus, cornicum ut saecla vetusta
corvorumque greges ubi aquam dicuntur et imbris
poscere et interdum ventos aurasque vocare. (5.1078–86)*

Lucretius names five species of birds. His specificity brings out different behaviours, and so different calls, of a variety of birds. But the names of the species are themselves interesting in a section concerned with how words came into being. The *accipiter* (“hawk”), *ossifraga* (“vulture/osprey”), and *mergus* (“gull”) are grouped in a single line 1079. Of the three, *ossifraga* is most transparent as to its derivation: a compound of *os* and *fragus* “bone-breaker.” Varro (5.75) postulates the derivation of *mergus* is from

mergo “plunge, dip.”⁶⁶ Less obviously, *accipiter* is also likely a compound.⁶⁷ None of these three birds are onomatopoeically named—they are all derived forms. Contrast the *cornix* (“crow”) and *corvus* (“röok”), whose names Varro (5.75) explicitly considers as derived from their bird-calls. The soundplay of 1083–6 shows that Lucretius must have held a similar view. The alliterative labial sounds, particular from /m/, of *partim mutant cum tempestatibus* is evocative and strengthened by the unusual use of *partim*,⁶⁸ and the spondaic line. Lucretius continues with a line of highly contrasting sounds. The labials of 5.1083 are gone as 5.1084–5 clatters in with alliterative velars and sonorants: *raucisonos cantus, cornicum ut saecla vetusta | corvorumque greges*. (Campbell spots more in *aquam dicuntur... poscere*.) To justify this as onomatopoeic, we need to be able to identify a referent for these two contrasting sounds. We can do so: *mutant* remembers the *pecudes mutae* at 5.1059 and looks forward to the *animalia ... muta* of 5.1087–8. As such, it gains connotations of quiet and the lack of speech, which is appropriate for a sound which makes a continuous noise with the mouth closed. The first syllables of *cornix* and *corvus* resemble their birdcalls and in contrast to the “quiet” verb *mutant* and its corresponding sounds of 5.1083, the verbs of 5.1085–6 specify speech aloud: *dicuntur ... poscere ... vocare*. Speech is an appropriate correspondent to the “noisy” velar sounds, thrown forward from the back of the throat, the long vowels

⁶⁶ De Vaan (2008, 371) considers it “deverbal” to *mergo*.

⁶⁷ De Vaan (2008, 21) interprets it as a compound of *acu-* < PIE *HHku- ‘swift’ and *-piter* < **petro-* or **petri* ‘wing’, with comparisons of other words for birds of prey in Greek (ὠκυπέτης) and Sanskrit (*āśu-pátvan*).

⁶⁸ To mean “some” in an adverbial form.

and the diphthongs. Besides, the power of speech is exactly the theme of this long passage. In the crow and the rook, then, Lucretius wields his poetry to exemplify his point: the birds go from dumb to “speaking”, all because they react to the elements around them.

Across his lengthy account of animal cries, for dogs, horses and birds, I have tried to show two parallel methods Lucretius uses to instantiate the meaning of his poetry. First, he makes copious use of direct and indirect onomatopoeia—the words which sound like the cries of animals, or which stand for the animals themselves. Second, an alliterative, assonant soundplay which is typically more associative in its sound symbolism than the “ordinary” onomatopoeia, in that its iconicity is articulatory. Both techniques are used to the same effect, but where Lucretius has inherited the animal cries and onomatopoeic terms, the poetic soundplay is his own making. The iconicity of the former is well-established in Latin, whereas in the latter it is creatively coined by Lucretius’ skill as a poet. Indeed, by setting his argument to verse, Lucretius allows for himself copious use of both techniques.

Onomatopoeia and the stages of language

We have already seen in Chapter 1 that onomatopoeia was considered an antiquated kind of language. We saw this with Quintilian, and with the writer of the *Rhetorica ad Herennium*, who both saw it as having been established by their ancestors (*qui sermonem primi fecerunt* Quint. *Inst.* 8.6.31; *maiores Rhet. Her.* 4.31), but useful to their contemporaries only rarely.

A view that onomatopoeia is an early phenomenon is compatible with the Epicurean and Lucretian view of that vocabulary which arose in the first stage of the development of language. To this we may add Lucretius' Discourse on Language, in which the first stage of language is described with a concentration of onomatopoeia. But we have also seen more than this. Epicurus' wise men were those who could introduce new terms in accordance with the principles of the natural first stage, or the rational second. Lucretius' language over this section has primary onomatopoeia, but he has also used a variety of other aurally symbolic aspects of language: alliteration and assonance, in a way that is analogous to the onomatopoeia's iconic relationship with its referent. For example, in the section describing the birdcalls, we saw the onomatopoeic terms for birds (*cornix*, *corvus*) mixed in with the compound and derivational terms (*accipiter*, *ossiifraga*, *mergus*).

Furthermore, like language, and the other cultural phenomena described in Book 5, *carmina* ("songs" or "poetry") came about in two stages (*ante ... multo quam* 1380): the first natural, the second rationalising. The first stage was an imitation of birdsong, using the mouth (*avium voces imitaries ore*). As such it very closely resembles the aspects of language's first stage, having the same method (oral articulation) for a similar aim (imitation of natural phenomena). The second stage turns these copy-cat vocalisations into songs. Poetry, then, is described as having origins similar to that of language, and operates on similar lines.

Onomatopoeia was, for Lucretius, an example of the early language of the first stage. It also provided Lucretius with the iconic principle by which he could improve and extend language by means of his poetry. Thus in his poetic description of the cries of animals Lucretius instantiates the two stages of Epicurean language development.

CHAPTER 3: LUCRETIUS' POETRY

One of the reasons Lucretius set his Epicurean philosophy to verse, I want to suggest, is because he saw language, and poetic language in particular, as revealing something about *rerum natura*. So far, we have explored how his description of language is consistent with a view that sees language, and particularly the poetic aspects of language, as pregnant with possibility for iconicity. This chapter seeks to investigate where else Lucretius deploys this onomatopoeic, iconic poetry, and how it fits with the programmatic sections of his poem.

First, we will approach the *elementa* passages, in which Lucretius' famous analogy is explored between atoms and letters. Then I will consider Lucretius' poetic explanation for the sense of hearing in Book 4. Finally I will progress through the section of Book 1 that begins with the refutation of rival theorists (Heraclitus, Empedocles and Anaxagoras) and continues to Lucretius' mission as a poet and the honeyed-cup simile.⁶⁹

The *elementa* passages

The analogy between letters and atoms has become a cornerstone of interpretation for the so-called atomological school,⁷⁰ which has seen it as supporting evidence that

⁶⁹ There is much, much more that could be said in a chapter such as this than there is room in this essay. Lucretius' poetic style is complex and a lively area of debate. In particular, I have not been able to set out how the *egestas linguae* (Fögen 2000), or how the translation from Greek to Latin (Sedley 1998), frames his overall task. Had space permitted, I would have given attention to word-formation (Taylor 2020, ch. 5) and etymologies (Gale 2001), (Maltby 2005), which are of obvious interest to the diachronic study of the Epicurean theory of language.

⁷⁰ See note 9.

Lucretius' use of language was motivated by a homology with atomic structure. There are generally considered to be five passages in which Lucretius alludes to the similarity between atoms and letters.⁷¹ As others have pointed out,⁷² the analogy is developed over its several iterations to a greater complexity.

The first instance occurs at 1.197, where the idea is briefly introduced as an aside—*ut verbis elementa videmus*—to a wider argument that all the variety of creation needs rain and food to propagate, with the implication that these are constituted out of the same basic element. The later instances are much fuller and introduce new correlations between the atom and the letter. One of the most important correlations is that the compounds made by both atoms and letters are dependent on the attributes of their constituents. For atoms, it matters which other atoms they are in combination with (*cum quibus* 1.818, 909, 2.1014), what their orientation is (*positura* 1.818, 909, 2.1018), how they move together (*motus* 1.819, 910). Letters also may be common to many words but their order matters (*ordo* 1.827, *quale ordine* 2.1014). These terms become technical vocabulary used by Lucretius to describe and differentiate atoms. Strikingly, they appear all together in two identical lines composed only of five nouns describing the attributes of the atom:

concursus motus ordo positura figurae (1.685 = 2.1020)

⁷¹ Holmes (2005, 529–30) counts 1.196–7, 820–9, 907–14, 2.688–99, and 1013–22; Snyder (1980, 31–51) lists all of these except 1.820–9 but posits instead 1.799–802.

⁷² (Snyder 1980, 46)

Taking *concursum* as the combination of constituent parts, the *elementa* passages cover four of the five attributes listed: only *figura* is absent, though it is not hard to conceive how the shape of a letter is analogous to the shape of an atom as described by Lucretius. Atoms may be big or small (e.g. water is composed of *minora corpora* atoms, olive oil is made of *maioribus... elementis* 2.389–40, 393), smooth or hooked (*rutundis... hamatis* 2.402, 295). Letters too can be big or small, round or hooked, and, synaesthetically speaking, so too can sounds.⁷³

The technical terms Lucretius uses for the attributes of the atom are based on Greek models.⁷⁴ Indeed, Lucretius inherited the letter-atom analogy from previous atomists. Leucippus and Democritus also gave explanations for how the variety of life stems from atomic particles of a similar kind. When discussing their views, Aristotle (*Met.* A 4.985 b 4–19) notes that their explanations relied on differences between the atoms as regards to their shape (*σχημα*), arrangement (*τάξις*), and orientation (*θέσις*).⁷⁵ Aristotle illustrates the argument with letters, showing how A differs from N in shape, AN from NA in arrangement, and Z from N in orientation. It seems plausible that Aristotle took an illustration from the very works of Leucippus and Democritus that he was discussing,⁷⁶ in which case Lucretius is likely to have inherited the

⁷³ See the note on the Bouba-Kiki experiment, see n. 21.

⁷⁴ Dionigi (2005, 19–28) shows how Lucretius transferred these terms from the field of grammar, as part of a wider atomological argument. See also Piazzzi (2005, 124–6) for an account of each term in its grammatical context.

⁷⁵ For a discussion of this passage in relation to the letter-atom analogy, see Verlinsky (2022).

⁷⁶ We can add to this argument a little, in that, among Democritus' vast range of works, there was a clear and healthy interest in language; according to Diogenes Laertius 9.7.48, there is

analogous characteristics of atoms and letters' shape (*figura*), arrangement (*concurus*), and orientation (*positura*).

The other technical term Lucretius depends on greatly in the letter-atom passages is, of course, *elementa*, a fertile word which, like its Greek equivalent στοιχεῖα, included both the sense of the fundamental units of the universe and a technical sense of letters of the alphabet. The word is not found before Cicero's *De Oratore* of 55BC (1.163.5, 2.45.3), where it has the sense of the rudiments of a subject, a schoolboy's "ABC", so to speak. This sense of the "basic principles" of a subject ("the first beginnings" as the OLD has it) allow it a neat fit alongside Lucretius' other vocabulary for atoms (*primordia, materia, genialia corpora, semina, corpora prima*), which, as Sedley notes, emphasise the "primitive starting-points from which other entities are built up." (Sedley 1998, 38-9)

A second point of interest in the *elementa* passages concerns the emphasis on sound and verse. The word *elementa* does not distinguish between phonological and orthographic units. Moreover, Lucretius refers not just to letters, but to his poetic verses in three of the passages (*nostris in versibus ipsis* 1.823, 2.687, 1013), and in the two major *elementa* passages of Book 1 there is an explicit emphasis on difference not only in meaning but in sound. (*confiteare et re et sonitu distare sonanti*. 1.826; *distincta voce* 1.914)

even the tantalisingly titled *Περὶ εὐφώνων καὶ δυσφώνων γραμμάτων*, "On Euphonic and Cacophonous Letters."

Perhaps the most famous aspect of the *elementa* passages is the *lignis—ignis* pairing which Lucretius discusses between 1.907–14:

*iamne vides igitur, paulo quod diximus ante,
permagni referre eadem primordia saepe
cum quibus et quali positura contineantur
et quos inter se dent motus accipiantque,
atque eadem paulo inter se mutata creare
ignis et lignum? quo pacto verba quoque ipsa
inter se paulo mutatis sunt elementis,
cum ligna atque ignis distincta voce notemus. (1.907–14)*

As Snyder points out, this is a further development and illustration of the analogy with *elementa*.⁷⁷ The grammatical stem of *ignis* and *lignum* differ only by the absence or addition of an /l/.⁷⁸ These terms are relevant to Lucretius' discussion because he is putting the finishing touches to his argument against his physicist forebears, including those monists such as Heraclitus who considered wood to contain fire.

At this point it is worth addressing an objection by David West:

⁷⁷ By this point Lucretius “abandons all subtlety and gives the reader a perfectly explicit example in the words *ignis et lignum*” (Snyder 1980, 41)

⁷⁸ Piazzini (2005, 275) points out the suitability of *vides* (1.907) for a reader who is looking at the text and for whom there is a visual similarity. Lucretius intends the analogy to work phonologically as well as orthographically, as seen by *distincta voce* 1.914.

Lucretius' point in each of these analogies is that although the *elementa* are the same, the substance is entirely different. *Lignum* is not *ignis*. Word play usually depends upon semantic proximity. In these analogies, Lucretius is stressing the semantic gulf. (West 1982, 26)

West is right that Lucretius is emphasising the semantic gulf between the two words. But he is mistaking the atomological argument to mean that there is a one-to-one relationship between word and language. Secondly, there is a difference between the analogy of letters to atoms and the description of language deriving from nature. Humans did not form words in response to the atoms directly, but to the *πάθη* and *φαντάσματα* excited by objects in the world. The atom-letter analogy remains analogical, whereas his view of language deriving from a natural first stage is actual. That said, while Lucretius is refuting that wood contains fire, he does maintain that both wood and fire contain the same elements, and in the case of these two words, *ignis* and *lignum*, Lucretius has found a fortunate, almost-anagrammatic pair.

Lastly on the *lignum—ignis* passage, its wider context displays an interest in the onomatopoeic qualities we have seen elsewhere. The argument is in response to his supposed reader's objection over 1.897–900, in which it is pointed out that the combustion of trees takes place because of the friction of their branches.

'At saepe in magnis fit montibus' inquis 'ut altis

arboribus vicina cacumina summa terantur

inter se, validis facere id cogentibus austris,

donec flammai fulserunt flore coorto.' 1.897–900

The slow spondees of 1.900, exacerbated by the trisyllabic genitive form *flammai*, highlights the line startling for its crackling alliteration of /f/ and /l/. Lucretius is giving the argument a decent chance; it has his own rendering which uses a poetic quality to advance its argument.

Hearing in Book 4

If we have been right to say that Lucretius is sensitive to the onomatopoeic qualities of language in his poetry, we should certainly detect it in his explanation of hearing in Book 4. Having dealt first with vision, Lucretius turns at 4.524 to the sense of sound, and he explains first that sounds are physical entities, giving proofs that shouting can be painful, and speaking for a long time takes effort. (4.524–41) He continues:

praeterea radit vox fauces saepe facitque

asperiora foras gradiens arteria clamor. (4.528–9)

Koenen has noted equivalence between *asperiora... arteria* with the Greek medical term for the windpipe: ἡ τραχεῖα ἀρτηρία (Koenen 1999, 443-4),⁷⁹ giving Lucretius' explanation a "medical ring". This is surely so, but stopping there misses the striking aural quality of the two verses. There is a propensity of /r/ sounds, whose articulation,

⁷⁹ See also Bailey (1947, n. to 4.529)

particularly if Classical Latin used a trilled /r/,⁸⁰ is appropriate to the description of the scraping of the vocal tract by the roughness of the sound; the tongue's repeated contact with the alveolar ridge may indeed be described as "rough".⁸¹ At the same time the labial fricative /f/ alternates with the velar /c/ and /g/ in *fauces*, *facitque* and *foras gradiens*, which are articulated at the lips and velar ridge, the entry and exit points (*foras*) of the mouth. The great majority of the vowels in the lines are long or diphthongs, and the mouth opens wide for the repeated back vowel /a/, as if to make the reader of the passage "gasp" out his words against the friction of the sound in his vocal passage.

This reading is supported by Lucretius' comments on where the roughness of speech comes from:

*asperitas autem vocis fit ab asperitate
 principiorum et item levor levore creatur.
 nec simili penetrant auris primordia forma,
 cum tuba depresso graviter sub murmure mugit
 et reboat raucum retro cita barbara bombum,*

⁸⁰ "There is evidence that the Latin *r* was of the tongue-tip 'trilled' or 'rolled' type common in Scotland... Apart from imprecise early descriptions... we have clear reference to its vibrant nature in the later grammarians." (W. S. Allen 1978, 32-3)

⁸¹ The /r/ was known as *littera canina* because of a comment by Lucilius. (Velius Longus *GL* 7.47 1K) But the satirist Persius' allusion to Lucilius' passage is telling: *Sed quid opus teneras mordaci radere vero auriculas? vide sis ne maiorum tibi forte limina frigescant: sonat hic de nare canina littera.* (Persius 1.107-10)

et †validis necti tortis† ex Heliconis

cum liquidam tollunt lugubri voce querellam. (4.542–8)

It is not just that sounds are physical entities; like all other *res*, they are made of atoms (*principiorum... primordia*), and whether a sound in a word is rough or smooth depends directly on the shape (*forma*) of the atoms making up that sound. The one-to-one correspondence of roughness/smoothness in sound and atomic structure is emphasised by the polyptoton of 4.542–3: *asperitas... vocis ab asperitate / principiorum* and *levor levore*. This may strike readers as a strange equation of differences across the synaesthetic comparison between sound and touch, but in the Epicurean and Lucretian model, sound is touch at its most basic, atomic level. This is what makes synaesthetic description, for Lucretius, at once appropriate and tautologous: what is usually thought of as a metaphorical roughness in sound is in fact an actual roughness of a physical entity. In these lines, Lucretius backs up his theory with contrasting sounds appropriate to their sense. The plosives of *asperitas* are very distinct from the approximant /l/, /r/ and (consonantal) /u/ in *levor*, and where the former articulate with a sudden stop and rush of air, like the brokenness of a rough surface, the latter are appropriate to the continuity of a “smooth”, rounded sound. The lines 4.545–8 suffer from some corruption but what survives is enough to show an onomatopoeic description of two contrasting sounds: the bombastic trumpets and a softer sound,

perhaps of swans.⁸² This time there is the highly onomatopoeic *murmure mugit*, echoing the first syllable just as *reboat raucum retro* imitates the repeating echo of /r/ and /re/. Koenen expresses some consternation at the presence of *barbara*,⁸³ but its role is clear: it is also here to imitate the trumpet sound alongside *bombum*, and to act as another repeater, this time of the /b/ of *tuba* and *reboat*). In 4.548 Lucretius returns to the softness of the /l/ occurring in four of the line's six words.

After a consideration of the articulation of words (4.549–64, to which we will return shortly), Lucretius returns to the fertile analogy of the echo between 4.570–94. This section begins:

pars solidis adlisa locis reiecta sonorem
reddit et interdum frustratur imagine verbi. (4.570–1)

Echoes are interesting to Lucretius not just for their own sake, but also because they are further evidence of a phenomenon he has described over 4.549–69: that over distance, words become hard to distinguish or hear. The soundplay of the two lines quoted above is not just another imitation of an echo's repetition; Lucretius gives it the fading quality of an echo. Through the lines the repeating sounds die away: the /s/, /i/ and /l/, especially in the rhyme at the end of *solidis* and *locis* and in the middle of

⁸² This is Bailey's understanding as the best from a bad bunch of interpolations. (1947, ad loc.) See also Koenen (1999, 450–1)

⁸³ (Koenen 1999, 450); he finds *retro cita* an "awkward" way to describe the echo of the trumpet, and consequently suggests a second instrument may have been intended, though this is hardly necessary.

adlisa, die away with only a single /s/ in the final word *sonorem*. The dental /d/ and /t/ sounds are tightly packed in *reddit et interdum* but die away such that only the /t/ repeats in *frustratur* and then it disappears altogether. It is another instance in which Lucretius' onomatopoeic soundplay reinforces his argument.

Lucretian words are not just physical entities. Sounds are, in fact, “the acoustic counterparts of the *simulacra*.”⁸⁴ As Holmes points out (Holmes 2005, 536), this explanation is easier for having set out the Epicurean theory of εἶδωλα/*simulacra* when discussing sight at the beginning of Book 4. Like the Epicurean εἶδωλα, sounds also disperse in every direction and are perceived when they encounter the hearer. (4.549–64) The fundamentally materialist explanation of sound is in common with Lucretius' explanation of the arrival of language in Book 5. We can envision a chain reaction between the objects in the world, akin to that described in the first stage of language: the εἶδωλα/*simulacra* they give off, the inward πάθη and φαντάσματα of humanity, and their physical emissions in the form of words.

Holmes (2005) poses the question as to how Book 4's explanation of the tongue (*daedala lingua*) relates to Book 5's Discourse on Language. Her argument is that there is a difference for Lucretius between mere sound (*sonus, sonitus*) and words in language (*vox*), namely, a distinction between the first, reactive stage of language and the creative stage under the guidance of human reason. The kernel of her argument is in the role of articulation in the *daedala lingua* (4.551), whose active intervention is the act

⁸⁴ (Koenen 2004, 699); see also Koenen (1999) and Holmes (2005).

of the scholar or the poet. The adjective *daedala*, which happily describes both natural and artificial creativity,⁸⁵ also speaks of the generative quality of the tongue. The adjective also recalls the poem's opening, 1.7, where the *daedala tellus* produces flowers at the coming of Venus. The *daedala lingua* is a metaphor for the creative act which Lucretius is engaged in, not only in producing a rich and varied poem, but also, as a *συνειδῶς*, in producing the language to describe and translate the Epicurean philosophy he wishes to commend. In the description of the tongue's articulation we get an immediate example, which Holmes also notes. Lucretius distinguishes between the *formatura* of words and their *figura*:

mobilis articulat verborum daedala lingua

formaturaque labrorum pro parte figurat.

...

servat enim formaturam servatque figuram. (4.552–3, 556).

Holmes, like Bailey, sees this not as a tautology but as a distinction between the raw sound-forms (*figura*) and their articulated formation as words (*formatura*).⁸⁶ This explains the need for the “characteristic Lucretian formation” (Bailey 1947, n. 4.552) of *-ura* in *formatura*. The word *figura* had already been used as the technical term for an atom's shape, and to use it again in the context of his explanation for hearing would be confusing, not least because Lucretius has elaborately expounded on the physical

⁸⁵ Holmes (2005, 564)

⁸⁶ (Bailey 1947, n. to 4.556), (Holmes 2005, 540-6)

(rough/smooth) characteristic of sound atoms. The word *formatura* is nevertheless similar to the sense and sound of *figura* such as to indicate its derivation, whilst the suffix *-ura* connotes an abstraction.

Lucretius' explanation of sound in Book 4 is fundamentally physical, just as it is for other senses. This gives Lucretius a means of explaining and justifying synaesthetic motivation in poetry, which underlie those parts of language or poetry which are iconic through their articulation. It is not a surprise that Lucretius continues to describe these ideas with onomatopoeic and articulatorily symbolic language.

Rival theories

In advancing his own Epicurean doctrine Lucretius also refutes natural philosophers of rival schools. Book 1 sees him challenge not only the physics of his competitors, but their language. Heraclitus is most scathingly found to be wanting (*clarus ob obscuram linguam* 1.639); Empedocles, on the other hand, is praised to the heavens (*carmina quin etiam divini pectoris eius* etc. 1.731–3); Anaxagoras' Greek is intractable in Latin, though his ideas are rather simple (*homoeomerian quam Grai memorant nec nostra dicere lingua concedit* 1.831–3). The attacks on these three rivals precede Lucretius' consideration of his own poetic task and are prelude to his own view of how language, poetry and natural philosophy are integrated.

Heraclitus

Heraclitus inquit quorum dux proelia primus,

clarus ob obscuram linguam magis inter inanis

quamde grauis inter Graios, qui uera requirunt;
omnia enim stolidi magis admirantur amantque,
inuersis quae sub uerbis latitantia cernunt,
ueraque constituunt quae belle tangere possunt
auris et lepedo quae sunt fucata sonore. (1.638–44)

The charge is twofold: first, against Heraclitus, and second, his followers. Heraclitus had a reputation for obscurity, to the extent that he earned the name ὁ Σκοτεινός.⁸⁷ From what survives of his writings, he appears to have enjoyed juxtaposing opposite ideas for a kind of proverbial inscrutability.⁸⁸ Cicero supposes he actively meant his meaning to be incomprehensible.⁸⁹ Lucretius' epithet *clarus ob obscuram linguam* is appositely full of disdain;⁹⁰ the oxymoron is a pastiche of Heraclitus' own philosophy, whilst at the same time Lucretius plays on the philosopher's given name (*clarus*,

⁸⁷ Cicero in *De Fin.* 2.15 says, "Heraclitus cognomento qui σκοτεινὸς perhibetur, quia de natura nimis obscure memoravit." See (Bailey 1947) loc. cit. for other complaints among the ancients of this nature.

⁸⁸ E.g. ποταμοῖς τοῖς αὐτοῖς ἐμβαίνομέν τε καὶ οὐκ ἐμβαίνομεν, εἶμέν τε καὶ οὐκ εἶμεν. (D65a Heracl. *Alleg.* 24.4); "We step and we do not step into the same rivers, we are and we are not."

⁸⁹ *Heraclitum ut opinor sequentes, quem ipsum non omnes interpretantur uno modo; qui quoniam quid diceret intellegi noluit, omittamus.* (*Nat. D.* 3.35)

⁹⁰ Ferguson points out the requirement *ob*, absent from some of the manuscripts, to show that *ob obscuram linguam* is given as a genuine reason. (Ferguson 1987, 102) Piazzzi (2005, 90) notes the cacemphaton (the assimilation of the final *b* of *ob* to the start of the open syllable of *obscuram*), "stigmatizzata dai grammatici, ma frequente nei poeti." Even if frequent, the effect here is a clumsiness, which is likely intentional, considering my argument for the rest of the passage.

cognate with Greek κλειτός, etymologises the second element of Heraclitus),⁹¹ and his nickname (*obscurus*, a natural translation of σκοτεινός).

As for Heraclitus' followers, they are “stupid” (*inanis... stolidi*),⁹² contrasted with those serious Greeks who look for truth (*gravis inter Graios qui uera requirunt*). There are more contradictions here: his followers discern what is hidden (*latitantia cernunt*) and decide upon the truth (*ueraque constituunt*). But it is anathema in the Epicurean school to understand the hidden truth behind words, when, as we have seen, words are to be used in their ordinary sense (τὸ πρῶτον ἐννόημα), language has no “hidden meaning”, and enlightened knowledge is marked by its perspicacity. (*Ep. Hdt.* 37–8) What about *ueraque constituunt*? This too is non-sensical from an Epicurean point of view. How can truth depend upon convention? Truth is discovered, not invented. Lucretius uses the verb *constituent* to show that the Heraclitans are making their own decision as to what is true, and it smacks of the same disdain Lucretius has for those who argue that language first came about by convention (θέσις, from τίθημι, the equivalent of Latin *constituent*).

Finally, Lucretius brings a vivid metaphor to bear in a synaesthetic juxtaposition.⁹³

Truth, for the Heraclitans, is what can “touch the ears prettily” (*quae belle tangere*

⁹¹ Maltby (2005, 108) has this as one of his Lucretian etymologies from Book 1. Snyder picks it up too. (Snyder 1980, 117-8)

⁹² Bailey (1947), loc. cit., identifies the Stoics as the probable target, and points out a play on words with *stolidi*. Furley (1989, 31) disagrees, and sees a less defined group.

⁹³ “Allenfalls wird er die Widersprüchlichkeit der synästhetischen Metapher zur Illustrierung der Irrationalität einer gegnerischen Lehre heranziehen, wie im ersten Buch bei der Kritik an der obscura lingua Heraklits.” (Catrein 2003, 166)

possunt auris) and what is “dyed with a lovely sound” (*lepido quae sunt fucata sonore*). The synaesthetic quality of the metaphors, like their proponents, is confused; whilst the equation of sound and touch is consistent with Lucretius’ description of sound as a physical entity,⁹⁴ the collocation between sound and sight is at odds with this.⁹⁵ Moreover the vocabulary is unusual, and neither *belle* nor *fucata* is used elsewhere in the poem.⁹⁶ The strength of the metaphor is to be found in the pejorative sense of *fucata*: not just “dyed” but “counterfeit”. Altogether the effect is grotesque, like Lucretius’ pastiche is a step too far in imitating Heraclitan nonsense.

In summary, the attack on the Heraclitan school is full of the contradictions Lucretius perceives among them; the oxymorons, the synaesthetic juxtapositions, the vocabulary. In doing so he ridicules both the school’s habitual, nonsensical language, and—at the same time—their ability to make true things out of false through ambiguous statements.

Empedocles

Lucretius moves on to consider the “pluralist” school of philosophers (1.705-829), who argued that the world consisted of more than one of the four elements: fire, earth, water, and air. Whilst he continues to criticise the underlying physics, Lucretius picks out one thinker for particular praise: Empedocles.⁹⁷ Empedocles is the best that his

⁹⁴ See above, “Hearing in Book 4”; Piazzzi (2005, 93) nevertheless compares a phrase of Philodemus (PHerc. 994), τὴν ἀκοὴν γαργαλιζειν, to indicate the probable derogatory sense.

⁹⁵ “a more extravagant mixture” of senses (Brown 1984)

⁹⁶ Nor is *lepidus*; though its noun *lepor* is not uncommon.

⁹⁷ For the high esteem in which Lucretius holds Empedocles, see ch. 1 of Sedley (1998).

awe-inspiring homeland of Sicily has to offer (1.716–30), and his poetry was such that it seemed he was hardly mortal (1.731–3). Lucretius' praise is explicit, but he also comments on Empedocles' greatness by imitating and referring to the philosopher's language. The Greek writer, of course, holds a special place in Lucretius' tradition in that he too wrote his philosophy in verse.

Lucretius introduces Empedocles with the epithet *Acragantinus*. Whilst the adjective locates Empedocles geographically in Acragas, a town in Sicily, and does so with a Hellenistic erudition, the word is striking as an adjective that transliterates the Greek name for the town, rather than the Latin, Agrigentum.⁹⁸ Lucretius is preceded in his use of the term by Empedocles himself. At the start of the *Purifications*, Empedocles addresses his compatriots,

ὦ φίλοι, οἳ μέγα ἄστῦ κατὰ ξανθοῦ Ἀκράγαντος
 ναίετ' ἀν' ἄκρα πόλεος, ἀγαθῶν μελεδήμονες ἔργων,
 ξείνων αἰδοῖοι λιμένες, κακότητος ἄπειροι,
 χαίρετ'· (Diog. Laert. 8.54)

Empedocles' own verses define those he addresses by their hometown, and he characterizes them with moral goodness (ἀγαθῶν μελεδήμονες ἔργων...). In fact, the toponym facilitates a pun on ἄκρα πόλεος: the people's dwelling in the citadel, but

⁹⁸ Piazzzi (2005, 145–6) notes the use of the geographical adjective, and says it is “tipico della letteratura dossografica”. Considering the honour in which Lucretius holds Empedocles, however, finding a parallel in the older poet's writings seems more useful.

also, symbolically, the height of their righteousness. By using the transliterated Greek *Acragantinus*, Lucretius picks up on Empedocles' imagery of the citadel ἄκρα, and a careful reader will spot the analogous comparison Lucretius makes between Empedocles' moral qualities and his position *cum primis* (1.716).

In moving on to describe Empedocles' homeland Sicily, Lucretius gives a dramatic illustration of the island's geography. The strait with Italy and the volcano Etna are described:

hic est vasta Charybdis et hic Aetnaea minantur
murmura flammaram rursum se colligere iras,
faucibus eruptos iterum vis ut vomat ignis
ad caelumque ferat flammai fulgura rursum. (1.722–5)

This is a strongly onomatopoeic passage. The reverberations of the mountain are described with the onomatopoeic⁹⁹ *murmura*. Its rumblings echo across the lines in *minantur*, *flammaram* and *rursum*. Then the erupting fire jumps up to the sky, predicted by the fricative /fl/ and /f/ of *flammaram* (1.723) and *faucibus* (1.724), where the lips fling themselves forward. The eruption rages into an explosive alliteration in 1.725: *ferat flammai fulgura*.¹⁰⁰ It's a delightfully poetic passage and insofar as Lucretius has been

⁹⁹ "Il sostantivo *murmur*, parola a geminazione espressiva della base, indica in latino un rumore sordo... Per la sua particolare struttura fonica il termine ha una forte carica onomatopeica e figuraspesso in nessi allitteranti..." (Piazzi 2005, 153)

¹⁰⁰ Brown (1984, 160) also finds the *vis* onomatopoeic of vigour or violence, which he cross-references with 1.72: "Lucretius is fond of the sound *vi* in a vigorous or client context." (Brown 1984, 57)

commenting on the language of his forebears', as well as their physics, this onomatopoeic display is a kind of tribute to Empedocles.¹⁰¹

Anaxagoras

Lucretius' critique of rival theories continues with Anaxagoras, the philosopher of the early fifth century who argued that matter could be infinitely divided, and that each material consisted of itself (such that bone was at its simplest form made of bone, blood was at its simplest blood, and so on). The term Anaxagoras used for this was ὁμοιομερῆ, which Lucretius transliterates in the very first line of the section (*homoeomerian* 1.830), and which becomes the defining term of Anaxagoras' philosophy.

Whilst Lucretius went to great lengths to find suitable terms in Latin for the philosophical language of his Greek forebears, his transliteration stands out a mile. This is one of only two philosophical terms in Greek which Lucretius does in fact transliterate, and which, as Sedley points out, break his otherwise invariable rule: "never transliterate the Greek term."¹⁰² In this instance, Lucretius expresses his concern for *patrii sermonis egestas*, recalling his earlier use of this idea and vocabulary over 1.136ff. But whereas in the proem he acknowledged the difficulty of finding terms

¹⁰¹ Dionigi (2005, 19) and Piazzzi (2005, 274) also point out that the relevance of an Empedoclean passage to the ensuing explanation of the letter-atom analogy at 1.817–29. The metaphor is of painters creating forms from the natural world by mixing the paints, and Lucretius' transformed analogy is another homage.

¹⁰² (Sedley 1998, 48); the other instance of transliteration is *harmoniai* for Greek ἁρμονία at 3.131, "an alien concept [with] an alien name" as Sedley remarks.

to clarify the obscurities of the Greeks,¹⁰³ here the theory itself presents no difficulty, only the terminology (*sed tamen ipsam rem facilest exponere verbis*).

What is Lucretius' objection to the term? Anaxagoras' term gets in the way of perceiving the reality which it purports to describe. It is not just that the reasoning of the theory is faulty, but that the terminology used is itself obstructive. Indeed, the two points are linked—it is just because the theory is faulty that means that the language used to describe it is necessarily defunct. Using true language would have rendered a true representation of the world.

Lucretius' poetic task

We turn finally to the famous passage which succeeds these refutations of rival theories, and where Lucretius declares and explains his calling as poet. (1.921–50) First, acknowledging the difficulty of his task, he pleads that it is *laudis spes magna* and *amorem Musarum* which cause him to write. Then, to justify his choice, he gives the analogy of a cup of bitter medicine, rimmed with honey to assuage the patient's taste. This is a passage which could be fatal to the whole argument of this essay, since the analogy so clearly divides the purpose from the poetry, and where poetry is apparently only incidental. But, far from dividing the language from his philosophy, there is much here to suggest that Lucretius' analogy is not to be taken quite so plainly.¹⁰⁴

¹⁰³ *Nec me animi fallit Graiorum obscura reperta/difficile inlustrare Latinis versibus esse,/multa novis verbis praesertim cum sit agendum/propter egestatem linguae et rerum novitatem.* (1.136–9)

¹⁰⁴ For example, Mitsis (1993, 112) points out the “aggressive, condescending tone of paternalism” in the section, and interprets a trap for the reader who identifies too readily with the sick child.

The first line of the passage unites the audience's mind and ears. Readers (and listeners) are called to *quod superest cognosce et clarius audi*. (1.921) It is in the fact the only time Lucretius uses the imperative of *audire*, and the word is used advisedly, for there is a decided interest in the audible throughout this section, as well as a unification of listening and understanding. In fact, there is a more general interest in senses and a deployment of synaesthesia in the poetry. This starts right at the beginning, as Lucretius instructs his readers to listen *clarius*, whose vitality as a visual metaphor is brought out by the adjective *obscura* in the following line, which describes the difficulty of his subject matter and task. The sense of taste at the centre of Lucretius' honeyed cup metaphor is anticipated by his drinking (*haurire* 1.928) from the pure springs of the Muses. But sound is not left behind—it is evoked in Lucretius' poetic rendering. The first line of the honeyed cup analogy (1.936) focussed on the bitter taste of the wormwood medicine, and the sounds are all at the front of the mouth, as if the reader is spitting out the galling words: *absinthia taetra medentes* (dental /t/, /d/ and /n/, forward or high vowels in /i/ and /e/). The synaesthetic quality is also iconic, for being onomatopoeic in its articulatory symbolism. The same effect is achieved, with opposite results, when the honey is described (1.938): *mellis dulci flavoque liquore*. Here, the labials, the rounding of consonantal /u/ and /qu/, and the back vowels /o/ and /u/, are all contrastive with the previous bitter tasting sounds, and their articulation is also symbolic of the smoothness of honey.

Sweet and bitter tastes, in Lucretius' Epicureanism, are intrinsically related to the smooth and rough textures of the atoms from which they are made. This is explicitly set out in Book 4 (4.615–72), where bitter tastes are said to derive from rough-shaped atoms (*acerba, aspera... hamata* 4.661–2), catching and pulling at the tongue on their journey through its pores, and sweet tastes derive from smooth-shaped atoms (*levissima corpora* 4.659) which proceed without annoyance to the mouth. Just as we saw with the account of hearing in Book 4, there is a direct accord between the atom and the sensation; the fundamental, materialist explanation is given in terms of the sense of touch. It is no mistake that Lucretius deliberately repeated the honey-cup metaphor at the start of Book 4, in which sensory experience is directly related to atomic structure. Nor should it be a surprise to us that Lucretius is sensitive to the possibility of articulatory iconicity. Not only have we seen evidence of it across the poem, but Book 4's study of the senses is such as to give a common basis of explanation for them all, and here, where Lucretius' focus is on the mouth, he is well aware that it is an instrument of articulation (such as for the reading of poetry) as well as for ingestion.

What then, of the hole which this analogy seems to blow in the side of my argument, that poetry is an adornment for philosophy, or at least that it is separable from philosophy, and not the integrated unity by which poetic language can describe the world most accurately? The simile has tripped up many readers, and not all wish to

see it as a straightforward analogy, meant to be read plainly and without nuance.¹⁰⁵

Most important is the question, is the honey an equivalent for poetry? There are two reasons why we might be suspicious of such a straightforward reading, one intrinsic to this part of the text, and one extrinsic. The extrinsic reason is that Lucretius' whole work is a poem and, especially with his protestation of love for poetry in the verses immediately preceding, it would be strange to think that Lucretius should go to such labour for only instrumental reasons. The intrinsic reason comes from Lucretius' threefold repetition of *contingens*, before (1.934), during (938), and after (947) the analogy. Lucretius' work is not smothered with honey, only touched. We should take Lucretius at his word, then, when he says, in the golden line 1.934, that he wishes to touch his all his poetry (*carmina... cuncta*) with the Muses' grace (*musaeo... lepore*).¹⁰⁶ Lucretius is hopeful that the Muses will bestow on some of his poetry; he does not presume they will visit him for all his labour.¹⁰⁷ As such, Lucretius' simile is one of greater humility than is sometimes acknowledged.

This reading makes room for a greater subtlety of poetic technique. Consider, for example, the caveat Lucretius gives as to the deception in the doctor's ploy. The child is only duped *laborum tenuis* (1.940). The mouth, as we have seen, is not just for tasting but for speaking. So, seeing the boy as the corollary to the Lucretian reader, we

¹⁰⁵ See Schindler (2022, 90) for a summary of the various responses.

¹⁰⁶ Thus *musaeo* should not just be taken as "of poetry", such as Duff takes it. (Duff 1923, 120)

¹⁰⁷ Duff (1923, 119) comments on *cuncta* that it is "a pardonable exaggeration: there are many passages in the poem which cannot be said to possess charm", and in my second-hand copy, a marginalist has added "I'll say so!" I hope my argument here will assuage such readers who have found parts of *De Rerum Natura* drier than others!

understand another way of interpreting the phrase. The out-loud reader of Lucretius' poem may begin with a disposition more ready to accept the poetic passages than those more prosaically articulated. As he reads he will be duped by the beauty of some sections, but only up to his lips. For insofar as he gives attention to the sounds he makes and his articulation of the poetry, he may start to realise that the words are describing, indeed, they are instantiating the lessons Lucretius wishes to pass on. We may strengthen this argument a little from the end of this passage. He ends by applying the honeyed-cup analogy to his overall poem. He daubs *ratio* (the doctrine he wishes to convey) with the same aural bitter roughness as the absinthe (the alliterative /t/ in *ratio... tristior... tractate, retroque* 1.943–4), but then touches it with the sweet smoothness of the honey (*suaviloquenti... dulci melle* 1.945–7). Finally, he expresses the hope that he will hold his reader's attention:

*si tibi forte animum tali ratione tenere
versibus in nostris possem, dum perspicis omnem
naturam rerum qua constet compta figura.* (1.948–50)

Lucretius hopes *ratio*, his third reference in a few lines, will be found *versibus in nostris*. The preposition does not mean that *ratio* will be found inside, or in amongst his verses, as if they were clothing or a container for it. Instead, there is a closer relationship: the right doctrine can be found in the very use of verse. Indeed, this is force of the *dum* clause, whose indicative *perspicis* indicates that the clauses are contemporaneous (“while you discern”) and not consecutive (“until you discern”); the learning about the

world takes place during the reading of poem, not at its end. Finally, Lucretius includes a point from the atom-letter analogy: the technical and dual-valent meaning of the word *figura* stands out, strengthened by the connotations *comptus* can have to describe good writing style. In reading *De Rerum Natura* the reader will perceive the neat arrangement of atoms in the elegant arrangement of its letters.

CONCLUSION

We began by asking why Lucretius wrote his treatise on natural philosophy in verse. Poetry afforded Lucretius a greater armoury for setting about his task, and one of the weapons in that armoury is the potentiality in verse for iconic language, especially in onomatopoeia. By means of soundplay, articulatory symbolism, and other kinds of iconic language, he was able not only to deliver the doctrine of his philosophy in propositional statements, but also in his very choice of words, and in the reciting and in the listening of *De Rerum Natura*.

Lucretius did not need to stray far to find a rationale for this method. In the Epicurean theory of language, the first natural stage by which language originated, and the later role to be taken by reason as a general force, and by wise persons individually, he found a calling to write poetry which included onomatopoeia and extended it as a rational principle into alliterative and assonantal sound symbolism and the other symbolic attributes of poetry. In the Epicurean reliance on the senses, and explanation of them by means of the same underlying idea of atomic contact, Lucretius also found a doctrine that empowered him to explore the synaesthetic

qualities of these symbolisms and the of rich analogies which he used to describe the world. In particular, the analogy of the atoms and letters, the most developed and intriguing of his many illustrations, conveys his fascination for the mirror between the atomic and the linguistic worlds.

There is nothing here, then, to detract from the many other ways in which poetry was deeply attractive to Lucretius. The tradition of poetry which he admired is apparent throughout his poem, and another rich seam to be mined. The socially acceptable mode provided by writing poetry was also an advantage to a proselytising Epicurean. But the depth of Lucretius' engagement with the iconic aspects of language should prevent us from a simplistic view of his poetry as a separate, amenable covering to his philosophical doctrine. On the contrary, for Lucretius, these two were deeply entwined.

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ABBREVIATIONS

Abbreviations for Classical works are as per those of the *Oxford Classical Dictionary*, (4th ed.), S. Hornblower, A. Spawforth, E. Eidinow (eds.), 2012. Oxford: OUP.

OLD—Glare, P. G. W., (ed.) *Oxford Latin Dictionary*, Oxford Clarendon Press 1982

LSJ—Liddell, H. G., Scott, R., Jones, H. S., *A Greek-English Lexicon*, Oxford Clarendon Press 1940, 2 vols

DRN—De Rerum Natura

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