DAEDALA LINGUA: CRAFTED SPEECH IN *DE RERUM NATURA*

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Abstract. This article examines the creation of words in *De Rerum Natura* through a close reading of two extended passages concerning the problem of where words come from and what they do. The first is the account of speech production, work entrusted to the *daedala lingua* in Book 4. This physiological process is mimicked at the phylogenic level in the discussion on the origins of language in Book 5, where voice is first shaped by a body responding to the impact of objects, then by *utilitas*. The adjective *daedalus* and the intervention of *utilitas* both signal, I argue, a shift away from an understanding of language as reaction towards an understanding of language as fabrication, a shift with important implications for the relationship of words to the world they represent.

LUCRETIUS IS A POET OF REALITY.[1] That juxtaposition of terms may call to mind the age-old antithesis between art and science that continues to be a thorn in the side of Lucretian studies, despite the growing consensus that *De rerum natura* might be recuperated as a masterful generic synthesis.[2] It raises, too, perhaps, the persistent doubts that poetry could ever have been accommodated as a means of explicating material reality within Epicureanism, whose founder appears from testimonia and extant evidence to have been resistant to that genre's repertoire of deceptive images and tropes designed to turn language away from strictly literal representation.[3] And, in the sixty years since Paul Friedländer's still

[1] Unless noted, the translations are my own and the text is Bailey's 1922 *OCT*.

[2] See Boyancé 1947; Schrijvers 1970; Thury 1987; Schiesaro 1990; Gale 1994; Volk 2002, 72–73. Cf. Ronconi 1963. Synthesis, of course, is a tricky word. All of these scholars in some way or another recognize the novelty of the Lucretian project.

[3] This is an ongoing topic of discussion. What appears to have been most objectionable to Epicurus in poetry was, on the one hand, the propagation of fictitious and impious notions of the world and, especially, of the gods in myths (*fabulae*), and, on the other hand, the use of figurative language, i.e., language deviating from its purely denotative function. Commentators have him rejecting all poetry as ὀλέθριον μύθων δέλεαρ, the "treacherous trap of *muthoi*" (Heraclit. *Quaestiones Homericae* 4.2 = fr. 229 Us.) and denouncing the τὰ Ὁμήρου μωρολογήματα, the "foolish babbling of Homer" (Plut. *Mor.* 1087a = fr. 228 Us). In

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influential article, "Pattern of Sound and Atomistic Theory in Lucretius" (1941), in which he, seeking to account for the poem's acoustic texture, concluded that the sound-patterns of *De rerum natura* mimicked patterns of atomic reality, it may continue to invite speculation on just how real this poetry is.

Friedländer's attempt to understand Lucretius' expert manipulation of Latin verse was built not only on an analysis of Lucretius' style, particularly his meticulous attention to alliteration, assonance, and rhyme, but also on what has become an oft-cited analogy between letters (*elementa*) and atoms (*elementa*),[4] repeated five times in the first two books of *De rerum natura*. It is introduced early in the poem, after the statement of the cardinal principle that nothing is created from nothing, to illustrate the principle opposed to such hypothetical chaos, namely, that everything perceptible arises from fixed "seeds." This axiom guarantees a systematicity to the diversity of the seen world and a limit to what can be created: for "many bodies are common to many things, as we see letters are to words . . ." (1.196–97). Having established that the recurrence of common elements imposes constraints on what might be created, Lucretius, in a second, more elaborate deployment of the analogy, shifts his emphasis to the manifest diversity of nature, which he ascribes to variations in the unions, positions, and movements of the atoms. He points to letters, which also combine in various ways to form lines and words that differ in sound and meaning:

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the last decades, scholars have added considerable nuance to this picture: see especially Asmis 1995a, 16–21, who demonstrates the ambiguity of Epicurus' position in these sources; see also Gale 1994, 6–18; Wigodsky 1995; Obbink 1996. On the second objection regarding figurative language, see *Ep. Hdt.* 37–38, 72–73; *On Nature* fr. 12 col. iii 6–12 (Sedley); D.L. 10.13. See also De Lacy 1939; Boyancé 1947; Classen 1968; Long 1971, 123–25; Sedley 1973, 18–23; Dionigi 1988, 70–73. These qualities primarily affect poetry's success as a medium of philosophical exposition, and Epicurus may not have had anything against deriving pleasure from it, provided one's worldview had already been firmly established by philosophical instruction, as Asmis suggests (1995a, 21). Such an understanding of poetry accords with what we find in the fragments of Philodemus. Despite being an adroit epigrammatist, Philodemus did not find any philosophical utility in poetry. He seems to have viewed it as a possibly pleasant diversion not without the potential to do harm; see Asmis 1995a, 26–33, for an overview of his position.

[4] There is a long history of this double meaning, beginning with the use of the Greek word *stoicheion* to mean both "first-element" and a letter of the alphabet; similarly with the Latin *elementum*. The double entendre probably originated with the Greek materialists; see Arist. *Metaph.* 985b10–21; *De gen. et corr.* 315a35–b15. See also Diels 1899, 9–14; Snyder 1980, ch. 2; Ferguson 1987; Dionigi 1988, 20–38; Porter 1989, 157–78; Armstrong 1995, 210–13.

namque eadem caelum mare terras flumina solem
constituunt, eadem fruges arbusta animantis,
verum aliis alioque modo commixta moventur.
quin etiam passim nostris in versibus ipsis
multa elementa vides multis communia verbis,
cum tamen inter se versus ac verba necessest
confiteare et re et sonitu distare sonanti.
tantum elementa queunt permutato ordine solo.
at rerum quae sunt primordia, plura adhibere
possunt unde queant variae res quaeque creari. (1.820–29)

For the same [sc. elements] form sky, sea, lands, rivers, sun; the same create, too, crops, trees, living beings, but only when combined with different elements and moving in different ways. And, moreover, in every part of my verses you see many letters common to many words, although you must grant, nevertheless, that the verses and words differ from one another both in their sense and in the sound of their sounding. So much can the letters do with only a change in order. But those elements that are the first-beginnings of things can employ even more means by which all different things may be created.

Some lines later, he gives the example of *ignis* (fire) and *lignum* (firewood), words with common letters that produce, nevertheless, distinct sounds (*distinctae voces*) denoting distinct objects, just as the objects themselves share elements which differ in their positions, movements, and interactions with other atoms in the compound.[5] The word, then, is the visible artifact that reveals the underlying composition of a perceived object.[6] It clarifies the similarity that is responsible for both the difference heard in the spoken word and seen in the thing denoted and the systematic recurrence of those words and objects.

The analogy returns with yet another twist midway through Book 2. While this incarnation is often seen as a simple reiteration of the equivalence between atoms and letters, Lucretius is, in fact, making a novel point. In the version at 1.820–29, which recurs in essentially the same form at 2.1013–22, the analogy illustrates the critical role of position (*positura*) in word formation. For the same letters signify (*significant*,

[5] "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).

[6] On analogy in early Greek science, see Lloyd 1966; for Lucretius, Schiesaro 1990.

2.1016) different things, depending on how they are arranged. *Ordo* determines difference in words at 1.820–29 and 1.906–14 as well. In each case, the diversity of the sensible world is represented as an epiphenomenal effect of atomic redistribution and reordering.[7] Yet the analogy at 2.688–99 is part of an extended explanation, beginning at 2.333, of the variety of shapes possessed by the atoms themselves, and so its aim is to demonstrate that, while there are many letters common to the poem's words and verses, they are, nevertheless (*tamen*), formed from different elements (*alia ex aliis . . . elementis*). Lucretius is clearly conscious of his prior emphasis, for he elicits acquiescence only after having made clear what is not to be admitted this time: "[you must confess] not that but a few letters run through them in common, nor that two of them are made of letters all the same, but that they are not all alike the same one with another."[8] Language proves a rich source of illustration indeed, yielding difference both epiphenomenally and essentially, while maintaining a closed system of possible formations. If it is still unclear to what extent letters themselves are indebted to the atoms whose nature they betray and whose compounds their own collocations mimic—are they themselves building blocks of a real world? what kind of object is a sound? a word? a poem?—a more pressing question might be: what exactly are these elements of language? For Lucretius presents to us not only the written marks on the page but also the sounds and the things (*res*) they produce.

Critical allegiance to one of these systems of difference and repetition has produced a spectrum of competing interpretations of the analogy and its implications for Lucretian poetics. Friedländer himself was concerned with the acoustic texture of the poem. For example, the repetition of sounds in *religione* and *caeli regionibus* "can hardly be a mere affair of sounds. The sounds express a reality, the fact that religion de-

[7] Of the three Aristotelian terms (*thesis*, *taxis*, *schēma*), the pairing *thesis* and *taxis* predominates in the analogy with language, as the evidence of Porter 1989, 149–78, shows.

[8] "quin etiam passim nostris in versibus ipsis / multa elementa vides multis communia verbis, / cum tamen inter se versus ac verba necesse est / confiteare alia ex aliis constare elementis; / non quo multa parum communis littera currat / aut nulla inter se duo sint ex omnibus isdem, / sed quia non vulgo paria omnibus omnia constant. / sic aliis in rebus item communia multa / multarum rerum cum sint primordia, verum / dissimili tamen inter se consistere summa / possunt; ut merito ex aliis constare feratur / humanum genus et fruges arbustaque laeta" (2.688–99). The contrast (see the repetition of *tamen* at 690 and 697) between the recurrence of common elements among ostensibly different things and the differences between these common elements (each has a *dissimilis summa*), which result in differences of compound objects that are not reducible to order and arrangement, has been overlooked, although see Volk 2002, 103. Dalzell does note that Lucretius is making a different point here but finds the argument inchoate and incoherent (1987, 22–23).

rives from a heavenly region" (1941, 19). Such play exploited a theory of language, he argued, that related sounds to the nature of the objects they denoted, with similar words bearing witness to relationships of affinity between the objects designated, and the poem itself "repeat[ing] the creative work of language on a different level" (1941, 29). Whether or not Epicurean language theory explicitly provides for this kind of relationship between words and things will be taken up below. As for Friedländer's "atomology," Alexander Dalzell (1987) has observed that his exclusive attention to resemblance neglects Lucretius' point about the emergence of qualitatively different compound objects as a result of slight changes to the arrangement of their component elements. But Dalzell himself can only see the production of epiphenomenal difference, an illustration of how difficult it is to hold the competing vectors of the analogy mentally.

In the last thirty years, a number of scholars have extended, fine-tuned, and responded to Friedländer's arguments.[9] Where he sought to break down the analogical barrier between the elements of language and those responsible for sensible reality by positing a natural (i.e., non-conventional) relationship between the utterance and its referent, others have either preserved and complicated the analogy or, conversely, sought other strategies for integrating language into a world where bodies act and are acted upon. Recently, the non-conventional position has been developed by David Armstrong (1995) in light of ongoing work on the poetics of Philodemus, a poetics committed in its moments of positive exposition to the radical formal integrity of the poem, that is, the inseparability of its verbal style (*lexis*) and its thought (*dianoia*). Just as the transposition (*metathesis*) of atoms in the Lucretian analogy yields a completely new object, any change to the poem, even of a single letter, should create a different literary artifact, Armstrong argues.[10] The analogical

[9] See especially Snyder 1980; Ferguson 1987. Deutsch 1978, which first appeared as a Bryn Mawr dissertation in 1939, initiated the systematic inquiry into patterns of sound in Lucretius. Also, Ivano Dionigi has detailed how the language used by Lucretius to speak of atoms borrows a number of technical terms from the grammarians. Analyzing the ways in which Lucretius maximizes rhetorical and stylistic strategies (e.g., anaphora, leonine rhymes, alliteration) to create a tautly structured verbal artifact capable of reproducing "la struttura del reale," he goes further than Friedländer and Snyder to claim that words and things are intertwined in such a way as to reveal "una funzione ermeneutica prima ancora che pedagogica ed estetica" (1988, 109). For an overview of "atomological" criticism, see also Volk 2002, 100–105.

[10] Armstrong 1995, 228–32; see also Dionigi 1988, 33. Armstrong emphasizes the play of written letters. However, the symbiosis of letters and phonemes should be acknowledged, for the poem would not have been read silently, as Lucretius' references to the

barrier remains firmly in place, since for Philodemus the play of written letters is epideictic show, producing a purely intellectual pleasure that is derived from watching a miniature *kosmos* take shape. The effect, that is, is devoid of moral utility. Yet this barrier may be more porous for Lucretius. It is hard to conclude from his metapoetic statements that his sole aim is intellectual pleasure. The basic tension of the honeyed-cup simile (1.921–50 = 4.1–25) between pleasure and philosophical instruction undermines such an interpretation and complicates any identification of Lucretius' poetics with those of Philodemus. Lucretius clearly thinks he is doing something with words beyond bellelettristic play.

A fascination with the Lucretian performative has marked the route taken by other heirs to atomological criticism. Rather than elaborate Friedländer's hypotheses about the relationship of sounds to the nature of things, they have focused, rather, on the status of the poem as a physical object. E. M. Thury (1987) has argued that the poem's visual representation of the *rerum natura*, taken as a whole, obeys the same laws as any atomic image (*simulacrum*) apprehended by a viewer: Lucretius' goal is to provoke a "clear view" of the *kosmos*. Alessandro Schiesaro (1994; cf. 1990, 21–30) too has focused on the images triggered by the written words, claiming that "the poem creates a wealth of material objects in our mind, transcending its status as sheer medium" (1994, 88). Although he speaks of the poem as a material body, this is, he concedes, "shorthand" for saying that the poem is a set of instructions for creating a material body, that is, a series of *simulacra*, in our mind. Yet with this gesture, the nature of the words themselves fades before the clarity of the image, making it difficult to understand what Schiesaro means when, a page later, he refers to a string of words as a string of material objects, not like atoms, but simply atoms. As Katharina Volk (2002, 103–4) recently observed, Schiesaro's "shorthand" ends up taking the place of an argument that might explain how the poem participates in the same order of reality as the *simulacra* it produces. This is not a problem for Volk, since she sees the relationship between letters and atoms as a strictly illustrative analogy. While I share her misgivings about Schiesaro's approach, I believe that Thury and Schiesaro, in linking words and *simulacra* and in seeing this linkage as fundamental to the references

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"ears" of his reader mark (e.g., 1.417; 2.1024; 4.912; 5.100). As Friedländer insisted, the poem was not only a written artifact but a heard one. Porter 1989 discusses at length the implications of this analogy for *metathesis* more generally in atomist poetics, which he sees upheld not by Philodemus but by some of Philodemus' opponents in *On Poems*, i.e., Crates and the *kritikoi*; see also Porter 1996.

Lucretius makes to his own practice, are essentially correct. It is certainly a position encouraged by Lucretius' own rhetoric of lucidity. Yet there is a risk in embracing too readily this rhetoric, which emphasizes revelation even as the poet refuses to render transparent the medium of sound responsible for producing that revelation *qua* epiphenomenon.

In what follows, I would like to reexamine the status of the poem as a created object by looking at what Lucretius has to say about the creation of speech in general. While the process of how words communicate things is only hinted at—meaning that some background to this question must be supplied from what little we know of Epicurean semantics—I believe there is much to be gained for our understanding of the relationship between language, reality, and artifice in *De rerum natura* from a close reading of two extended passages, which, each in their own way, attempt to account for where words come from and what they do. The first passage is drawn from the explanation of the production and perception of speech in Book 4, where the fashioning of voice into intelligible words is entrusted to the *daedala lingua*. This physiological process is mimicked at the phylogenic level in the discussion of the origins of language in Book 5, where raw voice is shaped into discrete sounds first by a body reacting to the sensory impact of objects, then by *utilitas*. Both accounts encourage an understanding of language, and particularly naming, as a deictic exercise designed to indicate objects in the world. Thus, both support Lucretius' understanding of his own work as a process of *rendering visible*. This investment in the transparency of the verbal artifact belies the complexities involved in translating experience into sound and sound into vision, a sequence of events that, in the earliest stages of language, has its systematicity secured by its subordination to natural law. This sense of automatism dominates both of the Lucretian passages, even as we begin to infer the presence of an intentional subject. I will argue that it is in the ambiguous stage of *utilitas* that the *lingua* becomes *daedala*, a curious epithet describing both natural and human creation in *De rerum natura*. How *utilitas* comes to bestow this title on the tongue raises questions about the nature of speech *qua* fabrication, the autonomy of language vis-à-vis sensation, and its prospects for representing the real, visible and invisible. Thus, although Democritus' statement that the "architect" Homer built a *kosmos* out of all kinds of words (DK68 A21) resonates with Lucretius' desire to "build a poem" (*carmen condere*, 5.1–2) worthy of the master, I would like to begin with the world fashioned each time we open our mouths. In addressing what takes place at this moment, we might gain a better understanding of Lucretius' sensitivity to the uses and abuses of language.

I. THE IMAGE OF A WORD

> Hasce igitur penitus voces cum corpore nostro
> exprimimus rectoque foras emittimus ore,
> mobilis articulat verborum daedala[11] lingua
> formaturaque labrorum pro parte figurat. (4.549–52)
>
> Then when we express these voices from the depths of our body and send them forth directly from the mouth, the nimble tongue, fashioner of words, joints them and the shaping of the lips in turn gives them form.

Hearing is not the first but the second sense explained by Lucretius, and its belatedness in this regard is telling. The fourth book, devoted to perception and associated topics, begins with an exposition of vision and the introduction of the *simulacrum*,[12] a concept inherited from the early Greek Atomists that is crucial to establishing the terms in which Lucretius will explain not only the other non-tactile senses but mental processes as well. Objects steadily shed *simulacra*, which are "stripped just like a membrane from the surface of a body and float this way and that through the air."[13] When these image-bearing films strike the eye, we "see" their source. Of interest at the outset is that the relationship of the *simulacra* to sight is described as a kind of afterthought. For before any talk of seeing, the *simulacra* appear mid flight, without any particular destination. The object emitting them does not intend to be seen, and thousands of *simulacra*, generated unremittingly, flit aimlessly (*volitant*) without ever striking an eye. It is this world, overpopulated by object-avatars—anticipations of the filmier *simulacra* responsible for thought later in the book—that rises up before us in the beginning of Book 4.

After a discussion of the *simulacrum*'s marvelous velocity and a lacuna of undetermined length, the *simulacra* finally impact an eye and cause an *imago* to appear, at which point a material relationship is established between the perceiving subject and the perceived object, the space between them bridged by the continual stream of *simulacra* from the object (cf. *Ep. Hdt.* 50). Couched in these terms, it is clear that sight is

[11] OQ have *nervorum daedala*. Editors have unanimously accepted Lambinus' *verborum*.

[12] Lucretius rarely transliterates and so drops the Greek *eidōlon*. *Simulacrum* is his primary translation, but he also often uses *imago* as well as *effigies* and *figura*, terms that still emphasize the *eidōlon*'s iconic quality; see Sedley 1998, 39–42. Cf. Epic. *Ep. Hdt.* 46–51; Diog. Oen. fr. 9 (Smith).

[13] "quae, quasi membranae summo de corpore rerum / dereptae, volitant ultroque citroque per auras" (4.35–36). See also 4.54–64; *Ep. Hdt.* 46.

modeled on a tactile relationship. Indeed, the appeal to touch constitutes the last recourse to the reader's experience to confirm the veracity of the *simulacrum* before the detailed discussion of vision:[14]

> Praeterea quoniam manibus tractata figura
> in tenebris quaedam cognoscitur esse eadem quae
> cernitur in luce et claro candore, necessest
> consimili causa tactum visumque moveri.
> nunc igitur si quadratum temptamus et id nos
> commovet in tenebris, in luci quae poterit res
> accidere ad speciem quadrata, nisi eius imago?
> esse in imaginibus quapropter causa videtur
> cernundi neque posse sine his res ulla videri. (4.230–38)
>
> Moreover, since a shape handled in the dark is known in some sense to be the same as that seen in light, in the clear brightness, it must be that touch and sight are moved by a similar cause. Therefore, if we touch a square thing and it affects us in the dark, what square thing could fall under our gaze in light if not its image? On account of this it is obvious that the cause of seeing is in the images, and that nothing can be seen without them.

Note that touch only moves us in the dark. *In luci*, the square ceases to interact with us directly, falling, rather, under our vision (*ad speciem*) and representing to us what we had identified in the dark through touch, as though touch were no longer an option. Touch is unmediated contact, but it is the derivative sense that takes over as soon as there is light. Touch legitimates the truth of vision even as it is superseded by it, and the object is surpassed by its *imago*; it is sight above all that gives perception of the things themselves, *res ipsae* (4.258).[15] This is consistent with the privileging of vision in Lucretius as well as in Epicureanism and Greek philosophy as a whole. However, the tradeoff is worth noting, for it anticipates other exchanges in which contact with the world gives way to

[14] Cf. 1.304; 2.408–9; Cic. *ND* 1.49. On the importance of touch, see Bailey 1928, 404–6; Schrijvers 1970, 88–91; Rosenmeyer 1996, 142–43.

[15] See Glidden 1979, who argues that Lucretius believes perception is perception of objects rather than sensory impressions. This is true insofar as we take vision as a model. Yet other forms of sensory perception are strongly associated with pleasure and pain, and sensation is, in fact, polarized in order to correspond to these two extremes (see Graver 1990, 98, for example, on taste). It is thus more difficult to postulate an absolute divide between perception and sensation (*aisthēsis* and *pathē* for Lucretius are both translated by *sensus*, as Glidden details). Tellingly, the act of hearing words concentrates on the perception of an external object rather than on the sensation they provoke, as I show below.

the contemplation of it and more distant things, albeit at the risk of introducing greater distortion and error.

Given that vision is ultimately established on analogy with touch, it is not surprising that problems arise because such contact is not immediate. Lucretius attributes all perceptual error—that is, the failure to properly identify what is—to the viewer's misinterpretation of sense-data either disrupted in the course from the object to the viewer or otherwise skewed by the conditions of viewing. Thus, air wears down the sharp angles of a square tower, causing the *simulacra* to arrive rounded, their angles blunted (4.353–63; cf. Sext. Emp. *Math*. 7.206–10). In such cases, the loss of spatial immediacy (temporal immediacy is gained by the visual *simulacrum*'s awesome speed) mitigates the power of the *simulacra* to represent the distant object with total fidelity, although the mind may make adjustments based on what it knows about the conditions of viewing.[16]

In his treatment of hearing, Lucretius retains the idea of a micro body capable of establishing a material relationship between an object and a percipient:

> principio auditur sonus et vox omnis, in auris
> insinuata suo pepulere ubi corpore sensum.
> corpoream [vocem add. Lachmann] quoque enim constare fatendumst
> et sonitum, quoniam possunt impellere sensus. (4.524–27)
>
> To start with, every sound and voice is heard when, having crept into the ears, it impacts the sense with its body. For it must be granted that voice and sound are also corporeal, since they can strike our senses.

The argument benefits from the proximity of the proofs for the existence of *simulacra*, which had explained the role of such micro-bodies in provoking perception. Yet further evidence is deemed necessary to prove the corporeality of sound.[17] Turning to the sound-producing body, Lucre-

[16] On perception and perceptual error, see further below pp. 546–47.

[17] The corporeality of voice was a controversial issue in ancient philosophy; see Koenen 1999a, 439–40; *id*. 1999b, 23; Biville 2001, 28–30. *Sonus/sonitus* generally refers to all auditory stimuli, while *vox* is restricted to sound produced by living beings, including animals; *vox* articulated will become the word. See Arist. *Hist. an.* 535a28–536b23, where he distinguishes voice, sound and speech (*phōnē*, *psophos*, *dialektos*), of which only humans produce the latter; Arist. *De an*. 420b6–421a7; *Int*. 16a27–29. For later attempts to distinguish human speech from that of animals (including trickier cases such as parrots), see Gal. *In Hipp. Off*. (18b.649 Kühn = SVF 2.135); Sext. Emp. *Math*. 8.275 (= SVF 2.223); I owe these references to David Armstrong. The Stoics, according to Diogenes Laertius (7.55–56),

tius argues, first, that the passage of the "first-beginnings of voices" (*primordia vocum*) through the throat can hurt: pain proves that voices and words are made of corporeal elements.[18] He then goes on to point out that a speaker becomes exhausted, having given away a part of her body (*amittit de corpore partem*). Producing sound is thus felt in a way that being seen is not: it is a kind of work.[19] The rhetorical move here makes perfect sense given Lucretius' tendency to appeal to the experience of the reader whenever possible, yet the decisive orientation towards speech at this point will reverberate throughout the rest of his discussion of hearing.[20] Although lines 4.542–48 seek to account for the quality (rough or smooth) of sound, which is determined by the shape of the *primordia*,[21] lines 4.549–614 revert to the direction taken in the proof of sound's corporeality and treat speech alone.[22] Thus, when Lucretius

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believed that the *phōnē* of an animal was air that had been struck by an impulse (ἀὴρ ὑπὸ ὁρμῆς πεπληγμένος), while human speech is articulated and sent forth from thought (ἔναρθρος καὶ ἀπὸ διανοίας ἐκπεμπομένη). On the notion of *hormē* in Stoic thought, see Stob. 2.86.17 (= *SVF* III.169). Philodemus, too, binds articulation to thought; see Blank 1995, 183–84.

[18] Cf. 2.436; D.L. 10.32 (ὑφέστηκε δὲ τό τε ὁρᾶν ἡμᾶς καὶ ἀκούειν, ὥσπερ τὸ ἀλγεῖν).

[19] For the proofs, see 4.528–41. On Lucretius' awareness of how the body produces voice, see Gourevitch 1997; Koenen 1999a, 441–42; *id.* 1999b, 24–25; Biville 2001.

[20] The central two arguments on the corporeality of sound are drawn from speech. Thus, Bailey is being disingenuous when he says that "Hitherto Lucr. has argued that the hearing of sounds is due to the emission and reception in the ear of emitted particles. Now he deals with the special case of speech, in which there is added to the sensation (*aisthēsis*) a perception (*epaisthēsis*) of significant words" (1947, *ad* IV.549–94) and references *Ep. Hdt.* 52. Moreover, Bailey's interpretation of *epaisthēsis* as the perception of words is controversial. In Epicurus, it pertains to all perception, without involving *logos*: see Lee 1978, 37–38; Asmis 1984 113, n. 21; 162–63.

[21] The position of the passage is much disputed and line 545 hopelessly corrupt. For a detailed discussion of various editors' conjectures, see Koenen 1999a, 452–53; *id.* 1999b, 27–32. For Epicurus, the qualities of color, smell, taste, and heat are properties of the object, whereas Democritus attributed them to our subjective sensory experience; see DK68 A135, B9; and Bailey 1928, 168–74; Furley 1993. This is treated at length by Lucretius at 2.381–477. On the specificity of the quality of sound, see 2.408–13; 4.542–48.

[22] See Schrijvers 1974, 351, n. 40, and Koenen 1999a, 455. Both argue that the way in which Lucretius proceeds is in keeping with the traditional arrangement of topics in ancient philosophical and medical texts, such as Hp. *Carn.* 15–18 (Littré 8.603); *id. Vict.* 2.61 (Littré 6.574–75); *id.*, *Morb. Sacr.* 16 (Littré 6.390); Arist. *Hist. an.* 532b29–536b23; *De an.* 418a27–24a16; and ps-Gal. *Def. Med.* 41–44 (19.358–59 Kühn). In the majority of these cases, while it is true that speech is explained in the context of the other senses, hearing and speaking qualify as two different things, with the discussion of voice and speech usually following the material on hearing, as at Arist. *De an.* 419b4–21a7. The treatment of hearing usually deals with the body of the listener, while that of the voice addresses the speech-producing body and thus does not address hearing words.

describes the flight of the sound particle towards an ear (4.553), we are only dealing with an articulated word. Other forms of hearing disappear, and with them the attention to the nature of the sound itself, rough or smooth. The dynamics of the relationship between a speaker and a listener take center stage, a relationship to which Epicurus himself does not give special attention in our extant texts.[23]

Lucretius' decision to pass over the first-beginnings of voice expressed from inside the body, whose qualities of roughness or smoothness are invariable, in favor of speech raises the question of the body's active involvement in the production of sound. It is difficult to imagine an object here simply emitting sounds, as an object sheds *simulacra* continually, automatically, and unconsciously, because the topic has shifted towards bodies whose production of sensory data is episodic, provoked by a stimulus or deliberately undertaken, and defined by these bodies' capacity to vary the kinds of sounds that are produced.[24] This capacity for variation, which is also the condition for the intentional manipulation of voice, will prove crucial to the development of language described in Book 5. Moreover, Lucretius' presentation of sound particles as elements in articulated words, a subtle shift that suggests a breach in the

[23] In his reconstruction of the relationship between Epicurus' *On Nature* and *De rerum natura*, Sedley 1998 aligns the discussion of the other senses in the former, listed as section xv (following section xiv, "vision, visualization, truth and falsity") in his Chart I (133), with 4.522–721 of the latter. He believes that this lost section of *On Nature* would have corresponded to *Ep. Hdt.* 52–53 where the nature of auditory particles (*onkoi*) is treated. Speaking there is classed with making any kind of *akoustikon pathos*. Words are not treated with any specificity, and so the manipulations of particles by the mouth are not mentioned. Rather, sound originates as a blow (*plēgē*)—its cause is not noted—that occasions a "squeezing out (*ekthlipsis*) of certain bodies"; these create a current of breath (*pneumatōdes rheuma*). It is the specific nature of this *rheuma* that produces the appropriate perception in the hearer; see Lee 1978, 31. See below, p. 541–42, for the implications of this account for Lucretius' own description of sound transmission. Koenen (1997, 167), of course, is right to point out that the absence of some elements of Lucretius' own explanation of sense perception from the text of *Letter to Herodotus* does not mean that those elements did not appear in the discussion of the senses in Books 3 and 4 of *On Nature* in Sedley's reconstruction. A discussion of articulated voice does appear in the fragmentary treatise on the sensations attributed to Philodemus; see *PHerc* 19/698 col. xxvi–xxvii. It is telling that only articulated voice (*engrammatos phōnē*)/articulation (*arthrōsis*) has a *schēma* here, suggesting that Lucretius' treatment probably draws on something from Epicurus or from the post-Epicurean tradition. See below, n. 26.

[24] Koenen distinguishes between "automatical" and "non-automatical" emissions (1997; 1999a, 436; 1999b, 21). The former are involved in vision and olfaction while the latter require some sort of cause, whether it be a person squeezing *voces* out of her body or the aggregates of flavor-constituting atoms extracted through mastication.

letter-atom analogy has occurred at the level of the spoken word, also complicates how we are to understand their referentiality. For *voces*, once fashioned into words, do not, at first glance, seem to communicate anything about the body that produced them (or rather, contributed itself to them), nor is that body-*qua*-macrophysical object the thing about which the listener is seeking to gain information.[25] What words bear, rather, is information about the world. We will see that this act of making reference does implicate the sound-producing body, but the fact that it may also go beyond that body encourages us to note the difference at this point between the cries of animals, where variation expresses states of the body—such as pleasure and pain (5.1056–90)—and human language, where variation reflects the multiplicity of things in the world. It is precisely the failure of the sounds of animals to go beyond the body and indicate the external world that leads Lucretius to define them as mute (5.1059, 1088; cf. Arist. *Hist. an.* 536a–536b). Thus, the problem of distortion in the *simulacrum*'s transit in the discussion of hearing does not endanger the sound particle's fidelity to the body emitting it but rather its fidelity to another "original." What is this, if not a property of the body?

If hearing is understood as hearing words, auditory "*simulacra*" are in a strange position. For while continuing to assimilate the sound particle to the *simulacrum* via its corporeality and mobility, Lucretius has embarked on a treatment of a different kind of mimesis, albeit one closely linked to vision. The *simulacrum* is iconic. Its ability to conserve the form of the object, its *thesis* and its *taxis* for Epicurus, is explained by the fact that it is thrown off from the body's surface (*summo de corpore*). Thus, in its flight from the body, it is not impeded by anything (4.59–64), unlike smell, smoke, and heat, which arise from the depths of a body (*ex alto*, *intrinsecus*, 4.90–91) and are "torn up" as they exit. Any distortion of the *simulacrum*'s form results from its time in the air, as we have seen.

[25] For physiognomists, physicians, and the orators, a *vox* communicated a wealth of information about the body that produced it; Biville 1997 gathers evidence from Latin literature on the *vox* that signifies without or in excess of the *verbum*. The relationship between a sound and the sound-producing body (that is, the sound of an oboe, the sound of Madonna's voice) is important to the Epicurean account; see Lee 1978, 34. However, in the Lucretian description of meaningful sound, while a word may retain the property of roughness, this is irrelevant to what it represents. The various sounds animals have at their disposal to express emotion in Book 5 are also available to humans (e.g., 5.996, the expression of pain), just as singers may imitate birds in "leading their voices in various ways" (*ducere multimodis voces*, 5.1406). However Lucretius concentrates on speech as the natural outgrowth of humans' ability to vary the sounds they produce in the interest of referring to the world rather than simply themselves.

The spoken *vox* also has a form that must be preserved (4.556).[26] But what kind of form is this? More generally, what does it mean for it to be created rather than spontaneously shed?

The word is voice that the tongue has divided up (*articulat*, 4.551) into parts.[27] Each is then fashioned (*figurat*, 4.552) into a determinate shape, work that falls to the nimble tongue, "artificer of words," and the forming of the lips (*mobilis . . . daedala verborum lingua formaturaque labrorum*). *Articulatim*, at 4.555, further emphasizes the word as a "jointing" of fashioned sound particles into a specific linear ordering. This ordering is crucial for, as Lucretius makes clear in the letter-atom analogy, it impacts how something sounds and, thus, which object will be denoted. Each sound must be first articulated by the speaker, then picked out (*discerni*) by the listener before the word can be said to have been successfully communicated.[28] Verbal form, it seems, is a compound, frangible, created thing, with its own *figura*, which must be preserved in transit (4.556). This *figura* is not exactly the copy of a word, since else-

[26] *servat enim formaturam servatque figuram*. Notice the repetition of the verb *servare* here and at 4.69, where it is used with *simulacra* (*formai servare figuram*). Cf. 4.87, 100; *Ep. Hdt.* 48: καὶ γὰρ ῥεῦσις ἀπὸ τῶν σωμάτων τοῦ ἐπιπολῆς συνεχής . . . σῴζουσα τὴν ἐπὶ τοῦ στερεμνίου θέσιν καὶ τάξιν τῶν ἀτόμων ἐπὶ πολὺν χρόνον. . . . See also *PHerc* 19/698 xxvi (Monet), where form (*schēma*) is said to be the object of discernment (*krima*) available to every sense. The author then goes on to speak of τὸ τῆ[ς] χ[ρ]οᾶς | ἢ τ[ὸ] ἐνγραμμάτου | φω[νῆς σχῆμα. . . . The analogy between color and articulation is continued in the next lines. The author apparently is comparing the relationship between the form of color (ὁ τοῦ χ[ρ]ώματος σχηματισμός) and the quality of color to the relationship between articulation (ἡ ἄρθρωσις) and the quality of the voice (πρὸς τὴν τῆς φωνῆς ποιότητα). He concludes by saying that neither color nor voice is a stranger to form (καὶ κατὰ τοῦτο σχή|ματος οὐκ ἀλλοτρ[ίαν] | εἴπομεν ἂν ἑκατέ|ραν εἶν[α]ι [τ]ῶν αἰσθή|[σεων . . .).

[27] *Articulare* translates the Greek verbs ἀρθροῦν/διαρθροῦν, technical terms used to describe phonetic articulation. See Hp. *Carn.* 18 (Littré 8.608); Plat. *Prot.* 322a8; Arist. *Hist. An.* 535a32; *PHerc.* 19/698 col. xxvii 6 (Monet). Cf. Cic. *ND* 2.149: [sc. *lingua*] "vocem inmoderate profusam fingit et terminat atque sonos vocis distinctos et pressos efficit cum et dentes et alias partes pellit oris." On descriptions given by other Latin authors on the articulation of the voice, see Biville 2001. *Articulus* in the sense of "joint" is found at *DRN* 3.697.

[28] Cf. Hp. *Carn.* 18 (Littré 8.608): ἢν δὲ μὴ ἡ γλώσση ἀρθροῖ προσβάλλουσα ἑκάστοτε, οὐκ ἂν σαφέως διαλέγοιτο, ἀλλ' ἧ ἕκαστα φύσει τὰ μονόφωνα ("if the tongue does not articulate by touching [sc. the palate and the teeth] each time, the person does not speak clearly, but utters, as they all are by nature, *mere sounds* [my italics]," trans. Potter). See also Mar. Vict. *GL* 6.4.20–21, who opposes *vox articulata* to *vox confusa*, the latter being that which sends forth nothing but the simple sound of the voice (*quae nihil aliud quam simplicem vocis sonum emittit)*, and Koenen 1999a, 460, n. 76, on the opposition. Describing the groan of someone suffering intense pain, Lucretius describes the *semina vocis* being borne from the mouth as *glomerata*, "all bunched together" (3.497), i.e., not articulated.

where Lucretius collapses such a chain of reference and speaks directly of words traveling through the air (4.558, 580). Moreover, the tongue is a fashioner of words, implying that we should understand words as synonymous with the articulations that issue from the mouth rather than things whose form is copied. At the same time, in the discussion of the echo, Lucretius refers to *formae verborum* (4.574) so that it appears that the *verbum* is itself the thing whose form is reproduced rather than a form shaped in accordance with something else. In this context, Lucretius implies yet another level of imitation. For, although the word itself is repulsed by the rocks, in being propelled back into circulation it is doubled (*iterabant*, 4.579). Yet, on closer inspection, even what is repelled is described as words or *voces*, with the result that there still seems to be an equivalence between the articulations, words, and their forms. A *form* of a word is not at one level of remove from the word understood as a copied object but is, rather, synonymous with that which it imitates. The *formae verborum* thrown back faithfully from the rocks are interchangeable with the word, suggesting that, perhaps, the word is nothing but its form, as opposed to an object that is qualitatively different from the *simulacrum* that flies off of it. Of course, we still do not know what it is a form or a figure of.

The interpretation of the *verbum* as both created object and *simulacrum* is supported by Lucretius' discussion of the voice's ability to reproduce itself in order to reach the ears of many listeners, although we find here the problem of the *forma* further complicated:

> in multas igitur voces vox una repente
> diffugit, in privas quoniam se dividit auris
> obsignans formam verbis clarumque sonorem. (4.565–67)
>
> Thus one voice at once disperses into many voices, since it divides itself up for separate ears, stamping its form and its clear sound onto the words.

The splitting of the sound stream occurs in Epicurus' account of hearing (*Ep. Hdt.* 52–53), but, as Edward Lee has noted (1978, 55, n. 12), it is a wholly different phenomenon than the one under discussion here. Nevertheless, the problems that it presents elucidate the specificity of articulated speech. Lee understands the segmentation of the sound current described by Epicurus not as a mechanism for delivering the same sound to multiple listeners but rather as the point at which differentiation within the sound stream is produced: thus segmentation in speech would be the production of phonemes (1978, 31). Lee's interpretation addresses a real lacuna in the Epicurean account, for at no point there do we find

a clue as to how the variation of the voice to produce music or speech, so dear to Lucretius, comes about. Whether or not Lee is right, his transfer of what in Lucretius is the work of the mouth to a process of spontaneous segmentation captures the absence of agency in Epicurus and his emphasis on sound as the quality of a body. If we do understand segmentation here as a means of reaching multiple listeners, there is no place at all for difference within the sound stream to be created. Epicurus' talk of homoiomerous particles supports this latter interpretation. In any case, the *sumpatheia* that the sound particles are said to maintain with one another and the "distinctive unity" (*henotēs idiotropos*) that each conserves vis-à-vis the sound-producing body both pertain to that body *qua* referent.[29]

Epicurus rejects Democritus' model for vision and hearing, according to which impressions (*apotupōseis*) are stamped by an object onto pieces of air and, thus molded, travel to the listener or viewer (DK68 A128). For Epicurus, sound particles, like *eidōla*, are simply expressed in the form appropriate to the specific *akoustikon pathos* they will produce (*Ep. Hdt.* 53). While Lucretius adopts the Epicurean modification for his *simulacrum*, which simply peels off the object, the idea of molding returns in his account of hearing because the unit of sound is a word. Two complications ensue from this shift to articulated speech. First is the strange agency of the *vox*. Once the object to be figured by the lips and tongue, the *vox*, as the subject of the participle *obsignans* (the verb technically meaning to "affix a seal to"), usurps their role and itself stamps upon words a form and a "clear sound."[30] At the same time, as the grammatical subject of *diffugit* and *se dividit*, it reproduces itself by spontaneously splitting into numerous replicas as though it were an automatical effluence, not of the sound-producing body but perhaps of the original articulated word. It is clear that it is useless to maintain any distinction between *voces* and *verba*, since the articulated *vox*, once divided, is simply lots of little articulated *voces*, that is, words. The moment at which the *vox* multiplies is crucial for the relationship between the *simulacrum* and the word, for it is at this point when that which is

[29] For Lee, the *sumpatheia* preserved reestablishes the continuity of the auditory stream (1978, 32–33), while the "distinctive unity" communicates timbre.

[30] Cf. 2.581, where knowledge is being pressed upon the memory: "illud in his obsignatum quoque rebus habere / convenit et memori mandatum mente tenere." See also the pseudo-Aristotelian *On Things Heard* 801b3–6: ἀδύνατον γὰρ μὴ τελέως τούτων διηρθρωμένων τὰς φωνὰς εἶναι σαφεῖς, καθάπερ καὶ τὰς τῶν δακτυλίων σφραγῖδας, ὅταν μὴ διατυπωθῶσιν ἀκριβῶς. Epicurus himself uses ἐναποσφραγίζομαι at *Ep. Hdt.* 49, but this concerns his rejection of the Democritean theory.

fashioned by the mouth generates its own repetitions. These repetitions henceforth carry out the work of communication. Yet a distinction has to be made, namely between the form fashioned by the mouth and its replicas, which are both re-fashioned and generated automatically. Despite the equivalence at this level between the word, the voice, and the form, we are still faced with two distinct stages, the first being *anterior* to the process of replication and involving an act of creation.

Several passages seem to reinforce the coincidence between the visual *simulacrum* and the replicated/replicating word. First, the *formae verborum* were thrown back from a rock in the same way that a mirror repulses a visual *simulacrum* (4.290–301), although, in the case of an echo, the word is given in its proper order (*ex ordine*) rather than reversed. Furthermore, we see stray words that, having failed to reach the ears of a listener, bounce around as echoes and, upon becoming deformed, create the illusory music of nymphs and satyrs, in the same way that stray *simulacra* cause us to believe in monsters. Lucretius explicitly compares these replicas to *simulacra* at 4.595–614, albeit in order to signal their differences, and he goes into greater detail about the splitting:

> praeterea partis in cunctas dividitur vox,
> ex aliis aliae quoniam gignuntur, ubi una
> dissiluit semel in multas exorta, quasi ignis
> saepe solet scintilla suos se spargere in ignis.
> ergo replentur loca vocibus abdita retro,
> omnia quae circum fervunt sonituque cientur. (4.603–8)
>
> Besides, a voice is divided in all directions, since voices engender other voices when one, having sprung forth, once bursts into many, just as a spark of fire is often seen to scatter itself into fires of its own. And so places hidden from sight fill with voices, and are astir on all sides, and teem with sound.

As a result of engaging in this auto-replication—one voice dividing into many, which, in turn, allow more to be born (*gignuntur*)—the word is not subject to the same limitations as the visual *simulacrum*, which must be bred from a single source. This distinction explains why it is so difficult to distinguish between the articulated *voces*, the *verba*, and the *formae verborum*. Once created, they replicate, and these replications are qualitatively no different from the original, like flames from a single fire. The original is no more, no less real than the copies.

Yet in re-examining this passage, we may note a certain slippage. Places hidden from sight teem with voices, but these voices are no longer

classed as words: they are only *sonitus*, sound that may be taken for the haunting music of Pan.[31] And this returns us to the second complication of articulated speech, namely the imprinting of form onto the word. Like the *simulacrum*, articulated voice is threatened by transit, which may cause it to lose its identity, however construed. Unlike the iconic *simulacrum*, the result is not a distortion that produces a similar, although altered image, as with the round tower (4.353–59). Rather, the effect of the air causes a qualitative shift in the nature of the bit of traveling matter itself. No longer a word, it is only a piece of sound signifying the loss of a word. Hearing a word damaged in transit, you sense the *sonitus*, which is to say it has attracted your attention, but you cannot distinguish (*internoscere*) its meaning (4.560–61).[32] A word that goes unheard perishes in vain (*perit frustra*, 569), unless, perhaps, it is beat back as an echo, which may return either the *forma verbi* or a sound that only taunts (*frustratur*) the listener with the image of a word (*imagine verbi*, 571).[33] At this point, the interplay between the visual and the auditory becomes downright maddening: what is the difference between the word's *forma*,

[31] For the *topos* evoked here, see Buchheit 1984, 141–47; Gale 1994, 133–36. It is suggestive that in the description given by Lucretius of the afterlife of words echoed in the hills, he imagines that, no longer functioning as signifiers, they turn into music. As I point out above, the deformed word is something qualitatively different. Music becomes the remainder of speech. While Lucretius' plea to Memmius, "*tu fac ne ventis verba profundam*" (4.931), may revisit a common theme, we may also imagine it literally, as a plea for the poem to be heard lest it dissolve into mere sound (pure song?). It is fascinating that Lucretius dwells on the failed word in his discussion of distortions of hearing; cf. Sext. Emp. *Math.* 208, where the type of "hearing falsely" (*pseudōs akouein*) made analogous to the distortion of the round tower concerns a judgment regarding the volume of sound.

[32] "ergo fit, sonitum ut possis sentire neque illam / internoscere, verborum sententia quae sit." Words that have been "dashed up" against solid objects (*allisa*, 4.570) similarly draw attention to themselves but do not deliver any meaning. Cf. 4.613–14 where an [articulated] voice, blunted (*obtunditur*) and confused (*confusa*), causes us to believe we hear a *sonitus*, rather than a *verbum*. For *obtundere* and *confundere* with visual *simulacra*, see 4.355 and 5.580, respectively. As I note above, they still transmit an approximation of the object's form.

[33] Cf. 4.221, where he is extrapolating the argument about the *simulacrum* to the other senses: *nec variae cessant voces volitare per auras*; see also 6.927: *nec varii cessant sonitus manare per avris*. Despite the auto-replication of the articulated voice, these must refer to sounds that are continually emitted by objects, since unheard words dissipate if they do not echo back. The use of *voces* at 4.221 rather than *sonitus*, then, is haunting. The echo captures the point where the word escapes the confines of the created world established between a speaker and listener; it is the identity of the word once it has gained the autonomy of a *sustasis*, a fragment of the real no longer bound to it. These unceasing *voces* hint at intelligibility without meaning, the point where that created according to the fixed laws of one system has been let loose in another, governed largely by contingency.

which preserves its identity *qua* word, and its *imago*, which is only a teasing sound? What is the latter's unfulfilled promise?

Words are not a subspecies of sound. Hearing them involves a different act of perception. A compound form, forged from shaped sound particles, the word is capable of generating its own *simulacra* (and of disintegrating, too, back into its component parts). These *simulacra*, like the "original" shaped by the mouth, bear a "clear sound" and a form, a pair that recalls the apparently pleonastic use of *formatura* and *figura* at 4.556. It is unlikely that a clear sound refers to the nature of the sound particles themselves since this is a constitutive quality that is not, like form, subject to distortion. Yet it may, like the *formatura*, correspond to the specific "sound of the sounding" (*sonitu . . . sonanti*) that distinguished a given word in the letter-atom analogy and was determined by the particular order of the elements. In the analogy, of course, the word has a dual identity, both the sound of its sounding and the object denoted (1.826). And, as we have seen, if a word loses its distinct pattern, it loses, too, the specificity of the *res*, at which point it ceases to refer to anything but its own inability to make reference. It collapses back into sound, understood not as sensory information conveying, say, hoarseness, but the loss of meaning (*sententia*).[34] I would venture that, on the one hand, something of the shape of the object flickers behind the notion of the word's *figura*, a word that is a regular synonym of the visual *simulacrum* in Book 4.[35] The *imago verbi*, then, is a tautology, in the sense that the

[34] Cf. 5.1052–55, where a hypothetical *nomothētes* attempts in a pre-linguistic stage to teach a purely conventional language: "nec ratione docere ulla suadereque surdis, / quid sit opus facto, facilest; neque enim paterentur / nec ratione ulla sibi ferrent amplius auris / vocis inauditos sonitus obtundere frustra." Since the names are conventional and should be established by common consent, they are meaningless when taught by a single person, and those hearing them may as well be deaf. Lucretius acts here as though phonemes are only meaningful in the compound form of the word. Note the playful tmesis at 4.562, *inque pedita* (*in-* only becomes meaningful when rejoined with *pedita*), with Hinds 1987 on 1.452. See Arist. *Int.* 16a 20–28, b30–34, and cf. Plat. *Crat.* 426c–27d, and *passim*. Lucretius' decision to bypass any notion of an independent meaning for sound is consistent with Philodemus' attacks against the *kritikoi* and Crates. Thus he keeps sensing to the sound and discernment to the level of meaning, where Crates speaks of discerning (*diagignōskein*) the material differences (*phusikai diaphorai*) of poetry; see *On Poems* 5, *PHerc.* 1425 col. 27 13–21 (Mangoni); I owe this reference to J. I. Porter. On Crates' provocative mixing of the sensual/sensible and the intelligible, see Porter 1989.

[35] *Figura* is often used interchangeably with *forma* to denote the irreducible shapes of atoms (*forma*, e.g., 2.334, 723; 3.32; 4.27, 678; 5.440; *figura*, e.g. 1.685; 2.335, 341, 484, 682; 3.190, 246; 4.648; 5.440; 6.776), and both words can also describe perceptible form (2.276–82). But *figura* alone is a regular synonym of *simulacrum* (1.950; 4.27, 46, 109, 158, 317, 738; cf. 4.104, where *forma* seems to denote *simulacra* repulsed by a mirror).

word is no longer an image of anything but itself, which is to say a damaged form that fails to translate, even badly, into the visual. The image of a word is not much of an image at all. Thus, on the other hand, something of the specificity of verbal form, its irreducibility to the iconic, lingers, too, in phrases like *formae verborum*. Bailey (1947, 3.1248) distinguished *formatura* from *figura* by arguing that the former refers to the internal atomic arrangement of the voice-cluster/word, while the latter refers to the external shape of that cluster as it is recognized by a listener acquainted with the language. In other words, the shape of a material object is distinguished from the form it possesses in a conventional system of symbols.[36] Given that words seem to function primarily for Lucretius by making listeners see, it is easy to see how *figura* and *forma* might straddle the auditory and the visual, hovering at the moment the analogy between the visual *simulacrum* and the word nearly collapses into identity, smoothing the gap between the form of a word and what it shows. The interconnectedness of these two spheres is stressed by the repetition of *servare* and the leonine rhyme *formaturam/figuram*. What exactly, then, is it to perceive a word?

II. WORDS AND THEIR IMAGES

For Epicurus, the senses are irrational (*alogoi*, D.L. 10.31)—this being the condition of their infallibility—and Lucretius embraces the doctrine wholeheartedly. Thus, the eyes see based on the *simulacra* they receive, but no judgment is made about what the subsequent *imago* represents without the mind's intervention; for "the eyes cannot know the nature of things" (*nec possunt oculi naturam noscere rerum*, 4.385). If this intervention is necessary for knowledge, it also carries risks: with a strange turn of phrase, Lucretius, in the very next line, refers to the capacity of the mind to know the nature of things as its fault (*animi vitium hoc*, 386), thereby marking the act of judgment or inference as an act poised to fail. Epicurus himself describes the addition of *doxa* as a mental movement (*kinēsis*) whose trajectory thus discloses the space in which both error and knowledge become possible (*Ep. Hdt.* 51; see also Sext. Emp. *Math.* 7.210). Conversely, given that a sensation is set in motion by something external to the body, there is no room for it to add or subtract anything at will,[37]

[36] One may speculate that Epicurus or Lucretius would imagine something like an auditory *prolēpsis* of the word, i.e., a generic phonetic form allowing a listener to recognize individual variations; *PHerc.* 19/698 col. xxvi–xxvii (Monet) may support such an idea.

[37] οὔτε γὰρ ὑφ' αὑτῆς οὔτε ὑφ' ἑτέρου κινηθεῖσα δύναταί τι προσθεῖναι ἢ ἀφελεῖν (D.L. 10.31).

a formulation that, as we will see, has much in common with the first stage of language. Lucretius inherits from Epicurus this vocabulary of addition and excess, accounting for our deception in dreams in terms of the opinions which we ourselves add (*opinatus animi quos addimus ipsi*, 465). This self-generated movement introduces, alongside what is clear, what is also doubtful ("nam nil aegrius est quam res secernere apertas / ab dubiis, animus quas ab se protinus addit," 467–68).

Although we know that the cost of knowledge is the risk of erring, Lucretius does not specify how the mind acts on sense data.[38] While there can be no seeing without the movement in us from sensation to recognition, and from recognition to knowledge, the best hope of making true claims about the world requires optimal conditions of perception, the "near view." Thus, towers that only appear round as a result of damaged *simulacra* are contrasted to things that are round "from up close" and "truly" (4.362). The adverbs *coram* and *vere* enjoy a symbiotic relationship: only the "near view" favors claims about macrophysical objects (*steremnia*). Anything apprehended otherwise must be held in abeyance until the opportunity arises to confirm or refute it.[39] Returning to transmitted words, I suggested that a damaged word, unlike the deformed *simulacrum*, dead-ends *qua* word. But what of the word properly heard?

David Glidden has written "there is no such thing as Epicurean semantics" (1983, 204). This is indeed uncertain terrain, and there is little consensus among scholars on even the most basic Epicurean principles of language.[40] Any casting about for a coherent theory of the relationship between words and things must confront a troublesome lacuna in the story of how language evolves. For we have solid information in our sources on the origins of words and frequent reference to linguistic error and false beliefs transmitted via language but very little evidence of how nomination becomes fabrication. Central to the discussion has been the

[38] In discussions of perception and perceptual error, commentators typically make reference to the idea of *prolēpsis*, which I discuss above in the context of language; see Bailey 1928, 244–48; Long, 1971, 118. Lucretius primarily exploits the dichotomy senses/mind and relies, as I emphasize above, on the moment when the mind "adds" something. For Epicurus, this is a moment or space of difference, *dialēpsis* (*Ep. Hdt.* 51), a "differential turn," *to tropon dialēptikon* (fr. 34.22 Arrighetti). This "other" movement at *Ep. Hdt.* 51 must correspond to the act of judgment. See Long 1971, 118; Furley 1971; Asmis 1984, 146–66.

[39] *Sent.* 24; *Ep. Pyth.* 85–88. Correct reasoning under optimal circumstances falls under the heading of *epilogismos*, on which see Sedley 1973, 29–34. What cannot be confirmed permits the coexistence of multiple explanations; see, e.g., 5.509–32.

[40] In this discussion, I have drawn on Schrijvers 1970, 91–128; Long 1971; Sedley 1973; Goldschmidt 1978; Glidden 1983; 1985; Asmis 1984, 19–80; Long and Sedley 1987 I.87–88; Everson 1994a; Barnes 1996; Hammerstaedt 1996; Porter 1996.

controversial notion of *prolēpsis*, which serves as the primary mechanism relating words to reality. That *prolēpseis* are classed by Diogenes Laertius with sensations (*aisthēseis*) and feelings (*pathē*) as one of the criteria of truth in the Canonic (10.31) suggests that they should be understood less as beliefs, even correct ones, and more as traces of our experience of the world, which we draw upon to make and evaluate claims about it.[41] That said, Epicureans are often caught using *prolēpseis* strategically to protect key claims from challenge, even when these extend, illegitimately it would seem, beyond the evidence available to direct perception.[42]

The assimilation of the word to the icon that we have been tracing in Lucretius resonates with the preoccupation in Epicurean semantics with nomination. Language is treated as the designation of what exists, that is, regularly recurring atomic composites.[43] This promise of speech as an act of *deixis* has fueled a critical indeterminacy about where the "things that primarily underlie words" reside. These underlying things are often understood to be *prolēpseis*, imagined as "general concepts," built up from reliable sense perceptions and called to mind when one hears a word.[44] Glidden, along with Elizabeth Asmis, has been resistant

[41] See D.L. 10.33: καὶ τὸ δοξαστὸν ἀπὸ προτέρου τινὸς ἐναργοῦς ἤρτηται . . . . Cf. Everson 1994a, 102–8; Barnes 1996, 209–20.

[42] On the strategic use of the *prolēpsis* of a "good poem," for example, see Porter 1996, 626–28. See also Cic. *Fin*. 1.31 on Epicureans who try to shore up the claim that pleasure is to be sought and pain to be avoided by making it an idea (*notio*) that is natural and that has been implanted in our mind (*naturalem atque insitam in animis nostris*; cf. Cic. *Nat. D*. 1.17, *insitas eorum vel potius innatas cognitiones habemus*) and thus immune to argument. The *prolēpsis* of a god presents similar problems. In Lucretius, for example, the two qualities that are indispensable to the Epicurean idea of a god, namely blessedness and immortality (see *Ep. Men*. 123–24), are (correct) inferences (5.1175–82; cf. Cic. *Nat. D*. 1.17); see Asmis 1984, 74–79.

[43] Long 1971, 127; Glidden 1983, 203–9; Asmis 1984, 25; Porter 1996, 621. Sextus tells us that Epicurus had no use for *grammatikē* (*Math*. 1.49, 272). The fragmentary remains of Book 28 of Epicurus' *On Nature* do show him engaging with questions of the relation of complex language to reality; see Sedley 1973.

[44] The definition in Diogenes Laertius, far from securing the kind of clarity that the concept itself should guarantee, behaves more like a potentially interminable chain of signifiers: *prolēpsis* is "a direct apprehension (*katalēpsis*), or a correct opinion (*doxa orthē*), or a conception (*ennoia*), or a universal 'stored notion' (*katholikē noēsis*), i.e. a memory (*mnēmē*) of that which has appeared frequently externally" (10.33). The problem is made worse by the predominance of Stoic terms. Shortly thereafter, he seems to call *prolēpsis* the "thing which first underlies the word" (*to prōtōs hypotetagmenon*). Reference to what first underlies a word occurs in a famous caveat about how to make judgments and inferences at the beginning of the *Letter to Herodotus* (37–38 = 17C Long and Sedley: πρῶτον μὲν οὖν τὰ ὑποτεταγμένα τοῖς φθόγγοις, ὦ Ἡρόδοτε, δεῖ εἰληφέναι, ὅπως ἂν τὰ δοξαζόμενα ἢ ζητούμενα

to understanding this underlying thing as a mental entity, preferring to see the word rather as designating something in the world, whether it be a solid object or the mere *eidōlon* of what lacks any solid instantiation, such as a god or a Centaur (1983, 198).[45] While what primarily concerns him and Asmis is what a word means rather than what happens when one hears a word, the idea that a word provokes an engagement with the external world accords with what little evidence we have from Lucretius.

An emphasis on simple nomination facilitates the creation of such a relationship, although, in fact, *prolēpsis* frequently concerns the recognition or imagination not of objects but of seemingly abstract entities, such as justice.[46] Nevertheless, in Diogenes' own account of naming, we are dealing with macrophysical objects with discrete, morphological

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ἢ ἀπορούμενα ἔχωμεν εἰς ταῦτα ἀναγαγόντες ἐπικρίνειν, καὶ μὴ ἄκριτα πάντα ἡμῖν εἰς ἄπειρον ἀποδεικνύουσιν ἢ κενοὺς φθόγγους ἔχωμεν. ἀνάγκη γὰρ τὸ πρῶτον ἐννόημα καθ' ἕκαστον φθόγγον βλέπεσθαι καὶ μηθὲν ἀποδείξεως προσδεῖσθαι, εἴπερ ἕξομεν τὸ ζητούμενον ἢ ἀπορούμενον καὶ δοξαζόμενον ἐφ' ὃ ἀνάξομεν, "First, then, Herodotus, we must grasp the things which underlie words, so that we may have them as a reference point against which to judge matters of opinion, inquiry and puzzlement, and not have everything undiscriminated for ourselves as we attempt infinite chains of proofs, or have words which are empty. For the primary concept corresponding to each word must be seen and need no additional proof, if we are going to have a reference point for matters of inquiry, puzzlement and opinion" [trans. Long and Sedley]). Sedley (1973, 14–17) has argued that *prōton ennoēma* should be understood as a precursor of *prolēpsis*, which he argues was a later addition to Epicurus' technical vocabulary. This passage, then, has lent support to interpretations that take *prolēpsis* to mean the idea—*ennoēma*—that subtends a word; see Long 1971; Sedley 1973; Everson 1994a. Note, however, that in the commentary on *Ep. Hdt.* 37–38 in Long and Sedley 1987, the absence of the term "merely reflect[s] Epicurus' concern in the opening moves of his physical exposition to appeal to the most general possible considerations, leaving the more heavily theory-laden terms to emerge in due course" (I.89). For speculation on the meaning of *prōton ennoēma*, see Asmis 1984, 31–32, with bibliography (n. 31).

[45] See also De Lacy 1939, 85; Asmis 1984, 26–30; Glidden 1985. Glidden and Asmis attempt to make sense of evidence from Sextus and Plutarch (Sext. Emp. *Math.* 8.13, 258; Plut. *Adv. Col.* 1119f–20a), who both claim that Epicurus did not allow anything like the Stoic *lekton* to mediate between what is real and the sign but dealt only with the thing and the utterance. On the Stoic *lekton*, see Frede 1994. For attacks on Glidden's position, see Everson 1994a; Hammerstaedt 1996. Barnes has also argued that a word should be understood as a thing rather than a concept (1996, 219), although he differs from Glidden and Asmis in that he sees *prolēpseis* as true beliefs that make the use of words possible.

[46] On "the just," see Epic. *Sent.* 37, 38. Lucretius' use of *notitia/notities* is consistent with this tendency. He speaks, for example, of a familiarity with the true (4.476). These qualities and things are still objective, even if, like the gods, they are only accessible to direct mental perception. Things which are known analogically or inferentially, such as atoms, cannot have their own *prolēpseis*, for they do not produce any kind of sensible record; see Sedley 1973, 21.

identities,[47] a schema that lends itself well to Lucretius' primarily visual model of recognition and knowledge: "as soon as the word 'man' is uttered, immediately its delineation (*tupos*) also comes to mind by means of *prolēpsis*, since the senses give the lead: thus what primarily underlies each name is clear" (10.33, trans. Long and Sedley). Further down, Diogenes observes that we have learned the form (*morphē*) of a horse or a cow by means of *prolēpsis* and that we could name nothing if we had not already learned the *tupos*, again by means of *prolēpsis*.[48] While the sense of *tupos* is no less evident here than that of *prolēpsis*—is it a pattern in the mind, or an *eidōlon*?—what is key here is that this bare-bones model of nomination sets up *prolēpsis* as a means of engaging with objects in their absence via some kind of accessible form of them.[49]

[47] He is following Epicurus here in his morphological emphasis; see Sext. Emp. *OP* 2.25, where man is defined as τὸ τοιουτονὶ μόρφωμα μετὰ ἐμψυχίας; see also *Math.* 7.267. Cited in Asmis 1984, 45–46.

[48] *Prolēpsis* here seems to be the faculty that is instrumental in summoning a form of the object as well as the form itself. See Asmis 1984, 63–80. On the use of the *-sis* ending to indicate faculties, see Sedley 1973, 33, on *epilogisis*. Compared, then, with a *-ma* noun such as *ennoēma*, *prolēpsis* lays more stress on this faculty. It thus registers less satisfactorily as an inert "thing" in our possession, although it may also denote what is accomplished or gained, as *aisthēsis* can mean both the faculty of perception and the perception itself. Bailey recognizes this but wants to limit the meaning to the "compound image" that serves as the basis of an "act of anticipation" (1928, 562). The real difficulty is knowing what the role of the *tupos* is. Epicurus himself speaks of τύ]ποι προειλ̣[η]φότες as an apparent periphrasis for *prolēpseis* (34.28 Arrighetti = 20C Long and Sedley, whose text I follow), and *tupos* is a synonym for *eidōlon* (*Ep. Hdt.* 46; cf. 36; 49); cf. Phld. *On Poems* 5, *PHerc* 1425 col. 30 29–33 (Mangoni): ἂν δὲ διὰ τούΙτων μόνως οἰώμεθα τὰς Ι π[ρο]λήψεις ἐκτυποῦσθαι, Ι πάντα π[αρ]αθετέον τῶι Ι γένει, [ἀλλ' οὐ] τοῖς ἀριθμοῖς. On *tupoi*, see Goldschmidt 1978, 156–64. On the relationship between memory and tracing or imprinting, see also Diog. Oion. fr. 9 col. iii 6–col iv 2 (Smith); *DRN* 4.428–31; 6.995–97; Plut. *Mor.* 735a (= DK68 A77 = Us. 326). Not all these cases are about *prolēpsis*, but they do see our experience of the world as carving out an increasingly subtle receptivity to it.

[49] A second concept from Epicurean epistemology becomes relevant, then, namely [*phantastikē*] *epibolē tēs dianoias*, which permits the mind to seize upon *simulacra* at will. *Epibolē* generally implies a form of concentration, e.g., listening rather than simply hearing. The image grasped is valid as a criterion of truth (*Sent.* 24; D. L. 10.31). Bailey (1928, 428–31; App. III) made *epibolē tēs dianoias* the means by which atomic reality was perceived, as though it were sensible rather than accessible only to reason; see also Thury 1987, 282–83, who goes so far as to argue, wrongly I believe, that the poem itself can provide a *prolēpsis* of atomic theory. Cf. Furley 1971; Sedley 1973, 23–25. I would agree with Furley and Sedley that *epibolē tēs dianoias* only pertains to the mind's attention to perceptible things, objects or *eidōla* of the gods, although I do not agree with Furley that *epibolē tēs dianoias* only deals with illusory objects. It deals, rather, with objects in their absence; see Asmis 1984, 86–91; 124–26. The precise relationship between (*phantastikē*) *epibolē tēs dianoias* and *prolēpsis* is unclear; Clement does describe *prolēpsis* as an *epibolē* "*epi ti enargēs*" (Strom. 2.4 = Us.

Notitia, the word that Cicero tells us—albeit in a Stoic context (*Ac.* 2.30)—was used to translate the Greek terms *prolēpsis* and *ennoia*, and its collateral form *notities* appear in *De rerum natura* eight times. Yet these terms do not appear in accounts of mental processes or perception, nor do they surface in relation to our knowledge of the gods.[50] What dominates such discussions, rather, is the *simulacrum*. Thus, when Lucretius counsels Memmius to develop appropriate beliefs about the gods, his stated goal is to give him the courage to seize with tranquil mind the *simulacra*—those envoys of divine form (*divinae nuntia formae*)—borne from the gods' bodies to the minds of humans (6.76–78; cf. 5.1169–71). More importantly, thought in Lucretius is overwhelmingly visual, both in his consistent figuration of philosophy as insight and in his explicit, albeit limited account of mental processes in Book 4. This is unsurprising, given that the extremely fine, mobile mental *simulacrum*, like the corresponding *eidōlon* in Epicurus (*Ep. Hdt.* 49), is modeled on the visual one.[51] However we are to understand the *notitia*, say, of usefulness (5.1047), Lucretius paints a vivid picture of a world teeming with exceptionally delicate *simulacra* in his account of mental processes in the latter half of Book 4. Thus simulacra are far in excess of the number of solid, macrophysical objects in our immediate vicinity, and they are readily available to our minds at any time. Interaction with this external, simulacral dimension accounts for our ability to think of things at will, as well as for our dreams, which are fueled by a continual influx of images sourced from this bank. At 4.802–15, Lucretius' description of the mind both

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255), and Sedley believed that the notion of *epibolē tēs dianoias* was subsumed under the general heading of *prolēpsis* (1973, 16). Both are implicated in faculties that operate with the flimsier *eidōla* that penetrate to the mind and are crucial to activities such as dreaming, remembering, thinking, and speaking. Glidden 1985, 187–201, argues that a *prolēpsis* is a specific type of *epibolē tēs dianoias* that allows one to perceive general qualities in objects; cf. Hammerstaedt 1996, 234–37. What appears distinctive about [*phantastikē*] *epibolē tēs dianoias* is that it is provoked by an act of will: the mind decides (or is told) to pay attention to this instead of that. *Prolēpsis*, on the other hand, is rooted in the impact that things make on us.

[50] For *notitia*, see 2.124, 745; 4.476, 854; 5.124. For *notities*, 4.479; 5.182, 1047. On *prolēpseis* of the gods, see *Ep. Men.* 124; cf. Cic. *ND* 1.43, where *prolēpsis* is translated as *notio*, *anticipatio*, and *antecepta animo rei quadam informatio*.

[51] Sedley 1973, 23–34, gives a useful overview of Epicurean thought-processes, ranging from those that operate *kata ton epiblētikon tropon* or *phantastikōs*, which rely on the presence of images, to those that operate *perilēptōs* or *theōrētikōs*, which deal with problems that require some distance to be taken from the image. As I note above, Lucretius focuses in Book 4 only on the first two types. On the visual nature of thought in Epicureanism and the role of mental *eidōla*, see also Asmis 1984, 105–40.

straining to see (*contendere*) and preparing itself to receive (*parare*) captures the ambiguity of this interaction, the intertwining of its active and passive dimensions and the play between presence and absence (everything is always present through its simulacral avatars; absence is the result of our inability to think the world all at once). The saturation of our environment with *simulacra* also explains what happens when we hear a word:[52]

> an magis illud erit verum? quia tempore in uno,
> cum sentimus,[53] id est, cum vox emittitur una,
> tempora multa latent, ratio quae comperit esse,
> propterea fit uti quovis in tempore quaeque
> praesto sint simulacra locis in quisque parata:
> tanta est mobilitas et rerum copia tanta. (4.794–99)
>
> Or rather is this true? Because in one moment, when we perceive, that is, when a single word is uttered, many moments lie hidden, which reason discloses, so that it happens that at any time and in every place these *simulacra* are at hand, readied. So great is their speed; such a wealth of them exists.

What primarily interests Lucretius here is the operation of two orders of time, the one in which a word calls a *simulacrum* to our perception—this appears instantaneous—and the one in which the appropriate *simulacrum*

[52] See Schrijvers 1970, 99–128; Asmis 1984, 120. It is hard to see how reading *vox* as simply sound here suits the context, since what is at stake is not merely atomic time but also the temporality of *simulacra*. The spoken word's relationship to the *simulacrum* is well suited to proving the nature of that temporality in that it takes place in a discrete moment, for articulation introduces difference not only into space but also into time. There is no correspondingly clean way to mark a single moment of seeing. Moreover, as the discussion of hearing in Book 4 made clear, Lucretius is not interested in the transit of the sound particle: the splintering of the sound stream discussed by Epicurus is not a part of his exposition. Finally, the visual *simulacrum* is the model for the extraordinary speed of all *simulacra*, for it is fastest, as Lucretius recognizes at 6.165–66, 183–84. On the use of *vox* for *verbum*, see 4.562, 565, 568, 577; 5.337. Schiesaro 1994 also understands the word (for him primarily written) as giving rise to a visual *simulacrum*, although he is not consistent in his presentation of the process. On the one hand, he argues that the word accomplishes this by giving the mind instructions to create an image from free-floating atoms (87–88), a possibility denied by Lucretius in the lines cited above (*natura* does not make *simulacra ad hoc*); on the other hand, he follows Schrijvers in making the mind attend to the appropriate *simulacrum* (88–89). Thury 1987 assumes interaction between language and vision but does not detail it.

[53] The MSS give the nonsensical *consentimus*. Munro, Merrill, Ernout, Martin, Büchner, and Schrijvers (1970, 102) print *cum*; Bailey and Giussani, *quod*. See Schrijvers 1970, 102–4.

is summoned from the bank.[54] What we may infer is that Lucretius imagines that words (strictly speaking, names) call forth *simulacra*, which, functioning like the *tupoi* in Diogenes, instantaneously come to the mind of the listener. Further support for this is given at 4.785, where Lucretius, having not yet specified the mechanism that allows us to see whatever we wish, asks ironically, "does nature make and prepare them all [sc. *simulacra*] at a word (*sub verbo*)?"[55] While he rejects the idea that a *simulacrum* would be generated from scratch, in associating its appearance with the word, he anticipates 4.794. Thus, the word is a provocation to attend to an object (via its *simulacrum*), and hearing words has strong affinities with seeing that object. This intertwining of verbal and visual form sheds light on the overdetermination of *figura* and *forma* in the account of hearing. To return to the letter-atom analogy, even a minor change in the *elementa*, say from *mare* to *terras*, summons the *simulacrum* of a different *res*.

In this stripped-down, deictic model, one fashions specific words because one wishes to bring certain *simulacra* to the listener's attention. But to shift attention to the speaker, why do we utter the words that we do, particularly in cases where the object is not in front of us or does not exist (*qua* object) at all? The problem of why we attend to the images we do is one that dogs Lucretius in this latter section of Book 4. It involves the introduction of words such as *libido* (4.779) and *voluntas* (481), words that reinsert the mind between things and words and hint at a more serious rupture in the relationship between the world and language. Together with *ratio*, *voluntas* or *libido* is something added to the world, agitating in the space of choice that allows us both to judge and to misjudge, to act and to fail.[56] Yet even if we strip away this act of choice, and the subsequent act of creation, words are not effluences: the difference between their form and the object represented cannot, in the end,

[54] On "atomic time," see *Ep. Hdt.* 62 and Long and Sedley 1987, II.45–46.

[55] Most modern editors have chosen to read *sub verbo* as equivalent to *sub iussu*, although see Giussani (1896–98) *ad* 4.783. Schrijvers 1970, 95–98, convincingly rejects the interpretation *sub iussu* as unfounded. See also Godwin (1986) *ad* 4.549–84.

[56] It thus produces what Michel Serres calls "a small, local diagonal escaping from the monotone and from the saturated whole" (2000, 146). Lucretius' discussion of free will is, as is often recognized, deeply problematic; see his explanation of the swerve at 2.251–93, and especially 271–83 on voluntary vs. involuntary motion, and cf. the explanation of motion at 4.877–91, where *simulacra* of motion (*simulacra meandi*) strike the mind and give rise to *voluntas*. See also Epic. fr. 34.21–22 (Arrighetti) = 20B Long and Sedley; 34.26–30 (Arrighetti) = 20C Long and Sedley, and the discussion in Long and Sedley 1987, I.107–12. On the influence of desire and habit on perception, see also 4.962–86.

be ignored. It is worth re-examining Lucretius' account of the origins of language in order to understand how this difference defines the work of naming and opens the door to the autonomy of language.

III. THE NAMING ANIMAL

In Epicurus' first stage of language, humans make sounds to which nothing—thought, opinion, or belief—has been added. The world is processed by a body functioning automatically to translate the impression of objects into various sounds, that is, to register/reproduce the sensible world in the medium of the voice:

> 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᾽ ἑκάστων τῶν παθῶν καὶ τῶν φαντασμάτων, ὡς ἄν ποτε καὶ ἡ παρὰ τοὺς τόπους τῶν ἐθνῶν διαφορὰ ᾖ [Us. εἴη MSS]. (*Ep. Hdt.* 75 = 19A Long and Sedley)
>
> And thus names did not first come into being because of convention, but human natures themselves, each according to its individual race, suffering particular affections and receiving particular images, sent forth air formed in a particular way by each of these affections and images, so that difference arose according to the locations of the tribes.

This automatism, to the extent that it excludes choice, guarantees that the relationship between objects and the sounds that they provoke in different races is natural and non-arbitrary.[57] Lucretius maintains this strong link between *natura* and the exercise of necessity:[58]

> At varios linguae sonitus natura subegit
> mittere et utilitas expressit nomina rerum . . . (5.1028–29)

[57] See also *Ep. Hdt.* 75, for Epicurus' formulation of the first stage of compulsory human development understood more generally (ἀλλὰ μὴν ὑποληπτέον καὶ τὴν φύσιν πολλὰ καὶ παντοῖα ὑπὸ αὐτῶν τῶν πραγμάτων διδαχθῆναί τε καὶ ἀναγκασθῆναι). In the second stage, reasoning refines these advances and adds new discoveries. While the latter two stages of development in the account of language in *Ep. Hdt.* 76 clearly involve convention, there has been much debate about how the relationship to *phusis* is maintained: see De Lacy 1939; Vlastos 1946; Konstan 1973, 46–48; Sedley 1973, 18, n. 91; Schrijvers 1974; Pigeaud 1983, 127–29, where he examines the ambiguous status of the *ethnos*, which he calls a *donné sociobiologique* that guarantees the existence of a "*thésis naturelle*" within each tribe.

[58] See Brunschwig 1977, 160–61; Campbell 2003, 294–96, for an overview of critical interpretations of *natura* (Nature or human nature).

> But nature forced them to send forth various sounds of the tongue
> And usefulness expressed the names of things.

Where "we" were the subjects of the verb *emittere* at 4.550, at 5.1029, "we" are only the implied subjects of the verb *mittere*, compelled to send something of ourselves out into the world. Speech is distinguished, as we have just seen, not by its ability to mirror but by its work of translation. To the extent that Lucretius preserves the stimulus-response model that is crystallized by Epicurus' grammar—the air emitted is shaped directly by the *phantasmata* and the affections themselves (στελλόμενον ὑφ' ἑκάστων τῶν παθῶν καὶ τῶν φαντασμάτων)—there is a space for these *varii linguae sonitus* to refer beyond the body that produced them in order to represent the original stimulus. By denying that names (*onomata*) are generated by *thesis*, Epicurus makes it clear that these first sounds mark objects precisely because objects provoke in a repetitive manner the same kinds of reactions in a given ethnic community in a given environment.[59] In its earliest stages, language is already talking about something, and this something exceeds the sound-producing body.

The difficulty of involving primitive speech in acts that go beyond self-reference is more apparent in the Lucretian formulation, where the *varii linguae sonitus*, at first glance, seem identical to the cries emitted by animals in response to different sensations (5.1087–88). Indeed, the postponement of the *nomina rerum* to the second stage of language makes it clear that Lucretius envisions two distinct phases. With the intervention of *utilitas* in the second stage, sounds come to indicate objects, rather than simply expressing some state of the body, just as the work of the *daedala lingua* results in sound referring to the external world.

Both *utilitas* and the *daedala lingua* establish a relationship of identity that is not secured by iconic resemblance, *utilitas* at the dawn of language, the *daedala lingua* in the quotidian act of speaking. The problem is that this relationship can only be established if early speakers observe a pattern of repetition. The object comes to be designated by a sound because it consistently produces that sound. While this is not arbitrary,

[59] In the account given by Proclus, too, this first stage is explicitly the assigning of names: ὁ γὰρ Ἐπίκουρος ἔλεγεν, ὅτι οὐχὶ ἐπιστημόνως οὗτοι [sc. οἱ πρῶτοι θέμενοι] ἔθεντο τὰ ὀνόματα, ἀλλὰ φυσικῶς κινούμενοι, ὡς οἱ βήσσοντες καὶ πταίροντες καὶ μυκώμενοι καὶ ὑλακτοῦντες καὶ στενάζοντες (*In Plat. Crat.* 17.5-17 = fr. 335 Us); see also Demetr. Lac. *PHerc.* 1012 col. lxvii 9–12 (Puglia); Origenes *Cels.* 1.24 (= fr. 334 Us). As Mackey points out, the reference to existing *dēlōseis* in the second stage in Epicurus means that the first stage must have produced some kind of names (2003, 9). Cf. Konstan 1973, 45–46, whose strained interpretation relies on reading μή with γενέσθαι rather than with θέσει.

there is nothing in the effect itself that renders the cause transparent. When Lucretius establishes the relationship between touch and sight, the shared access to shape guarantees that each sense is moved by the same cause (*necessest / consimili causa tactum visumque moveri*, 4.232–33), just as the use of vision as a model for thought renders what is seen most amenable to analogical imagination.[60] But what of the object is retained in the sound that it causes a body to produce? The form of the sound emitted should bear witness to a quality of the object that has nothing to do with morphology at the macrophysical level: when Lucretius discusses sound *qua* sound, its particularity, that is, its roughness or smoothness, is guaranteed by the different shapes of the *primordia* from which it is created. This all gets straightened out once the analogy between words and things at 1.820–29 is in place: the order and position of

[60] Cf. Asmis 1984, 106. Sight and touch do technically have their own objects of perception (4.256–68; cf. PHerc. 19/698 col. xx–xxi [Monet]), but it is touch in Lucretius that assures the relationship of the *simulacrum* to the object. That vision and touch in an analogical sense share shape as an object is laid out in *PHerc*. 19/698 col. xxv (Monet); see Sedley 1989. That same treatise claims, rather vaguely, that all the senses can be analogically related by form (*schēma*) and does argue that articulated voice has a form analogous to color (col. xxvi–xxvii; see above n. 26), but it is precisely the requirement that voice be articulated in this comparison that is tricky. For what is the nature of the form, which serves as the object of the hearing, when it has been imposed by the speaking subject? The idea that unarticulated sound (either the sound produced by the observer or by the object itself) preserves the form of the object that produces it is difficult: see, e.g., Bailey's translation of ἀρκεῖν γὰρ τοὺς φυσικοὺς χωρεῖν κατὰ τοὺς τῶν πραγμάτων φθόγγους [D.L. 10.31] as "it is sufficient for physicists to be guided by what things say of themselves" (1928, 161); Asmis understandably responds "the view that things issue utterances seems to me implausible" (1984, 27, n. 21). Thus, one easily lapses into the language of vision, which, as we have seen, does not quite work. Vlastos, for example, uses parallels from Epicurus' theory of vision to explain *Ep. Hdt*. 75–76: "feelings and impressions directly 'form into shape the vocal sound'; much as in the theory of knowledge, the incoming stimulus can so mold the sensorium that the sense-image will reproduce 'the very form of the physical object'" (1946, 52). In his note (52, n. 12), what guarantees similarity is the *enkataleimma* or residue of the *eidōlon* left in the eye (*Ep. Hdt*. 50). But, again, this occurs in the explanation of vision where Epicurus says that this residue conveys the form (*morphē*) of the object. And shortly thereafter (54, n. 16), *phantasmata* are explicitly said to be "images of objects." While in theory, the *phantasma*, to the extent that we can ally it with *phantasia*, covers all forms of sense data (see Sext. Emp. *Math*. 7.203 for *phantasia* with all forms of sense perception), the very term betrays a visual bias, as Vlastos' interpretation shows. See also *Ep. Hdt*. 51; *Ep. Pyth*. 102 where *phantasma* is clearly visual and *Ep. Hdt*. 49 (the stream of *eidōla* produces a *phantasia*). On the resemblance between a sound particle (which only preserves a *sumpatheia* with the other sound particles in the auditory stream) and its source, see Lee 1978. But, of course, this resemblance has nothing to do with the sound produced in response to being affected by the object but rather with the relationship between auditory particles and their source.

the letters translates (in a very loose sense that requires the intervention of convention) the order and position of the atoms, which gives things their specific form at the macrophysical level. But in the beginning, words are related to objects because those objects systematically (at least in a given natural environment) produce the same vocal reaction. This regularity is eventually secured by the *daedala lingua* rather than the object and, indeed, without the need for there ever having been an object.

Yet Lucretius, like Epicurus, is still committed to seeing these early sounds as naturally deictic.[61] For the figure of *utilitas* occludes the collective mental action of the early grunters/speakers that relates the sound back to the object. It appears as the force that impersonally sutures them together and guarantees resemblance. While in his refutation of the *nomothetēs* argument Lucretius argues that the name-giver would have needed a *notities* of the utility of names, in his own story he avoids the circularity of the argument (if no one was using language, how could any one have an idea of its usefulness?) by eliminating choice altogether (*utilitas expressit* . . .).[62] What Lucretius aims to describe is a paradoxical state where humans do not produce sound under compulsion but rather name under compulsion, as though the referentiality of the sounds were as transparent as the referentiality of the *simulacrum*. The biological analogies confirm this in their depiction of a scenario in which humans are creatures compelled not simply to make sounds but to re-present objects in the world outside of them. They do so not by giving forth copies but by creating variation in the medium of the voice.

When we are invited to examine the capabilities of birds, dogs and cattle to emit *varii linguae sonitus*, the question is not to what use each creature puts its ability to manipulate sound but what it is that forces them (*cogunt*, 1087) to send forth their different noises. The answer is emotions such as fear, pain, and joy (1059–61). Humans, too, are affected

[61] The use of *nomina rerum* at 5.72 suggests that the earliest stage in Lucretius, as in Epicurus, involves names rather than expressive, animal-like sounds; see Offermann 1972, 154; Sedley 1973, 18, n. 91; Brunschwig 1977, 172–74; Pigeaud 1983, 124–25; Dalzell 1987, 26–27; Wigodsky 1995, 62, n. 24; Mackey 2003, 8, n. 15. Cf. Bailey 1947, 3.1486–91 (*ad* 1028–90); De Lacy 1939; Cole 1967, 61 with n. 3; Schrijvers 1974, 340; Snyder 1980, 19–22; Glidden 1983, 200. For an overview of the debate, see Campbell (2003) *ad* 1028–29. Also controversial is whether 5.1029 (*utilitas expressit nomina rerum*) corresponds to Epicurus' second stage. Offermann argues it only reworks the first stage (1972, 155); cf. Vlastos 1946, 54, n. 17; Schrijvers 1974, 340–46. Much of the confusion stems from Lucretius' attempt to have it both ways, that is, to make names iconic, as I argue above.

[62] See 4.823–57 for the anti-teleological argument, with Campbell (2003) *ad* 1046–49.

by *varii sensus*, but this diversity is distinguished from that of the *sensus* that drive animals in that it exists in direct relation to the prodigious diversity of things in the world.[63] Of course, as the letter-atom analogy reminds us, this diversity is not absolute: there is not one sound for every object. Rather, as in the perceptible world, difference arises from the manipulation of a handful of basic elements that are, first and foremost, bits of *phōnē*. The physiological quirk that permits this manipulation preserves in sound the multiplicity of the *simulacra* impacting the body. Only humans have tongues agile enough to reproduce (and then recreate) the diversity of the natural world through an exploitation of phonetic difference, both as it pertains to individual sounds and to their jointing together.[64] Yet the animal analogy's preoccupation with movements that originate outside the body—in Lucretius' specific examples, Molossian hounds and young stallions are driven to express anger or lust—obscures the hints of creative mimesis inherent in the suggestion that the plenitude of difference in the perceptible world might be remade in voice. It invites us to imagine that humans are driven to remake the distinct forms of objects (*dissimilis alia atque alia res voce notare*, 5.1090; cf. 1043–45) out of what the author of the Hippocratic treatise *Fleshes* called the "monophonic" (*Carn.* 18 = Littré 8.608). If we backtrack to the first analogy between humans and animals, we get an even stronger sense that the impetus to single out objects is somehow uniquely human.

In the first analogy (1030–40), animals are introduced to show that each creature exploits its body in order to act in a way that is useful. Even before the tongue is sufficiently developed in the human child, she is driven to point to the things in front of her (*praesentia*) with her finger, the same way a calf attempts to butt with its head before its horns are fully formed.[65] Where again it is an emotion, i.e., anger, that impels the

[63] "postremo quid in hac mirabile tantoperest re, / si genus humanum, cui vox et lingua vigeret, / pro vario sensu varia res voce notaret?" (5.1056–58).

[64] See 5.71–72, "quove modo genus humanum variante loquela / coeperit inter se vesci per nomina rerum," where *variante loquela* (from *loquor*) stresses that the difference within language that allows it to correspond to the world of *nomina rerum* is phonetic. See Offermann 1972, 152; Brunschwig 1977, 164; Pigeaud 1983, 131–33.

[65] "non alia longe ratione atque ipsa videtur / protrahere ad gestum pueros infantia linguae, / cum facit ut digito quae sint praesentia monstrent. / sentit enim vis quisque suas quoad possit abuti" (5.1030–33). Campbell (2003) *ad* 1033–40, notes the difficulties that this analogy poses to Lucretius' evolutionary theories. He had claimed at 4.823–57 that "what is born creates its own use" (*quod natumst id procreat usum*, 835), so that the question arises as to why children want to point to the world before they can speak if speaking is the result

calf, the child is driven to point out objects as best she can because she is aware of a power that Lucretius seems to identify as correspondingly human, i.e., the power to indicate. The analogy is a complicated one. Not only is Lucretius likening a child's use of gesture to a young animal's use of its claws or wings, he also makes these gestures analogous to the sounds that humans produce in their re-presentation of the natural world, sounds made possible by humans' exploitation of the tongue's natural capabilities. Of course, the implication is that the gesturing child, as soon as she overcomes the *infantia linguae*, will not point to the world but access it through names. One of the benefits of this particular analogy is that its juxtaposition of gesture with spoken language reinforces the relationship of the *nomen* to the object indicated as strictly deictic, just as the word took on iconic qualities through its juxtaposition with the *simulacrum*. But more importantly, we might ask ourselves why the ostensibly successful gestures of children constitute only a dry run before these children come into their adult capabilities, why these little index fingers are like the phantom horns of a baby calf. Recall how touch establishes the truth of vision and yet is superseded as soon as there is light, light making it possible to "touch" what is not within the grasp of your hands. Gesture is propped up against the objects it indicates; it only makes sense in their presence. Speech is more useful because the capacity of the tongue to recreate the diversity of the world removes the prop: words provoke their own *simulacra* in the mind of the listener. Although Lucretius says nothing of this here, the shift from gesture to speech intimates a language that operates with an infinite bank of *simulacra* rather than with the immediate, sensible world, thereby permitting words to disengage from that world.[66]

Given Lucretius' investment in words as naturally deictic, it is not a surprise that he, like other later Epicureans, drops the later stages described by Epicurus in which the application of reason and choice intervenes in the use of names (*Ep. Hdt.* 75–76). At the same time, our

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of objects provoking us to make noise. The problem is circumvented by following Long and Sedley (1987, I.64–65) in granting the Epicureans a theory of evolution that allows the inheritance of acquired characters. The child, like the calf, inherits as instincts behaviors developed by the parents. See also Campbell (2003) *ad* 1011–27. However, I think Lucretius is less concerned about internal consistency here and more interested in aligning naming with deixis.

[66] See Konstan 1973, 48–51. Pigeaud notes that, in the beginning, "varietas n'est pas dangereuse, puisque c'est déjà de la nature organisée, distribuée, et non le miroitement du n'importe quoi" (1983, 143). This is what language, however, slides away from. See also Campbell 2003, 16–18.

reading of the account of hearing has already suggested that the word differs in a whole tangle of ways from the visual *simulacrum*. For Epicurus, sound, whether it is speech or a drum roll, is a "squeezing out" (*ekthlipsis*) of particles from the body, much as *nomina rerum* are there to be pressed out by *utilitas* in 5.1029. Yet in Book 4, it is only the *primordia vocum* that are expressed from the body's depths and given over to articulation by the lips and the tongue, "fashioner of words." This work at the interface of the world and the body is less instinctual *deixis* and more creation, less of the world and more of the sound-producing body, than Lucretius implies. And if this ability to create is decidedly human, however much its origins are buried under the operations of impersonal force, then it is vulnerable to the same forms of excess that undermine other technologies that start out useful in Book 5.

IV. USES AND ABUSES OF LANGUAGE

In Book 4, the word functioned not only as a form analogous to the *simulacrum* but also as a created object. But to what extent do *articulare* and *figurare* imply atomic manipulation? Once we have begun to inquire into how words are made, to what extent does the line separating letters from atoms in the analogy hold? We know, on the one hand, that the raw material that the mouth deals with does not consist of atoms but rather of sound particles, which come in a limited number of configurations. In this respect, the labor of the tongue and the lips resembles the creation of the perceptible world from atoms, or rather seeds, that is undertaken by the *daedala tellus*.[67] Yet once those sound particles are put into the service of word formation, their qualities cease to matter. Nor does their proper configuration place any particular limit on what can be created. Shaped and joined together by the lips, these sound particles behave like elements, each phoneme serving as the building block of a word. Thus, when sound is formed into a word, one reality is superimposed onto another.[68] The word is capable of its own effluences, which take precedence over the communication of the qualities of the voice. This act of formation distinguishes speech, in its advanced stage, then, from its primitive origins, where the *phantasia* or the *pathē* shaped the raw material of

[67] Bailey describes the seed as "a complex of atoms of such shape and placed in such arrangements that they are now ready to create particular living or inorganic things" (1928, 344).

[68] It is this collapse of the levels in a Lucretian analogy that Schiesaro 1990 demonstrates.

sound. At this advanced level, the automatic imprint is delayed until the *vox* replicates, and it repeats the contours not of a natural object but of one that has been created.

The question of whether a word refers accurately to something real, or, more complexly, whether the real has been correctly reproduced at the level of a proposition or a poem is not raised in Book 4. The decision to place this account of language within the order of sensory experience causes the reader to forget that Lucretius is not, in fact, dealing with a verifiable material world and that, in advanced language, the construction of linguistic reality is no longer provoked by the impact of objects. Such language threatens to stray from the world of strict equivalences between objects and icons, the world that is proper to the *simulacra*, and enter into the gray area of (artificial? artful?) reproduction. Yet the only "intentional" subjects in the fourth book are the lips and the *daedala lingua*. By keeping language at the physiological level, Lucretius retains the mechanistic quality attributed to the automatical effluences. Nevertheless, from within this physiological account, the adjective *daedalus* gestures to a space beyond the automatic.[69] It anticipates another epithet given to the *lingua* at the moment it is claimed by the catastrophic plague of Book 6: *animi interpres*, "translator of the mind" (6.1149).[70] By examining how *daedalus* is used elsewhere in the poem, we may shed some light on the workings of these half-personified body parts in their efforts to transform, on the one hand, sound particles into words and, on the other hand, *res*—and the excesses of the mind—into fashioned sound particles.

Tellingly, the adjective *daedalus* may refer to both natural and artificial production. In its first occurrence in the celebrated hymn to Venus, it describes the marvelous fecundity of the earth, whose generative capabilities are like those of the goddess herself, the source of all life

[69] Perhaps we can see in the word, in addition to the connotations discussed above, an echo of the Epicurean *hermēneuein* (*Ep. Hdt.* 76), a verb that itself, as Mackey notes, "must carry the nuance of deliberate, sophisticated, even stylized usage" (2003, 11). Like *daedalus*, popular etymology (e.g., Plat. *Crat.* 408a–b) could find another figure of artifice in the verb that describes what humans themselves are capable of devising (see *DRN* 4.835). Hermes is a *nomothētes* rejected by Diogenes of Oinoanda; see fr. 12 col. iii 4–6 (Smith). The Epicurean picture might also be contrasted to the Stoic one, where it is nature alone that takes credit for the cleverness of the tongue: it is *made* that way (Cic. *ND* 2.149: "ad usum autem orationis incredibile est . . . quanta opera machinata natura sit").

[70] Cf. Plat. *Theaet.* 206d: . . . τὸ τὴν αὑτου διάνοιαν ἐμφανῆ ποιεῖν διὰ φωνῆς μετὰ ῥημάτων τε καὶ ὀνομάτων, ὥσπερ εἰς κάτοπτρον ἢ ὕδωρ τὴν δόξαν ἐκτυπούμενον εἰς τὴν διὰ τοῦ στόματος ῥοήν.

(1.1–20) and the poet's Muse (1.21–30).[71] The adjective recurs with this sense at 1.228 and again in Book 5, where the subject is *natura*:

> at variae crescunt pecudes armenta feraeque
> nec crepitacillis opus est nec cuiquam adhibendast
> almae nutricis blanda atque infracta loquela
> nec varias quaerunt vestis pro tempore caeli,
> denique non armis opus est, non moenibus altis,
> qui sua tutentur, quando omnibus omnia large
> tellus ipsa parit naturaque daedala rerum. (5.228–34)
>
> But the various flocks grow, and the herds and the wild animals, and they have no need of rattles, nor must they hear the gentle and broken speech of the foster nurse, nor do they seek different clothes for each change of weather. And most of all they have no need of weapons nor of high walls to guard their own, since the earth itself generously supplies everything for all of them, as does nature, artificer of things.

Naturaque daedala rerum mimics the grammatical construction at 4.551, where *daedalus* takes the genitive of the thing created and modifies the creator (the *lingua*).[72] This is striking in light of the tension in Lucretius between natural and human production. Indeed, it is in this passage that the productivity of *natura* is highlighted as problematic for humans. Lucretius, perhaps targeting Stoic teleology, is cataloguing the earth's flaws, which a truly perfect design should preclude (cf. 2.180–81). These faults are specifically the ways in which the earth falls short of meeting human needs: large swathes are uninhabitable, it harbors wild beasts that

[71] "te, dea, te fugiunt venti, te nubila caeli / adventumque tuum, tibi suavis daedala tellus / summittit flores, tibi rident aequora ponti / placatumque nitet diffuso lumine caelum" (1.6–9). It is not clear here whether the adjective is being used in an active sense (wonder-working earth) or a passive one (wonderfully-worked earth), although the emphasis on generation implies the former. On *natura* as an active subject, see Kennedy 2002, 90–91. This is the sense in which it is applied by Virgil to Circe: "absenti Aeneae currum geminosque iugalis / semine ab aetherio spirantis naribus ignem, / illorum de gente patri quos daedala Circe / supposita de matre nothos furata creavit" *(Aen.* 7.280–83). Servius glosses *daedala* as *ingeniosa*, since Circe, forging mortal and immortal blood, cleverly fashions a hybrid creature. This Circean quality will become the property of human production. *Daedalus* was a word with strong epic connotations, descriptive of fantastic craftsmanship and things wonderful to see. It carries a sense, too, of deceptive creation. In Hesiod, for example, *daidal-* words are always linked to Pandora. More neutrally, Morris points out that "the figure of Daidalos (*Daedalus*) held special appeal for Latin authors as a symbol of Greek art and as an artist who migrated to Italy in legend, and was popular in art in Italy since the fifth century" (1992, 68).

[72] See also *rerum natura creatrix* (1.629; 2.1117; 5.1362).

prey on man, and, finally, it does not offer enough protection to the human child (5.200–234). Lucretius' ambivalence is clear. For, despite professed interest in nature's flaws, the fault seems to lie, rather, with human weakness. Unlike animals, these creatures require nurses, clothing, weapons, fortresses, and, perhaps not accidentally, intimations of speech (*infracta loquela*), a list that foreshadows the development of culture later in Book 5. Here, the wealth yielded by *daedala natura* is more than sufficient to satisfy the needs of earth's other inhabitants. Yet nature's very inability to satisfy human needs will open up the possibility of artificial production, designed to supplement and supplant the earth's fecundity with technological innovation. The adjective *daedalus* is applied to *natura* at precisely the point Lucretius foreshadows its transfer to human ingenuity.[73]

In Book 5, the adjective reappears at the bittersweet acme of human evolution, where, among the *deliciae* created by these increasingly imaginative creatures, we find cleverly fashioned statues (*daedala signa*, 5.1451). The fortifications, weapons, and clothing anticipated at 5.228 surface here among the bounty (*praemia*) hard won by human labor. The statues, however, take their place amid the luxuries, as do the golden statues in the prooemium of Book 2 (*aurea . . . iuvenum simulacra*, 2.24), which are dismissed for being in excess of any need. The word appearing in both cases, *deliciae* (2.22; 5.1450), designates these objects' uselessness. Their creators, like those of the *picturae* and the *carmina* named in the same line, ingeniously rework the forms of *natura* in the raw material that it provides. The non-necessity of these luxuries colors the book's ominous last line in which Lucretius refers to the "highest pinnacle of the arts" (*artibus ad summum . . . cacumen*, 5.1457).[74]

[73] Cf. 5.811–20, 937–44. In both instances, Lucretius stresses that what *natura* provides is sufficient. Yet the former passage describes the birth of the human race from earth-wombs, a situation superseded by the development of normal means of reproduction. Also, this stage corresponds to the fecund youth of the earth before she grows exhausted and ceases to provide as before (5.826–27). In the latter case, the first humans eat what the earth provides, but they are mauled by beasts and still liable to starve to death (5.1007–8).

[74] Blickman rightly notes the "delicate ambiguity" of these lines, which, he argues, recall the struggles of 5.1120–42 (1989, 186–87); it looks forward, too, to the demise of all the arts when faced with the plague in Book 6. But that technology first responds to real needs is suggested by 6.9–11. For the tension more generally between the benefits of human ingenuity and its excesses in Book 5, see Konstan 1973, 35–58; Asmis 1996. On the non-necessity of music and, by implication, poetry, established already in Democritus (DK68 B144), see Armstrong 1995, 213–15. As Blickman observes, *carmina* occupy a complicated place in the pre-history for, while the plastic arts receive no respect, Lucretius recognizes in music and poetry a form of pleasure that accords well with his presentation of a rustic ideal; see Buchheit 1984.

Already in Book 2, *daedalus* appears in relation to the arts to describe the songs of Apollo's lyre in the context of Lucretius' argument against the possibility of limitless creation, a possibility foreclosed by the finite shapes of the atoms. Read against the leitmotif of unbounded human desire, the passage is fascinating, not least of all in its classification of the lyre's song with the swan's among the world's natural wonders. If the range of atomic shape were unlimited, Lucretius reasons, there would be no check on what could be created. The splendors of the earth—a peacock's brilliant color, the taste of honey, Apollo's *daedala carmina*—would be surpassed by ever more marvelous creations (2.500–506).[75] It is precisely the belief in unbounded creativity that drives the technologies of *utilitas* to excess in Book 5. Humans fool themselves into believing that they can create something in addition to what exists in nature. In such a context, it appears likely that there is a correlation between empty desires and the things created to respond to and sustain them. If such things cannot be said to add anything real to the world, it follows that they simply instantiate the excesses of false belief, the surplus that Lucretius says the mind adds to the world given by the senses.[76] In this respect, they appear to function like what Epicurus called "empty sounds" (*phōnai kenai*, Sent. 37; cf. 4.511, *verborum copia cassa*; 5.909, *in hoc uno novitatis nomine inani*), although note that Apollo's lyric song represents the summit of natural creation.

No doubt the phrase *verborum daedala lingua* refers, as Mieke Koenen has suggested, to "the rich fertility of the tongue in creating all sorts of words and phrases" (1999a, 457), a connotation that recalls the generative capabilities of nature in forming a range of compound objects. But might it also refer to the tongue's creativity in a broader sense, namely its capacity to fashion words to provoke images that might stand in for the world of present objects? We may go further still to point out that, as *De rerum natura* itself evinces, the *daedala lingua* is also able to summon a real world that may only be "seen" analogically or through its perceptible effects, that is, the world of atoms and void. The agility of the

[75] The sense is clear, but the passage is corrupt. Munro prints a lacuna after 501. Giusanni detected another after 499. Lucretius often returns to the theme of natural limits: see 1.199–204, 551–98, 746–48; 2.496–521, 718–19, 1120–22. Most pertinent here is the speech of *Natura* at 3.931–49, where the fear of death is expressly related to unlimited desires; see also 3.1076–94; 5.168–73 (the gods have no desire for novelty), 1430–33. On the relationship between irrational fear (that is, fear without cause or anxiety), especially the fear of death, and limitless desire, see Konstan 1973; Deleuze 1990, 272–73.

[76] See Konstan 1973, 49–51.

tongue succeeds first in mimicking the diversity of objects in the world. Yet it is clear that Lucretius is well aware that language is not merely a description of things in the world, to be performed equally well by different speakers, who might err only in the "version" of reality they engage, as Glidden argues (1983). Although the first names are spoken under compulsion, in the later stages of the Epicurean account people ideally choose their words with the aid of reason.[77]

Deliberate speech introduces a level of mastery over the body's innate capabilities. Given that the first sounds emitted imitate nature not by copying its forms but by reproducing the conditions for the creation of difference, such mastery opens the door to a language independent of the natural world. The space traversed by the act of choice destabilizes the "translation machine" and its truth claims: choice turns the tongue into an *interpres*, not of the world but of the mind. As such, it becomes capable—somehow, somewhere offstage—of incarnating the excesses, both the false opinions about the gods and the true beliefs about microphysical reality, which the mind adds to what it suffers of the world, thereby breaking the direct line between object, *pathē*, and sound. Thus, the iconoclastic interlude between my *prolēpseis* and yours is subject to all kinds of additions to which the mind is prone, sometimes rightly, often wrongly, as the prooemium to Book 6 suggests:[78] "[Epicurus] understood that it was the vessel itself that produced the disease (*vitium*) and that by this disease all things were corrupted within it, *whatever came into it gathered from outside* (my italics). . . ."[79] It is under such conditions that

[77] τοὺς [μὲν οὖν] ἀναγκασθέντας ἀναφωνῆσαι, τοὺς δὲ τῷ λογισμῷ ἑλομένους, κατὰ τὴν πλείστην αἰτίαν οὕτως ἑρμηνεῦσαι (*Ep. Hdt.* 76 = 19A Long and Sedley). On ἀναφωνεῖν, see Mackey 2003, 7–8; Sedley 1973, 59.

[78] Verbs that stress the addition of opinion are common in accounts of the origins of religion and the gods: see 4.1183 (*tribuisse*); 5.164 (*addere*), 1172 (*tribuebant*), 1175 (*dabant*), 1195 (*tribuit*, *adiunxit*). This addition of something must account for "the rhetorical *effects* of language that are not evident at the level of what is, in reductionist analysis, isolated as the *individual* word or phrase" (Kennedy, 2002, 88).

[79] "intellegit ibi vitium vas efficere ipsum / omniaque illius vitio corrumpier intus / quae collata foris et commoda cumque venirent . . . quod taetro quasi conspurcare sapore / omnia cernebat, quaecumque receperat, intus" (6.17–19, 22–23). Sedley observes that for Epicurus, in the context of advanced language, "to apply a name to an object is to express an opinion" (1973, 19); he cites *On Nature* 28 fr. 6 col. i 5–13; fr. 8 col. iv 4–9; fr. 11 col. ii 5–10; fr. 13 ii 4–2 inf.; fr. 6 col. ii inf.-7.13 sup. As Wigodsky writes, "it would in fact be very surprising if [Epicurus] had envisioned a purely cognitive use of language, since his denial of an intermediate condition between pleasure and pain means that there is no room in his psychology for a cognitive state untinged by emotion" (1995, 62). Equally surprising would be a purely behavioral model, in which the mind in no way intervenes in speech production.

the paradox of the "empty word" becomes possible. Yet, as was suggested at 4.386, this *vitium* is like a *pharmakon*, designating not only the poison of false belief but also the panacea, i.e., true *ratio* (= reason), the second sight capable of puncturing the kaleidoscope of Lucretian imagery and penetrating to the heart of the atomic real. *Vitium* captures the underside of daedalic capability while hinting at its promise.

It has long been recognized that one of the abiding concerns of Epicurus was the correct use of language. In a well-known passage from the beginning of the *Letter to Herodotus*, he urges his reader to grasp "what underlies words" (*hypotetagmena tois phthongois*, *Ep. Hdt.* 37), described there as the *prōton ennoēma*.[80] However we may understand this phrase, it is clear that it was crucial to Epicurus to reestablish the bedrock of language, that which is rooted in the sensible experience of the world.[81] The danger identified by such a caveat is that in believing and investigating and wondering, "everything will be undistinguished (*akrita*) by us as we engage in an endless chain of proofs or we will have empty words."[82] Given that this passage occurs in the beginning of the *Letter to Herodotus*, a précis of Epicurus' physical doctrines, perhaps it should be evaluated with its context in mind, that is, as a key to reading the *Letter* itself. For the threat of outstripping the limits of what exists at the micro- or the macrophysical level looms large precisely because philosophizing about atoms and void necessarily operates at one remove from the sensible.

What Epicurus may be alluding to here is what we might call nominal glide, a process adumbrated in the third stage of his account of the origins of language, when "people sharing knowledge, introducing certain unperceived entities, handed down certain utterances" (τινὰ δὲ καὶ οὐ συνορώμενα πράγματα εἰσφέροντας τοὺς συνειδότας παρεγγυῆσαί τινὰς φθόγγους, *Ep. Hdt.* 76). That "certain utterances" here should be existing words applied to non-sensible entities, understood via analogy with the perceptible world (e.g., *to kenon*, "void"),[83] is an interpretation that gains support from a recently reedited fragment of Philodemus on

[80] See above, n. 44.

[81] *On Nature* makes clear that the mature Epicurus had decided that the proper use of language would draw on everyday language rather than attempt to recover a primitive model or start anew based on sensory observation. This allies him, then, with linguistic conventionalists; see e.g., D.L. 10.13. See also Sedley 1973; Asmis 1984, 34.

[82] Cf. *Sent.* 37; D.L. 10.34 (τῶν τε ζητήσεων εἶναι τὰς μὲν περὶ τῶν πραγμάτων, τὰς δὲ περὶ ψιλὴν τὴν φωνήν).

[83] Glidden argues they are coined (1983, 205). Long and Sedley see here, rather, the application of existing words (1987, I.100); see also Sedley 1973, 16; Mackey 2003, 9–10.

the origins of poetic language to appear in a forthcoming edition of *On Poems* 5 by David Armstrong, Jeffrey Fish, and J. I. Porter:[84]

> καθ]όλου τε γὰρ ἡ ποη|[τικ]ὴ ξενοφωνία πα|[ρῆλ]θεν εἰς ἀνθρώπους | [διὰ] ζηλοτυπίαν τῶν | [εἰς τ]ὰς καινὰς ὠφελί|[ας και]νῶς ταῖς ἑρμη|[νείαις] κεχρημένων.[85] (*PHerc* 403 fr. 5 col. i 8–14 Armstrong and Fish = fr. 6.8–14 Sbordone)
>
> For, in general, the strange language of poetry came to mankind through emulation of people employing expressions in new ways for new benefits. (trans. Mackey)

While *PHerc.* 403 fr. 5 col. i is framed by two long segments (50–55 lines) of missing or illegible text, the recoverable context suggests that it is part of a discussion on the Stoic practice of allegorical reading, which sought to discover the hidden wisdom of a poem.[86] It most likely represents Philodemus' own argument on the origins of poetry's figurative language (Mackey, 2003, 23–25). The "people employing expressions in new ways

[84] I print the text from the forthcoming edition of Armstrong, Fish, and Porter with their kind permission. I have omitted lines 1–7 and 15–17, which are too fragmentary for secure reconstruction. Recent work on the fragment, aided by the use of multispectral photography, has succeeded in identifying misleading errors in the editions of Jensen (1923) and Sbordone (1971). Of particular import for the text's reconstruction and its relevance to the above arguments is Armstrong's recent restoration of the rare noun ξενοφωνία, "strange language," for the accusative Ξενοφῶντα of previous editions. A thorough and nuanced assessment of the fragment's import for Epicurean theories of language was undertaken by Jacob Mackey in an unpublished Oxford M.St. thesis (2003); my observations above are greatly indebted to his work. This is the earliest attestation of *xenophōnia*, although Mackey (2003, 19–20) cites an instance of the word from the *De tropis*, attributed to the grammarian Tryphon, a rough contemporary of Philodemus. Tryphon describes a *schēma* as an "intentional error (*hamartēma hekousion*, as opposed to a *hamartēma akousion* or grammatical solecism) made by a poet or prose-writer through art or *xenophōnia* or literary ornamentation" (26.1 West).

[85] 8 καθ]όλου τε Janko. 8–9 ποη|τικ]ὴ Mackey. 9 ξενοφωνία primum agnovit hic recte legi Gomperz, Ξενοφῶντα contra lectionem et papyri et exempp. Nap. ("disegni") alii editores adhuc. 9–10 πα|ρῆλ]θεν Armstrong, Janko. 11 διὰ Armstrong. 12 εἰς Jensen. τ]ὰς Armstrong. 12–13 ὠφελί[ας Armstrong. 13 και]νῶς Armstrong. 13–14 ἑρμη[νείαις] Jensen. Supplements from Janko were suggested to Armstrong, Fish, and Porter *privatim*; for Jensen's, see Jensen 1923; for Mackey's, see Mackey 2003.

[86] *PHerc* 407 begins the discussion of the "good poet"; see the fragments published in Mangoni 1992. On the context, see Mackey 2003, 17–18, and, on the critique laid out in *On Poems* 5 more generally, see Asmis 1995b. On the tradition of allegorical reading in antiquity, see the overview in Gale 1994, 19–26. For Lucretius' own mockery of allegory, see 1.641–44.

for new benefits" echoes the reference to the people who "sharing knowledge, introducing certain unperceived entities, handed down certain utterances" in Epicurus' third stage. The similarity of the two phrases lends support to the hypothesis that Epicurus admitted a useful stage of nominal glide, during which people like natural philosophers, who managed to "see" the workings of the natural world at a subphenomenal level via reasoning, described these workings by transferring words that are proper to phenomenal experience to microphysical reality.[87]

This particular means of expanding the referential field of various words not only enables people to share knowledge but also, one might suspect, keeps insight into the microphysical world firmly tethered to the experience of the macrophysical world, as Epicurus' caveat on language recognizes. By making continual reference to what one knows via the senses, one has the best hope of keeping language from spiraling off into interminable proofs and proliferating "empty words," words, we may imagine, that fail to refer to any reality at all, macro- or microphysical, and externalize only a false movement of the mind, a false belief (*hypolēpsis pseudēs*, *Ep. Men.* 124).[88] This lack of discrimination is particularly dangerous when one is dealing with what cannot be directly confirmed by the senses (the gods, the atoms), a situation that has much in common with a state of sleep (4.757–64). One risks mistaking, as Deleuze says, the false infinite for the true infinite (1990, 277–79). What may be at stake, then, is the fragile legitimacy of usefulness captured above by Lucretius' *daedalus* and its gesture to the point at which ingenuity threatens to outstrip use value. If it is through the peculiarly human skill of *epilogismos* that one perceives the workings of nature, thereby extending the overtaking of touch by sight a step further, the condition of this action is also the space of error, excess, limitlessness.[89]

Lucretius does refer to the perils of nominal glide in Book 3, albeit within the bounds of philosophical speculation, when he rejects the use

[87] See Mackey 2003, 20–23. That Epicurus has natural philosophers in mind here is argued by Sedley (1973, 19). Mackey observes that the verb *synoran* in Epicurus consistently has the sense of mental "seeing" or inference (2003, 10); see also his discussion at pp. 24–28. See also *On Nature* 28 fr. 8 col. iv. 1–9 (Sedley), referring to the "first man to think of void in terms of immediacy and time and place." On the difficulty of naming void, see Porter 2003, 201–8.

[88] See Everson 1994a, 103–5.

[89] See 2.1044–47, on imagining other worlds: "quaerit enim rationem animus, cum summa loci sit / infinita foris haec extra moenia mundi, / quid sit ibi porro quo prospicere usque velit mens / atque animi iactus liber quo pervolet ipse."

of the word *harmonia* to designate the relationship of the *animus* and the *anima* to the body:

> quapropter quoniam est animi natura reperta
> atque animae quasi pars hominis, redde harmoniai
> nomen, ad organicos alto delatum Heliconi;
> sive aliunde ipsi porro traxere et in illam
> transtulerunt, proprio quae tum res nomine egebat.
> quidquid id est, habeant: tu cetera percipe dicta. (3.130–35)
>
> Hence, since the nature of mind and soul has been shown to be in some way a part of man, give back the name of harmony, handed down to the musicians from high Helicon: or else they themselves dragged it forth from somewhere, and transferred it over to this thing, which at that time was lacking a name of its own. Whatever it is, let them keep it: you look to what else I have to say.

The forced dislodgment of the word from where it once belonged and its appropriation by the musicians (*aliunde . . . traxere; transtulerunt*) anticipates a second, more insidious transfer of the word into the philosophical sphere, from which Lucretius banishes it definitively. His reference to a process by which a word is "dragged over" to describe a *res* that lacks its own name confirms the hypothesis that imperceptible things were primarily named through catachresis. His lack of concern for how naming takes place in music (*quidquid id est, habeant*) stands in direct contrast to his policing of the philosophical vocabulary. For the improper extension of *harmonia* to the relation of mind, soul, and body is dangerous. By assimilating it to something that it does not, in fact, resemble, as Lucretius attempts to demonstrate (3.106–29), these Greeks have drawn the wrong conclusion, namely that the *animi sensus* is not located anywhere in the body.[90] In doing so, they have wandered far astray, an error of metaphorical perversion now embedded in the word itself.[91]

[90] See *On Nature* 28 fr. 8 col. v 6–7 (Sedley): μετεθέμεθα | συνιδόντες οὐ [τοια]ῦτα ἔκ | τινος ἐπιλ[ογ]ισμ[ο]ῦ: "we altered [certain names] when by some act of empirical reasoning we saw that they were not of this kind" (trans. Sedley). Lucretius extends this process to more complex metaphors as we see above with *harmonia*; see also 3.359–69 against understanding the eyes as the "doors to the mind."

[91] *magno opere in quo mi diversi errare videntur*, 3.105. This notion of erring recurs often in Lucretius (e.g. 1.846; 2.10, 82, 740; 4.823; 6.67); on path imagery, see West 1969, 72–74; Volk 2002, 89–91. For *perversa ratio*, see e.g. 4.833; *caeca ratio*, 6.67.

This talk of "dragging" words around confirms the existence of a space of choice in speech that is absent from the stage of deictic nomination. While there may be some philosophical benefit to be gained from the elasticity of words, Epicurus also claims in *On Nature* 28 that all error has no other form than the one related to *prolēpseis* and *phainomena* "on account of the many-turning habits of speech" (διὰ τοὺς πολυτρόπους ἐ[θι]σμοὺς τῶν λέξεων).[92] Error seems to arise from our misinterpretations of the data provided by our *prolēpseis* and *phaenomena* on account of the entrenched polytropy of language. Yet this polytropy emerges from a dilation of the referential field that is also useful, *eis tas kainas ōphelias*, Philodemus says. Elsewhere Philodemus observes that all *technē* "could not utter a word if deprived of the utility of metaphors."[93] There is evidence suggesting that Epicurus, too, recognized metaphor as a mixed blessing: dangerous, but also necessary to philosophy.[94] As for poetic language, Philodemus seems to understand it as a trope built onto a trope, useless and symptomatic of a word's potential for infinite displacement. Whether Lucretius would follow him on this is unclear. It is true that his own treatment of *carmina*, a word denoting both music and poetry, betrays his sensitivity to their pleasures (5.1379–1411), while the inclusion of *carmina* among the luxuries at the close of Book 5 may concede their uselessness.[95] And while he says nothing explicit about

[92] *On Nature* 28 fr. 12 col. iii 6–12 (Sedley): πᾶσα ἡ ἁμ[α]ρτία ἐστὶν | τῶν ἀνθρώπων οὐδὲν ἕτερον ἔχουσα σχῆμα ἢ τὸ ἐπὶ | τῶμ προλήψεων γιγν[ό] |μενον καὶ τῶμ φαιν[ομ]ένων | διὰ τοὺς πολυτρόπους ἐ[θι]|σμοὺς τῶν λέξεων . . . . See Long 1971, 123. Cf. Glidden 1983, 219–24.

[93] Phld. *On Rhetoric* 4 col. xv 15–18 (I.175 Sudhaus): πᾶσα τέχνη | φων[ὴ]ν οὐ δύναται προ[ίεσ]θαι στερ[η]θεῖσα τῆς ἐκ τῶν | μεταφορῶν εὐχρησ[τίας]. Cf. *id.* col. xxi 8–15 (I.180 Sudhaus) and Wigodsky 1995, 62–64.

[94] See *On Nature* 28 fr. 13 col. v inf. 3–6 (Sedley) on "transferences of words from the class of the known to the unknown" (. . . ἄλλο[υς . . . . .] μεταφορὰς | ποι[εῖν φωνῶ]ν ἐπὶ τὰ ἄγνωι[στα] ὑ[πὸ τῶγ γν]ωστῶν). The context seems to imply that the transfer in itself is not wrong but that those making it have erred; see Sedley 1973, 62–65, and Mackey 2003, 25–26.

[95] I find attractive Armstrong's reading of *vigiles* in 5.1408 as the Hellenistic heirs to lyric poetry rather than watchmen, as most editors and translators do (1995, 214, n. 10). As he notes, the account that follows of how rustic staples are given up for civilized luxuries implies that these poets offer a more complicated version of early song that in no way delivers more pleasure than the old one. Buchheit 1984, 156–58, proposes that Lucretius sees himself as an heir to these pastoral poets, whom he understands as figures from a Golden Age. However, the complications of reading any kind of Golden Age in Book 5 speak against any easy association between Lucretius and the past; he is as likely to identify with the *vigiles*. Elsewhere in Book 5, the poets' songs serve to hand down past events, such as the Trojan War or political history (5.1444–45). The mention at 5.1445 of the discovery of the alphabet (*nec multo priu' sunt elementa reperta*) appears to be tied more closely to the following two

linguistic innovation unique to poetry, he is highly sensitive to the perils of metaphor and language in general, not only among the poets of mythology but among philosophers, too.

Despite cutting short his account of the origins of language with humans using their arsenal of sounds to mark off the world's diversity, Lucretius does gesture towards the afterlife of these deictic exercises in the very next section. Having accounted for the discovery of fire (5.1090–104), he moves on to the shift from ingenuity to greed, as the intelligent applications of fire give way to the rise of cities and kings, the discovery of gold, and the invention of property. Surveying this dystopia, Lucretius denounces with characteristic verve the ambitions of those striving to acquire wealth and avoid death, and he blames this ambition precisely on a disengagement from what is known via the senses and a privileging of what is heard from the mouths of others:

> proinde sine incassum defessi sanguine sudent,
> angustum per iter luctantes ambitionis;
> quandoquidem sapiunt alieno ex ore petuntque
> res ex auditis potius quam sensibus ipsis,
> nec magis id nunc est neque erit mox quam fuit ante. (5.1131–35)
>
> So let them sweat blood, worn down in vain, struggling along a narrow path of ambition, seeing that what they know is from the mouths of others and that they seek things in accordance with what they hear, instead of in accordance with their own senses. And it profits no more now—and never will—than it did before.

Though recently in a world of happy deixis, we suddenly find ourselves before words that circulate with reckless autonomy, their message diametrically opposed to what is delivered by the data of the senses. These words arise *alieno ex ore,* from a mouth that not only belongs to someone else but is also estranged from the real world. In this world full of empty hearsay, it seems that the *daedala lingua* is a machine gone berserk.

The formation of a world in words capable of competing with the physical world confirms that the analogy between atoms and letters is

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lines ("propterea quid sit prius actum respicere aetas / nostra nequit, nisi qua ratio vestigia monstrat"), which echo the Thucydidean archeology, than to a theory of civilized poetry as "the play of written letters, *elementa*, on the page," as Armstrong argues (1995, 215). At the same time, the discovery of the alphabet occurs at a point where innovation is at its most perilously ingenious (immediately after the rise of civilization, with its excess desires, has stirred up the tide of war, *belli magnos commovit funditus aestus*, 5.1435).

only an analogy, but language is all the more dangerous as a result. Words both are and are not things. Lucretius goes to great lengths to prove that voice is corporeal because it does things (Koenen 1999a, 445–48), but we are more in the world of J. L. Austin here than the world of body and void. Once voice is fashioned into a word, it remains capable of impacting the senses of another person. Yet it no longer bears information about the sound-producing body. Rather it conveys whatever the speaker wants to say, staging in the mind of the listener not only a particular vision but also the speaker's beliefs. The fashioning of a sentence is the fashioning of a world that feeds on matter even as it skews its representation. There may be constraints on what can be said that are imposed by the internal confines of a given language, but once words and sentences and poems are created, the immutable laws of nature do not apply. Only *ratio*, in tandem with a testing against the senses, can enforce these laws at the level of the said. The problem with operating at the level of shared reality via words is that someone may have gotten it wrong, contaminating the entire referential economy.[96] Listeners come to mistake words for fragments of the world, rather than components of a manufactured fiction.[97] Thus, hearing is a sense excluded from the true senses to the extent that it is reduced, as it was in Book 4, to the reception of human speech and its "pile of empty words," infected with the *vitium* of the mind.

The excursus on Cybele in Book 2 demonstrates a similar anxiety about contamination and the damage done by words. But it also admits of complications and complicities that hint at Lucretius' own gambles with language.[98] The creative activity of the *daedala lingua* is in full evidence as Lucretius has the old Greek poets yoke beasts to the Earth Mother's chariot and wreathe her head with crowns, stories that provoke, in turn, the creation of an *imago* of the goddess that mimes not *natura* but *lingua* (2.609). He recognizes, as Philodemus does,[99] that things set forth very well (*bene et eximie*, 644) may still be estranged from the truth (*longe sunt tamen a vera ratione repulsa*, 645). Having set Memmius

[96] Memorable here is the linguistic ingenuity of the lover (4.1153–70), although this is no doubt benign compared to the things that people say about gods.

[97] For the use of *fingere* with false stories, see 1.104, 371, 643–44, 1083; 2.58; 4.581; 5.164 (*adfingere*).

[98] 2.600–660; cf. 5.405; 6.754. On this passage, see the discussion in Schrijvers 1970, 50–59; Gale 1994, 26–32. As Gale points out, Lucretius does not endorse the systematic allegoresis of the details of the cult, which is as guilty of propagating false belief as the rites themselves; cf. Bailey 1947, 2.898–901.

[99] See, for example, *On Poems* 5, *PHerc* 1425 col. 25 30–col. 26 20 (Mangoni); *id.* col. 32 3–22 (Mangoni). For Philodemus, the only poetic good is the creation of a resemblance, although this has no moral utility. See Armstrong 1995, 215–25; Asmis 1995b.

straight on the gods—that they live, placid and immortal, in a world far-removed from ours—he concludes:

> hic siquis mare Neptunum Cereremque vocare
> constituet fruges et Bacchi nomine abuti
> mavult quam laticis proprium proferre vocamen,
> concedamus ut hic terrarum dictitet orbem
> esse deum matrem, dum vera re tamen ipse
> religione animum turpi contingere parcat. (2.655–60)
>
> If anyone is determined to call the sea Neptune and corn Ceres, and prefers to use the name Bacchus than to produce the true name of the juice, let us grant that he may proclaim that the world is the Mother of the gods, as long as he, by means of the truth, keeps himself from staining the mind with shameful religion.

Nominal glide resurfaces here in the form of metonymy, that is, using the name Bacchus instead of the *proprium vocamen*, and Lucretius is well aware of the risk it carries. Note the verb *abutor*, which can mean both "to make full use of" and "to exploit, abuse, misuse [language]" (*OLD*, sv. *abutor*). It only recurs at 5.1033, where, we may recall, it describes language as humans' natural exploitation of the tongue's capacity for marking difference (*sentit enim vis quisque suas quoad possit abuti*). Designating both the opportunistic use of one's faculties and the potentially reckless abuse of names, the verb occupies the same charged zone as *daedalus*. The *dum . . . tamen* construction weighs heavily on the decision to use metonymy. Its detailing of the strict conditions under which this usage is permissible establishes a high risk of failure. The havoc wreaked by myth, which is the illegitimate elaboration of the poets' insight, becomes evidence of the consequences of this failure.[100]

[100] That the poets' insight is derived from an essentially correct *prolēpsis* is also suggested by Konstan (1973, 25, n. 59) and Gale (1994, 32, n. 114). Faulty beliefs about the gods are always said to arise from incorrect inference: see e.g., 1.151–54; 2.167–81, 1090–92; 5.76–90, 114–45, 1186–1240; 6.48–91, 379–422, 760–68, and Gale 1994, 130–38. See also 3.624–30, where Lucretius says that we are incapable of imagining an immortal soul that is not endowed with sense, perhaps because this faulty belief is based not on sheer fantasy but on a real image—the *simulacrum* of a dead person (4.760–61)—from which we have made a wrong inference. Nor can the painters or poets imagine it otherwise. At the same time, something more complex is going on here with respect to the limits placed on our imagination by our beliefs. Porter observes of the attempt to imagine our own deaths (3.870–93), "the question as to how we can represent death to ourselves becomes a question as to how we can detach ourselves from our conventional ideas about the body, given that our conventional ideas about ourselves are so intimately wrapped up in our view of ourselves as embodied souls" (2003, 202). On this passage, see also Holmes (forthcoming).

Nevertheless, provided that one is guided by true reason (*vera re*),[101] one may call the earth "mother." For it is true that the poets' insight is consistent with the generative capacity of the earth. And four hundred lines later Lucretius himself is calling her "mother," evidence that the use of metaphor is a risk that he is willing to take in the interest of lending light to the obscure world of atoms and void.[102] Lucretius' sensitivity to improper uses of metaphor may arise from his own commitment to metaphorical language, which builds on the figures of language that he inherits from Epicurus (e.g., void; see 1.426), as a means of making atomic reality visible. For it would seem that Lucretius uses figurative language as a tool to philosophical exposition and not as a trope built onto a trope, as in Philodemus. Despite the potential pitfalls, metaphor is indispensable. That this is so betrays a more basic truth for Lucretius, namely that language is necessary to make people see even what is before their eyes, that the words *alieno ex ore* are a precondition of knowing where to look, what to feel. Thus, Lucretius' project, in one sense, is an attempt to reintroduce the original triangulation of language, where a speaker pointed to objects to which the senses of the listener might also appeal. This tendency to make frequent reference to the experiences of his reader participates in this strategy to keep words from functioning like the *simulacra* of dreams, impossible to verify,[103] even as the true object of investigation hovers out of the senses' reach. At the same time, even at the level of perceptible things, these exhortations to

[101] Schrijvers 1970, 58, reads *vera re* as an instrumental ablative modifying *parcat* rather than as an adverb; see also Gale 1994, 31, with n. 111 (*vera re* anticipates the *vera ratio* of 5.406). The passage, to the extent that it establishes the conditions for the proper use of language, can be seen as analogous to *Ep. Hdt.* 37–38. Despite the caveat, Lucretius does permit the metonymy, at least for himself, *pace* Clay 1996, 781–82.

[102] *quapropter merito maternum nomen adepta est*, 2.998; cf. 5.795–96, 821–22. Kennedy offers that "the poem could be seen as playing a dangerous rhetorical game for high stakes" (2002, 92–93). See also Schrijvers 1970, 57–59.

[103] At 1.102–6, Lucretius makes this relationship between false speech and dreams explicit: "tutemet a nobis iam quovis tempore vatum / terriloquis victus dictis desciscere quaeres. / quippe etenim quam multa tibi iam fingere possunt / somnia quae vitae rationes vertere possint / fortunasque tuas omnis turbare timore"; cf. 3.1046–52 on the life that is a waking dream. As Gale points out, Lucretius never uses the word *fabula* in *De rerum natura*: *somnium* comes closest to describing the delusions generated by false belief (1994, 26, n. 94). If these stories prey on fear, others seduce by means of pleasure: see 1.641–44; 4.592–94. What Lucretius' words do, rather, is draw attention to the *simulacra* of true things always before our eyes ("cuius, uti memoro, rei simulacrum et imago / ante oculos semper nobis versatur et instat," 2.112–13, using the motes in a sunbeam to prove the existence of unbound atoms); see Schiesaro 1990, 26–30; *id.* 1994, 86–87.

see this or that phenomenon shape a reality that is, as Duncan Kennedy points out, "the effect of description" (2002, 70), quite literally in Lucretius.

These calculated acts of evocation seem to form the cornerstone of the poem's usefulness. For Lucretius is quick to stress that his work is, above all, useful, employing the Latin language for new benefits.[104] Referring to his account of void, he tells Memmius:

> quod tibi cognosse in multis erit utile rebus
> nec sinet errantem dubitare et quaerere semper
> de summa rerum et nostris diffidere dictis. (1.331–33]
>
> To know this will be useful to you in many things, and it will keep you from wandering in doubt and from always wondering about the universe and from distrusting my words.

And again, following his proofs that the *corpora* of the mind are exceedingly small and mobile, he tells Memmius, "and this truth, when known to you, will in many things, friend, prove useful (*utilis*), and will be reckoned of service" (3.206–7; cf. 3.417–20; 4.25; 5.113; 6.938–41). This usefulness heralds the skill of the craftsman. While the celebration of novelty at 1.926–30 (4.1–5), where Lucretius presents his poem as the exploration of what has never before been sung, is, paradoxically, a Roman poet's visit to a Callimachean *topos*,[105] it serves also as a reminder that language knows only the limits of its *daedalus* creator, who constructs a picture of what can only be seen through an act of sustained imagination:[106]

> 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;
> sed tua me virtus tamen et sperata voluptas
> suavis amicitiae quemvis efferre laborem
> suadet et inducit noctes vigilare serenas
> quaerentem dictis quibus et quo carmine demum
> clara tuae possim praepandere lumina menti,
> res quibus occultas penitus convisere possis. (1.136–45)

[104] Cf. Cic. *Fin.* 1.71–72, where Torquatus says that Epicurus would not read the poets "in quibus nulla solida utilitas omnisque puerilis est delectatio."

[105] See Volk 2002, 87, with the bibliography at n. 52 on Callimachean influence here.

[106] On the "poverty" of his native language, see also 1.832; 3.260. On his role as *primus*, 5.337. See Dionigi 1988, 11–14, on the novelty of Lucretian language.

> Nor do I fail to see that it is difficult to illuminate the dark discoveries of the Greeks in Latin verse, especially since we must employ new words on account of both the poverty of the language and the newness of these things; but, nevertheless, your merit and the hoped-for joy of your sweet friendship persuade me to undertake this labor. They lead me to stay awake through the calm nights, trying to discover with what words and with what song I might finally lay before your mind the clear light with which you might gaze into the depths of hidden things.

The distance between compulsory naming and the struggle to develop a language to gesture towards an imperceptible real could not be greater. As the hinge between these two stages, the *daedala lingua* emerges as the tool of a mobile mind, capable of summoning up absent objects in the mind of another person, capable, too, as *interpres animi*, of communicating that mind's errors and its insights. The craftiness of the tongue points to the poet who puts it to use. For it is the *lingua* that sends forth from the poet's own breast his rich store of arguments to the ears (*per auris*) of his listener (1.412–17). "A new thing" (*nova res*), by which we might understand the poem itself, "is struggling to fall upon your ears (*ad auris accidere*), and a new view of things to reveal itself" (2.1024–25). In this collocation, where the work of the *daedala lingua* effects a *nova species rerum* in the listener's mind, the visual dimension of the word is exaggerated, in order that Lucretius might claim his words as "traces" (*vestigia*, 1.402) that function, like sense perceptions, as a springboard to knowledge.[107] Exploiting the similarity of the *simulacra* that strike the mind to those that strike the eyes, he restages the deixis of primitive language, in which the subject and the world enjoy a natural pas-de-deux in the context of atoms and void.

This representation of the poem as revelation—a motif grounded in the iconicity of the verbal artifact such as it emerged in Books 4 and 5—is a defining feature of *De rerum natura*, oft noted by critics and emphasized by Lucretius himself. Indeed, the poem's professed goal in the honeyed-cup simile is to make Memmius see (*perspicis*) the nature of things, the figure in which it is shaped (*qua constet compta figura*, 1.950). This seeing is imagined as the effect of a process whose construction should be obliterated by the act of sight (Kennedy, 2002, 73). Of course, Lucretius is willing to reveal the mechanics of this process when it suits his purpose, that is, when they may render visible the mechanics of

[107] On the revelatory quality of the poem, see Schrijvers 1970, 38–47; Gale 1994, 144–45; Kennedy 2002, 71–73.

atomic reality. For, as the most common version of the letter-atom analogy elucidates, revelation is realized through Lucretius' own manipulation of the elements of language to create a kaleidoscopic experience that shuttles between imagination and mental insight. That analogy taps the triple resources of sight, hearing, and imagination to force a simultaneous perception of the elemental reality of words on the page, together with the specificity of their sounding and the object. In such a model, the lack of morphological resemblance between sounds and objects at the birth of language is confirmed by the representation of the sound by the letter, whose reemergence in the register of the visual confirms this lack of iconic or formal consistency. The letter is thus freed to become an analogue of the atom, whose shifts in order and position generate entirely new objects at the epiphenomenal level. Of course, the sounds were never akin to the constituent elements of the object but arose from its interaction with another species of body; they are symptoms in the sense that they result from an encounter of forces. But in advanced language, sounds are tied to the letter.

The attention in Book 4 to the spoken word as a frangible object retraces the elemental nature of the word at the level of sound. In doing so, it repeats the process by which the means of revelation fall away before the effect. As we saw there, words only have meaning *qua* words. Their properties *qua* sound are rendered immaterial by the act of vision. The articulated word in such a context is opposed to mere sound, to the extent that its own sensible qualities are supposed to disappear in its analogical imitation of the object's morphology, that is, in its articulation. Thus the spoken word comes to mimic the diversity of the world in a limited way, primarily through changes to order, as well as through combination (1.827; 2.1014), each change causing the word to signify (*significare*, 2.1016) something different. The verb *significare* is crucial here. It cues us to think of second-order *simulacra*, the sea or the sky or the sun, rather than the sound of a sounding. For it is not only the quality of the *primordia vocum* that ceases to matter in the discussion of speech production. The constituent elements of the spoken word, i.e., the phonemes, are also without meaning, as is made clear in Lucretius' meditation on the collapse of speech into sound in Book 4.

It should come as a surprise, then, that *De rerum natura* is a poem teeming with sounds that refuse to yield readily to the image. Having tracked the assimilation of the word to the *simulacrum* as a means of accessing *res ipsae* for much of this paper, I would like to close by ceding a place to this obstinacy. For however generous a tolerance of poetry we elicit from our Epicurean evidence, *De rerum natura* still feels heterodox.

Lucretius, despite attending to language at the level of the word, seems deeply attuned to the risks and the potential dividends of a language rendered deictic not through the transparency aimed at by Epicurus' cardinal linguistic virtue *saphēneia* but through the exploitation of the vast resources and complex texture of language itself. I suspect the double commitment to the poem's visual and acoustic components, explicit and implicit, respectively, is less motivated by a sense of formal unity and more symptomatic of the multiple implications of the letter-atom analogy with which I began. Lucretius is a poet sensitive to the rich notions of similarity, difference, and creation that these implications support.[108] At 1.828–29, having noted the effects of a shift in the order of letters, Lucretius tells us that the atoms have at their disposal many other means "by which all various things can be produced" (*unde queant variae res quaeque creari*). But, in fact, phenomenal diversity for him can be reduced to two causes, namely the particular composition of a compound and the different shapes of the atoms themselves. The motif of creation at the level of speech references the first type of cause and its model of building blocks whose organization might produce a reality effect in the listener that is shot through with insight. The word masquerading as *simulacrum* offers the promise of that medium, the truth of touch with the distance for contemplation. The latter type of cause is discussed by Lucretius from 2.333–729, where, we might recall, the only version of the letter-atom analogy that stresses differences among letters appears (2.688–99). Particularly intriguing here is that a major class of phenomena targeted by this explanatory schema is the variation in sensation itself,

[108] Thury 1987, 284–85; Armstrong sees the acoustic texture as confirmation of Lucretius' Philodemean poetics (1995, 224–28). For Philodemus, elaborate sound patterning could only get in the way of the communication of verbal content; see *On Music* 4 col. xxvi 9–14 (Kemke); *id.* col. xxviii 16–35 (Kemke). Cf. *DRN* 1.643–44, on the fools who read the verses of Heraclitus: "veraque constituunt quae belle tangere possunt / auris et lepido quae sunt fucata sonore." It is here that Lucretius sounds the most like Philodemus and the most like himself at 1.934 (*musaeo contingens cuncta lepore*, speaking of his own work; cf. 1.15, 28 from the address to Venus). The easiest solution is that the fools (*stolidi*) who praise Heraclitus mistake what sounds nice for truth. This is most likely correct, and I doubt that Lucretius would say that there is anything true or false in the sounds of *De rerum natura*, which is not to say that he does not recognize his skill as extending to the composition of the poem as a whole. He is certainly ready to grant that the Greek poets have set forth the story of Magna Mater *bene et eximie* (2.644). The real question is whether the effects of the words *qua* sound have any independent worth for Lucretius, that is, if there is something that they convey of *natura rerum* that does not translate into rational insight. I think that, despite the explicitly instrumental role of the poem's charm (which is not necessarily to be equated with its sound), this must remain an open question. See Ronconi 1963, 19–25.

particularly in smells, tastes, sounds, and in the experience of pleasure and pain (2.442–43). In fact, variation in sound or smell or taste is largely restricted to an opposition between pleasure and pain, expressed as smoothness or roughness.[109]

While the quality of the *primordia vocum* disappears at the level of speech, what emerges from the studies of Deutsch, Friedländer, and Snyder is Lucretius' attention to the sensual qualities of the word in the mouth or in the ear before or, rather, *while* it gives way to what "underlies" it.[110] These two levels of perception are emphasized by Lucretius himself ("si tibi forte animum tali ratione tenere / versibus in nostris possem, dum perspicis . . . ," 1.948–49 = 4.23–24). The resulting synaesthesia is not so much the unification of the word's or the line's effects into a sense apprehended by *logos* alone, as the poetics of Philodemus suggest. Rather, it is a stereoscopic effect achieved by exploiting the specific nature of sound to register differences in the quality of experience, experience that does not necessarily map onto atomic reality in the same way as a more "mimetic" knowledge but which, for all that, may not be without meaning, alongside discursive claims.[111] Regardless of how we account for what Lucretius thought he was doing with this manipulation of the phonic quality of his verses, a topic beyond the scope of this paper,[112] it seems wise, in closing, not to concede so readily the subordination of the phonic materiality of the word to its power to provoke

[109] While it is, technically speaking, impossible for the shapes of the atoms themselves to be felt, there is a consistent correlation between particular shapes and particular sensation (see 2.398–477; 4.542–48, 615–32, 673–86; cf. 6.773–76, where differences in sensation come about "propter dissimilem naturam dissimilisque / texturas inter sese primasque figuras"). Lucretius blurs in maddening ways the line between *primordia* and atomic clusters, consistently acting as though the phenomena he adduces to support his arguments displayed features of the former rather than the latter. Perhaps we should understand a relationship like that between the motes in the sunbeam and the atoms (2.138–41), where analogy is also a causal relation in which a similar behavior or form is repeated at each level. This relationship between the shapes of the *primordia* and the quality of smell or taste or sound is complicated by the need to take into account the differently sized pores of different percipients (4.649–51). See Furley 1993; Graver 1990.

[110] See among many possible examples, 2.398–99: "huc accedit uti mellis lactisque liquores / iucundo sensu linguae tractentur in ore." The lines occur in an extended explanation of how the shapes of the atoms determine the qualities we experience, and, as Friedländer notes, "the elements of the words appeal to the tongue and the ears as the atoms of the corresponding things appeal to the tongue and taste" (1941, 23).

[111] On Lucretius' synaesthesia in metaphors, see Clay 1996, 784–85.

[112] It is difficult to endorse Friedländer's position that similarities of sound reflect a greater affinity at the level of ontology. The Stoics are the etymologists, believing that the word could capture something true about the object. Epicureans, as we have seen, appear

images and thought. For there is play between elements and sensation at the level of the primary *simulacrum*, the word that is heard, and between elements and imagination at the level of the secondary *simulacrum*, what the word calls to mind. And herein lies the double inheritance of language, with its difference in the sound of its soundings and the things it communicates. In marking a certain intransigence in the *suaviloquens carmen* that sustains a sense of synaesthesia rather than a sense of coherence, that is, in marking the taste of honey that cannot pass its pleasure beyond the mouth (4.626–29), we may conclude that the word's natural failure of iconic resemblance to the object has value. For this intransigence guarantees that the object remains a cause of *pathē* and not simply an object of contemplation.[113] Or we may choose, with Lucretius, simply to respect the pleasure of surfaces.[114]

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more interested in dispensing with the *nomothētes* than in establishing utterances as clues to the nature of things. Thus Origen links the followers of Epicurus with those of Aristotle as people who consider naming an irregular practice (*pragma asustaton*, *Cels*. 1.24). See Dalzell 1987, 26–28, who makes this argument against Friedländer. Nevertheless, Lucretius may very well be showing off his facility with etymology as a Roman poet, for whom it represents an independent tradition (West, 1969, 97).

[113] See Asmis 1984, 84–98, on *pathē*. She understands them as giving us an awareness of inner conditions, as opposed to *aisthēseis*, which give us an awareness of things external to ourselves (97–98); see also Glidden 1979. This seems essentially correct, although it is important, I think, to stress the role of *pathē* in registering what happens at the interface between the body and the world, as in taste and touch but also hearing and smell, which focus on the quality of the effluences rather than on the morphology of the object. The attempt to adapt the vocabulary of atomic shape and pores to vision produces the strange lines 4.706–21, where the only effect of the shape of the *primordia* is to prevent vision and cause pain by staying in the eyes; the *simulacra* that cause vision pass through "freely" and never register their presence, only that of the object (718–21; see Bailey 1947 *ad* 706–21, III.1263–64; Graver 1990). *Pathē* are largely seen as a criterion for action (the pursuit of pleasure and avoidance of pain) rather than a criterion of truth, but Asmis argues that Epicurus also believed that *pathē*, like *aisthēseis*, served as a basis for inference about the world.

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