Preface
1. This claim that the specificity of human communication lies in the double ability to understand and relay non-firsthand experiences also seems quite in line with twentieth-century discoveries and discussions around bee communication. See Frisch, 1993: esp. 43, 55–56; Benveniste, 1971: 53; Deleuze and Guattari, 1987: 77. For a detailed discussion, see chapter 6.

Introduction
1. Chantraine explains the etymologically fundamental meaning of logos as follows: “Le sens originel est ‘rassembler, cueillir, choisir’ . . . , d’où ‘compter, dénombrer’ . . . legō signifie parfois ‘énumérer,’ etc. . . . ‘débiter des injures,’ au moyen ‘bavarder, discourir’ . . . Ainsi est né l’emploi au sens de ‘raconter, dire,’ etc.” (1984: 625). Heidegger’s interpretation is in line with Chantraine: “[Legein] means what our similarly sounding legen means: to lay down and lay before. In legen a ‘bringing together’ prevails, the Latin legere understood as lesen, in the sense of collecting and bringing together. Legein properly means the laying-down and laying-before which gathers itself and others” (Heidegger, 1984: 60; see also Heidegger, 1959: 123–79). See also Hoffmann, 2003: 27–53, whose claim that focal reference of the various senses of logos is “composition/gathering” is quite cogent to ours here, although made in a wider, mostly sophistical and rhetorical context that is very neglectful of Aristotle’s usage. In Book V, definition 3 of the Elements, Euclid defines logos as a “poia skhesis,” a certain state, condition, or relation, not between but of two homogenous magnitudes of the same kind with respect to their size (Euclid, 2007: 291).

2. Unless noted otherwise, all translations from Ancient Greek and Latin are my own. In transcribing the Greek texts, I shall use ê for êta, ô for ômega, kh for khi, u or sometimes y for upsilon, and i for the iota subscript. In this fragment by Heraclitus, I adopt the reading of homologeín (“agreeing,” “having the same logos”) for xympheretai (“brings together”) as in the text of Hippolytus who is “the fullest source” (KRS, 192). For homologeín, see Heidegger, 1984.

3. While belonging to the post-Aristotelian tradition, the division of the Aristotelian corpus into three parts (logic, physics, and ethics) is a procedure which itself is not altogether foreign to Aristotle. See Top. I, 14, 105b19ff.

4. Plato, Republic, V, 479B11–C5; Euthydemus, 300D. The whole text of the riddle is quoted in the scholiast. (Hermann, 1853: 34)

5. Po. 22, 1458a26–27: “The idea of riddle is that one conjoins impossible things while telling existing things.”

6. S.v. “logos” in LSJ, 1057–59. For the increase of frequency of its use from Homer until the fourth century, see Hoffmann (2003: 30).

7. Here are the major headings in the LSJ:

   I. computation, reckoning;
   II. relation, correspondence, proportion;
This extensive list covers all major meanings given in Chantraine (1984: 625), and most of those in Guthrie except perhaps Guthrie’s emphasis on “definition, essential formula” and “worth, esteem, fame, regard” (Guthrie, 1979: 38, 419–25).

The *Anecdota Graeca* compiles sixteen senses of *logos*, out of which we may mention the following: temper of mind, constitution (the text’s example is of human being as having *logos*), *dynamis* or essential native power, a complete, independent meaning (*sêmainomenon . . . autoteles*), book (*biblos*, roll or case for holding a papyrus case), role of an actor, voice (*phônê*), and standard (*kanôn*) (1887: 327–28).

Cassin et al. (2014: 586) give the list of the senses of *logos* in a marginal scholium of a manuscript of the *Tekhne grammatiche* by Dionysius Thrax (Dionysius Thrax, *Scholia in Dionysii Thracis artem grammaticam*, in *Grammatici Graeci*, vol. 1, fasc. 3). Of these twenty-two meanings, the following may be of interest: concern (*phrontis*) and consideration (*logariasmos*)—which are akin to “worth” in Guthrie above—justification (*apologia*), *logos* of expenses, conclusion, natural potentiality (*dynamis*), and again, par excellence, God (*kat’ eksothên ho theos*).

Heidegger usually reduces these senses to four: “speech,” “reason [*Vernunft*],” “foundation [*hypoimeinon*],” and “proportion” (Heidegger, 2008: 50; 1984:60). His earlier interpretations of *logos* determine its basic underlying meaning as “making manifest” (Heidegger, 1996: 28–30 (§7b); 1997: 139–41 (§28c); 1985: 84–85 (§9αβ)). Inspired by Heidegger and Sallis, Hoffmann gives a similar fourfold distinction: “account,” “composition,” “speech,” and “reason” (Hoffmann, 2003: 33; see also Robinson, 2010: 24–26; Robberechts, 1993: 336).

8. For purposes of comparison between Aristotle’s strictly secular uses of *logos* and its later evolutions, it may be helpful to mention some significant senses listed in Lampe’s *Patristic Greek Lexicon* (1961: 807–11): “ground [of cosmic order],” “second Person of Trinity,” “unity of Godhead,” “Christ incarnate,” “source of man’s rationality and of his communion with God,” the eternal and immanent (*endiathêtos*) Logos about which Lampe says: “the distinction between *logos endiathêtos* (immanent reason) and *logos prophorikos* (uttered word) used to illustrate the unity of Father and Logos and the distinction between them (from the standpoint of the finite observer) through the act of Creation and redemption in which Logos is the expression of the infinite Father” (Lampe, 1961: 809).

The Gnostics employed the word *logos* for the “rational cosmic principle controlling the fate of men” in the poems of Aratus, and associated the word with the “*ogdoad,*” the eight deities of Hierapolis. See also Mortley, who claims that the distinction between immanent (*endiathêtos*) logos and uttered (*prophorikos*) logos can be traced back to Aristotle’s use of *eksô logos* in *APo.* I, 10, 76b25 (Mortley, 1986: 26). More generally, see Sorabji, 1993.

9. *Logos* occurs in the very opening of Aristotle’s corpus (*Cat.* I, 1a1–13). Further in his logical works, one reads that some potencies are with *logos*, some without (On Int. 13,
22b38–23a1; *Metaph. IX, 2, 5.*), that a premise and a syllogism are somehow both logoi (*APr. I, 1, 24a15, 24b19*), or else that knowledge implies the possession of the logos of the “why?” (*APo. I, 6, 74b27–28; II, 19, 100a1–3*).

In his philosophy of nature, one reads that nature lies less in the material than in the form according to *logos* (*Ph. II, 1, 193a31ff.*), that living beings nourish themselves and reproduce not according to a mixture or separation, but according to a *logos* (*GC II, 6, 333b916; DA II, 4, 416a16–18*), that sensation is not only according to *logos* (*DA II, 12, 424a25*), but that “sensation is a *logos*” (*DA III, 2, 426a8, 426a28ff.*), and that locomotion originates from one universal and one particular *logos* (*DA III, 11, 434a17–22; MA 7*).

As to his ethical and political works, finally, Aristotle uses *logos* for distinguishing the parts of the human soul (*NE I, 13, 1102a29–1102b34*). Most famously, indeed, humans are defined as the only kind of animal that has *logos* (*Pol. I, 1, 1253a10–11; VII, 12, 1332b5–6*) and *logos* remains at the basis of their education (*Pol. VII, 12, 1332a38–1332b11; 13, 1334b7–28*) as of the household and city (*Pol. I, 1, 1253a18*).

10. Bonitz, 1955: 433–37. Most lists of the meanings of *logos* mention not “standard,” but “essence,” “law,” “notion,” “essential formula,” or “form.” As an exception, see “kanôn” in the *Anecdota Graeca* (1887: 327–28); for the closely related later meaning of “formative and regulative law of being, essential disposition,” see Lampe, 1961: 808. Similarly, apart from the senses of “capacity for reasoning” and “capacity for discourse,” Mortley mentions the sense of “appropriate system of functioning,” most significantly in *DA II, 12, 424a31,* and *PA I, 1, 639b15* (Mortley, 1986: 26).

Leaving the discussion of *logos* as “standard” to the first chapters of this book, for now let me say that this sense of *logos* is not primarily linguistic, nominal, mental, or subjective. (Compare Winslow, 2007.) For Aristotle’s essentialism, see Barnes’s introduction to his translation of the *Posterior Analytics* (Oxford: Clarendon, 2002, xiii).

A fifth sense of *logos* in Aristotle may be “esteem, worth, value, consideration.” Compare, for instance, *NE I, 13, 1102b31–32,* but also the “*Logos*” article I.4, in *LSJ,* 1057. See also Guthrie, 1979: 419–25, mentioned above; Herodotus, 2.85, 7.5; Theon of Smyrna, 1878: 72–74; Lampe, 1961: 808.

11. In the corpus, there is one definition of *logos* in the sense of “sentence”: “*Logos* is a signifying voice, one of whose parts is signifying separately, not as an affirmation, but as an expression” (*On Int. 4, 16b26–28; Po. 20, 1457a23–24*). Yet, far from mentioning the other meanings of *logos,* this definition does not even cover the sense of *logos* as “sentence.” For our elaboration of this topic, see below section 3 of chapter 6.

For Aristotle’s discussion of the ambiguity of words, see, for instance, *Cat. I, 1a1ff.* For his insistence on disambiguating terms, see *Top. II, 2,* 110a22ff.; *SE IV–VI; Rb. II, 24,* 1401a10ff. For his own analysis of the ambiguity of fundamental philosophical terms, see, for instance, indeed, *Metaph. V.*

12. Let us mention the exceptions. Besides the *Anecdota Graeca* mentioned above, Theon of Smyrna gives an important list of the “Peripatetic” meanings of *logos.* To the lists of the meanings of *logos* mentioned above, Theon adds the technical sense of syllogism and *epagogê* as well as the definitely non-Aristotelian, Stoic phrase *logos spermatikos* (*Theon of Smyrna, 1878: 72–74*). Porphyry mentions the multivocity of *logos* in his commentary on the *Categories* (64, 28), but he does not attempt to account for this multivocity and even leaves out the sense of “ratio” (*Porphyry, 1992: 44–45*). His remarks in the *Commentary on the Harmonics of Ptolemy* (12, 6–28), although very interesting, are not concerned with Aristotle’s uses of *logos.* Let us also note that, according to Diogenes Laertius, Sphaerus the

13. Let me give a brief literature review and some bibliography here. To my knowledge, the only work that deals with *logos* in Aristotle’s corpus as a whole and recognizes its neglect is Barbara Cassin’s *Aristote et le logos* (Cassin, 1997: 9, 25, 153; see also Cassin, 1996). Siding with the Sophists, Cassin characterizes Aristotle as a thinker of exclusion, of common sense, of *doxa*, of banalities, as the paradigm of the “phenomenologically correct” (1997: 4), and attempts to show the conveniently neglected incompatibilities of his various uses of *logos* (1997: 151). In diametrical opposition to Cassin, I shall approach Aristotle with the principle of charity and justify this by my preliminary openness to the *doxa* in our discussion of method, and end up demonstrating that the various senses of *logos* do fit together as, each time, a relation that holds on to its terms in their difference without collapsing them or simply isolating them.

I must also mention Cassin’s *Dictionary of Untranslatables* in which *logos* occupies its rightful place. Although this source has come to my attention only after the final draft of this manuscript, I am pleased to see both the many points where my work is confirmed and those on which my work will provide a new or fuller account.

According to the account by Cassin et al. 2014, the untranslatability of *logos* stems from its polysemy. This polysemy may appear to be a mere homonymy. According to this view, *logos* would have several homophonic roots, especially one denoting “saying” (as in *dialogos, mythologos*) and the other denoting “gathering” (as in *syllogos, lithologos*). Yet, this semantic bipartition does not map onto the morphological distinction between -lógos as making “action nouns” (*dialogos, syllogos*) and -lógos as making “agent nouns” (*mythologos, lithologos*). In fact, the distinction between the two main senses of *logos*, as “saying” and “gathering,” becomes blurred especially in scientific terms: an *astrologos*, a *botanêlogos*, a *genealogos*, and an *etymologos* can be viewed both as collectors of items as well as specialized speakers on those items.

There are even uses of *legô* in Greek and *lego* in Latin that suggest that *logos* has one single root and one fundamental meaning—that of “gathering.” Expressions such as *legere oculis, lire, collecte*, as well as Homeric uses (*Iliad* 23.239, 21.27, 2.222; *Odyssey* 11.374; see also *katalegein* and derivatives in *Iliad* 24.380, 656; *Odyssey* 1.169, etc.) suggest the way in which the fundamental sense of “gathering” may have been extended into the sense of “saying,” “counting,” “speaking” and even “reading [aloud?]”. Hence, Cassin et al. quite rightly stress that *logos* in the register of “speech” never means a “word”; in the register of “counting,” it never means an isolated “number”—in either register, it always refers to something having a “syntax”: “the constitution or consideration of a series, of a notionally complex set” (Cassin et al., 2014: 583). My work has come to the exact same conclusion; see pp. 21–22 and 191–94 in this volume.

After a review of Ancient Greek dictionaries, Cassin et al. ask the following question: “Was the mathematical sense primary, with relationality and proportionality serving as a paradigm, even a matrix, of a syntagmatic structure in general, in a line that ran from Pythagoras to Plato and then Neoplatonism? Or rather, from a structural perspective that is no doubt more Aristotelian (Bailly, Bonitz), is mathematical technique simply one application of the human *logos*?” (Cassin et al., 2014: 583). I touch upon this issue in chapters 3 and 4.

Cassin et al. rightly remark the striking absence of a thematization of *logos* in *Metaphysics* V and elsewhere. They remark that *logos* can be used in different senses in one and the
same work and give the example of its uses in *On the Soul*. In *On the Soul*, one network links *logos* with *eidos*, *to ti einai*, *entelechēia*, and *horos*. A second network connects it to “voice,” “discursiveness,” and “rationality” proper to humans, a network gathering anatomy and physiology with politics and ethics. A third network allows Aristotle to define sensation as a *logos*—in the sense of “relation,” “proportion,” a *ratio*. Finally, a fourth network of meanings gathers *logos* in the sense of “statement.” But in distinction from the second network, here the subject of *legein* is sensation itself—be it of humans or of another animal. Cassin et al. conclude their remarks on the multivocality of *logos* in Aristotle in the following way: “This survey of the meanings of *logos* makes their disjunction, as well as their systematization, apparent: so a gap remains between the mathematical *logos*, which calculates sensation, and the *logos* proper to man, who makes statements, constructs arguments, and unites and persuades citizens. It is as if the Greek language contributed to confusing, and thus to foreclosing, a certain number of questions that Aristotle, ‘compelled by truth,’ nevertheless persisted in asking” (Cassin et al., 2014: 585; here they seem to draw on Cassin, 1996).

Cassin et al. quite rightly distinguish the Stoic use of the polysemy of *logos* from Aristotle’s in that, for the Stoics, “throughout, *logikos* indissociably means both rational and discursive” (586). Their account is also good for tracing the senses of *logos* beyond Aristotle, in Latin texts in the double form of *ratio* and *oratio*, through Lucretius, Cicero, Seneca, and then John’s Gospel and the Hebrew underpinnings of *logos* such as *hokmah* and *dāvār*.

Besides Cassin’s sustained work on *logos* in Aristotle, there is one essay that is central to this discussion as a whole. In his essay “Man and Language,” Gadamer argues that *logos*, as it appears in Aristotle’s famous characterization of human being, should not be translated as *ratio*, “reason,” or “thought,” but as “language.” (Compare Heath, 2005: 6.) He argues that language is neither a mere tool one can pick up and put down at will, nor a conscious, individual, and subjective act or capacity (Gadamer, 1976: 59–68). I agree with Gadamer’s criticisms, but I disagree with the “linguistic turn” he endorses. I equally disagree that “the distinguishing feature of man . . . is his superiority over what is actually present, his sense of the future . . . [that] he can make what is not present manifest through his speaking, so that another person sees it before him.” I cannot help but think that animal signaling, for instance in front of danger, does make manifest something that is not present. Most importantly, the phrase “non-present” is ambiguous. The “present” may well be contrasted to the “future,” or to “common concepts,” as Gadamer does; but it may well be contrasted to the “past,” the “possible,” even the “impossible.” Gadamer’s account does not elaborate on this. In any case, I will claim in chapter 6 that the distinguishing feature of human speech is not its relation to what is present or non-present, but its understanding and relaying non-firsthand experience as well as firsthand experience.

Mortley offers a survey of the various meanings of *logos* in Aristotle without getting into details and without addressing the question of the relationship between these meanings. This is understandable given Mortley’s task of offering a very large-scale picture of the history of the uses of *logos* in general. This wide perspective is helpful at points, but it also causes the author to project onto Aristotle’s philosophy some post-Aristotelian notions such as the hypostatization of *logos*, and the distinction between internal (*endiathētos*) *logos* and outward (*prophorikos*) *logos* (Mortley, 1986: 25–30). Winslow’s *Aristotle and Rational Discovery* is not intended as a comprehensive and systematic study of the different uses of *logos* in Aristotle (Winslow, 2007; see also Winslow, 2006). And yet, although the book lacks much in terms of clarity in organization, in argumentation, in reference, and even in
transliteration, I enjoyed it for some of its bold insights, and for the partial corroborations it provided me. (Winslow, 2007; see also Winslow, 2006)

Among the recent works on logos in more or less larger parts of Aristotle’s corpus are Baracchi, 2007; Long, 2011; Rese, 2005; Weigelt, 2002. I have not been able to find and read Irina Deretić’s “Logos, Platon, Aristotel” and “Aristotelov metafizički pojam logosa.” For accounts of logos not restricted to Aristotle’s philosophy, see Heidegger, 1996: 28–30 (§7b), and his various preparatory lectures, 1997: 139–41 (§28c); 1985: 84–85 (§9aβ); Brague, 2005: 69–82; Brague, 1988; Brague, 1978 which enumerates many of the meanings of logos we shall analyze, and interprets them often exactly like we shall end up doing (Brague, 1978: 171). See also Brun, 1961: 22–27. Apart from these, we should point out two notes that concentrate on our problem here: Hicks, 1915: 1–2; Stocks, 1914: 9–12. Also, in the introduction to his translation of the Parts of Animals (Cambridge, Mass.: Harvard University Press, 1937, 26ff.), Peck notes the variety of the meanings of logos within one and the same work (640a32, 646b2, 678a35, 695b19, 639b15 . . . ), and considers them to be “correlated” without showing what this correlation is. The same is true of Lear who notes that “logos is a protean word,” but does not go beyond saying that “there is no equivocation” between logos as definition and logos as form (Lear, 1988: 28–29).

For broader accounts of the development of the philosophical senses of logos, see Guthrie, 1979: 38, 419–25 (mostly specific to Heraclitus’s fragments); Kerferd, 1981: 78–84 (in which one paragraph, on pp. 83–84, distinguishes the meanings of logos and specifies its “focal reference” quite exactly as we shall do, although in the context of sophistic and rhetoric); Chieza, 1992: 15–30; Heath, 2005: 8ff.; Robinson, 2010: 24–26; Fattal, 1988; Fattal, 2001: esp. 27–48; Robberechts, 1993: 336; Lallot, 1988, 15; and Hoffmann, 2003: 27–53, which, although quite akin to our approach and conclusion, devotes no more than a short paragraph to Aristotle’s use of logos and, disregarding the fact that Aristotle emphasizes that all logos is not declarative (apophantikos) (On Int. 4, 16b33–17a4, see our chapter 6, section 3), marks him as the beginning of the “logical prejudice” whereby the sense of logos loses its focal reference to “composition/gathering.”

14. Since I shall only briefly touch upon it in what follows, let me refer the reader to the wide range of scholarly views on the subject illustrated in Sim, 1999, especially the introduction. See also Ward, 2008: 43–56.

15. APo. II, 19, 100b2–4; I, 2, 72a1–5; Top. VI, 4, 141b5–14. For the use of both widespread opinions (endoxa) and perception (aisthêsis) see GA III, 10; APr. I, 30, 46a17–22; Cael. III, 7, 306a3ff.; DA I, 1, 402b21ff. See also Owen, 1975; Nussbaum, 1982; Aubenque, 2002, 83–93; 2009: 44. See also Bolte, 1990: 190–95; 1991: 11. It is true that Aristotle often stresses that, when possible, one should always uphold perception over endoxa (Cael. III, 4, 303a20–23; III, 7, 306a3–17; GA III, 10, 760b27–33; APr. I, 30, 46a17ff.). Yet, for the most part, if not always, widespread endoxa seem to overlap with perception.


18. See also Metaph. I, 1, 982b17; III, 1, 955a35; NE VII, 1, 1145b2–6; MM II, 6, 1200b20–24.

19. For an influential discussion of this point, especially but not exclusively in regard to the Physics, see Owen, 1975; Nussbaum, 1982; Evans, 1977: 77–80.
20. This clause seems to be an echo of, if not a clear reference to, Plato's *Parmenides*, 136A and the following, and thus betrays Aristotle's indebtedness to Zenonian dialectic (Berti, 1978: 354–55; see also Dumont, 1992: 178–79). For Aristotle's relationship to Plato's *Parmenides*, especially in the *Physica*, see Owen, 1975.


22. For the distinction between dialectic and special sciences, see Evans, 1977: 5: “But what marks off the sciences from dialectic is that they embody a correct view of reality . . . Dialectic, by contrast, should not embody any view of reality—neither a correct one . . . nor an incorrect one.” See also Dumont, 1992: 178–79; Granger, 1976: 72: “Sans doute la dialectique ne saurait-elle avoir elle-même de principes propres (à un type d'être) pour la guider, et son action est-elle ce tâtonnement plus ou moins systématique qu'évoque le mot PEIRASTIKÈ.”

23. Berti, 1978: 347–70. See his reservations on pp. 351–52. See also Seaton's criticism of Berti (Seaton, 1980: 283–89), and Berti's reply (Berti, 1980: 290–92).

24. Nussbaum insists that Aristotle's concept of the “unhypothetical” is radically different from Plato's. Since I do not agree with her claim that Plato's unhypothetical principle is known "entirely independently of all conceptualization and thought," I do not agree with the sharp contrast she draws between Plato and Aristotle here. (Nussbaum, 1982: 288) I am sympathetic to Roochnik's criticism of Nussbaum in Roochnik, 1990: 203. See also Evans, 1977: 21–25.

25. See Matthews, 1999: 125–36. MacIntyre claims that, for Aristotle, “dialectic is no longer the road to truth, but for the most part only a semi-formal procedure ancillary to enquiry.” On this issue, he contrasts Aristotle first with the tragic poets, and then with Socrates and Plato: “Where Socrates argued dialectically with particular individuals and Plato wrote dialogues, Aristotle therefore produces expository lectures and treatises” (MacIntyre, 2013: 184). Yet if dialectic is not the road to truth for Aristotle, how is one to explain Aristotle's *explicit* remarks on dialectic in *Top.*, I, 2, 101a35–101b4? Further, how are we to characterize Aristotle's implicit, but typical, procedure starting from the *phenomena*, the *endoxa*, or simply the *legemena* in most of his major works? How is the text of the *Metaphysics* or, say, the first book of the *Physica*, *On the Soul*, or the *Nicomachean Ethics* an "expository" lecture or treatise that does not take off from a critical engagement with his predecessors views or with widespread everyday assumptions? Indeed these are not dialogues, but it is difficult to see how they do not employ a dialectical procedure between openly conflicting views.

26. For textual evidence see *APo.*, I 1, 71a1–11; *Top.*, I, 2, 101a35–b4; *Ph.*, I, 1, 184a16–22; *DA* II, 2, 413a11–13; *Metaph.*, I, 1; II, 1; VII, 3, 1029b3–12; *HA* I, 6, 491a7–14. Perhaps the most famous expression of this procedure is the one at the beginning of the *Nicomachean Ethics* where Aristotle pays tribute to Plato: “We should not overlook the distinction between the *logoi* that start out from principles and those that lead to principles. For it was well that Plato too raised this question, and inquired whether the way is from principles or toward principles, just as in a race one may run from the judges to the boundary or the other way” (*NE* I, 4, 1095a31–1095b2. See Plato, *Republic* VI, 509D–511E. See also Sparshott, 1994: 27–29). In front of this dilemma, Aristotle seems to open up an obvious safe ground: “One must begin from what is known; but this has two meanings: things known to us and things known simply. Perhaps then we, at any rate, ought to begin from the things that are known to us” (*NE* I, 4, 1095b2–4; VII, 1, 1145b2–7. Indeed, the major text for this idea is *APo.*, I, 2, 71b23–72a5. See *EE* II, 1, 1220a15–22. See also Ross, 1949: 38; Evans, 1977: 52).

28. *Top.* I, 2, 101a35–b4. For the association between *peirastikê* and *exetastikê* in the context of dialectic, see also *Rb.* I, 1, 1354a5; *Top.* VIII, 5, 159a25, 33. Compare Plato, *Apology* 22E–23C; *Protogoras* 348A.


31. In this respect, I am in much agreement with Enrico Berti who, in an article I will often refer to in this part of the book, follows Aubenque (1962) in defending that a dialectical procedure is employed in Aristotle’s *Metaphysics* (most notably in the discussion of the principle of non-contradiction in book IV) and in his classification of animals by species and genera (Berti, 1978). I am also in agreement with Baracchi’s approach to Aristotle’s dialectical method and to *logos* (Baracchi, 2007: 1–15).


33. For the role of homonymy in Aristotle, see Ward, 2008. Biographical sources strongly suggest that Aristotle made a collection of proverbs early on in his career (Natali, 2013: 25). Natali also notes that this research “is also a facet of the attention given by Aristotle to common opinion and to the *phainomena*, those impressions and beliefs that seem evidently true to various people.” For a list of passages where Aristotle uses popular sayings and proverbs, see the article “paroimai” in Bonitz, 1955: 569–70.

34. Aristotle explicitly deals with his own assumption not in the *Categories*, but in *SE* I, 165a6ff.

35. If we are to follow the *Organon*, we find him later taking up and scrutinizing gradually wider phenomena. In the *Categories* and *On Interpretation*, he shifts his focus from words to assertions (subjects, predicates, statements, modalities, etc.), in the *Prior Analytics* to syllogisms (premises, conclusions, moods and figures of syllogisms, etc.), then in the *Posterior Analytics* to demonstrations and science (knowledge, proof, definition, principles, etc.), and finally to less rigorous or simply invalid arguments in the *Topics* and in the *On Sophistical Refutations*. The Arabic tradition included the *Rhetoric* and the *Poetics* in the *Organon*, and these two can be seen as studies of large units of *logos*.


38. For a discussion of this point, see Benveniste, 1966: 64–70. But compare Vuillemin, 1967: 76–77; Granger, 1976: 60. For a discussion around Aristotle’s genuineness in the face of impasses, see Aubenque, 2009: 39–52. For a fuller account of the deep link between Aristotle’s methodology and things said (ta legomena), see Long, 2011: 49–70. One indication that Aristotle is not simply imposing Ancient Greek “categories” onto beings as such may be found in his pointing to “anonymous” phenomena. (See, most typically, *NE* II, 7, 1107b31; III, 10, 1115b26; IV, 10, 1125b17, 26; for a list of “anonymous” virtues and vices, see the article “anônymos” in Bonitz, 1955: 69.)

39. Later in this chapter, I shall address the claim that Aristotle “surrenders” to his native language and uncritically transposes its structures onto his logic and ontology. For the time being, let me note that his seminal distinction between homonymy and synonymy is precisely intended to challenge the prima facie univocality between a single noun and one kind of thing. The later distinctions between subject and predicate, between premise and conclusion, between different kinds of syllogism and arguments are all made for the sake
of challenging and then nuancing or often refuting an apparent sameness in language or exposing illegitimate conflations and superfluous differences.


41. For an influential discussion, see Owen, 1975; Nussbaum, 1982; Irwin, 1982: 250. Compare Bolton, 1991, who argues that the method of natural science recommended in *Physics* I, 1, is not dialectic, but “empirical.” According to this view, the starting point is not the views of the many or the wise, but “experience” or perception. It is not exactly clear to me why one should choose either one or the other; on the contrary, taking both the widespread opinions and our experiences together as a starting point at least explains why Aristotle so typically starts out his inquiries by relating and critically discussing the views of his predecessors, by laying out material from his “library,” his collection of Greek constitutions, or the secondhand accounts about different species of animals, and so on. Bolton seems to hedge his view on dialectic by saying that dialectic “must somehow be in aid of the general inductive procedures which constitute the proper scientific method for reaching the first principles, since that is the way the scientist reaches them” (Bolton, 1991: 22).

42. See Balme’s introduction to his translation of *HA* VII–X (Cambridge, Mass.: Harvard University Press, 1991). We shall discuss the “theoretical” character of Aristotelian natural science in chapter 3. For now, let us simply point to a passage from *On Generation and Corruption*: “The reason of the inability to see admitted facts as a whole [τα ἁμολογομένα συνοραν] is lack of experience. Hence those who have lived more closely with natural phenomena are better able to lay down such principles as can be connected together and cover a wide field; on the other hand, those who do not watch [αθέορητοι] the present things because of lengthy discussions prove to have a narrower view. One can also see from this the difference between those who inquire by nature [φυσικός] and those by discussions [λογικός]” (GC I, 2, 316a5–12).

Let us also note that Charles Darwin salutes Aristotle, in an 1879 letter, “as one of the greatest, if not the greatest observers, that ever lived.” In his 1882 letter, he famously wrote: “Linnaeus and Cuvier have been my two gods, though in very different ways, but they were mere school-boys to old Aristotle.” Gotthelf argues that these expressions of admiration are not mere gestures of politeness, but genuinely enthusiastic responses, and that the increase in Darwin’s admiration for Aristotle was prompted by his reading of the introduction and parts of translation of the *Parts of Animals* by Ogle (Gotthelf, 1999: 16).


44. See Aubenque, 2002, 83–93. For the influence of the Platonic dialogical form on Aristotle, see Jaeger, 1950: 24ff.; Irwin, 1988: 7ff. “When Aristotle sits on the shore of Lesbos taking notes on shellfish, he will be doing something that is not, if we look at it from his point of view, so far removed from his activity when he records what we say about *akrasia*. He will be describing the world as *it appears to*, as it is experienced by, observers who are members of our kind” (Nussbaum, 1982: 274).

45. For an exemplary dialectical approach, see *Metaph.*, I, 3–10. See also Berti, 1990: 261; Irwin, 1988: 22. The discussion of *akrasia* in *Nicomachean Ethics* VII, a passage often quoted in the discussion over the methodological role of *phainomena* and *legomena* in Aristotle (see, for instance, Nussbaum, 1982), also proceeds in three steps: first the gathering of appearances (*phainomena*) and of claims (*legomena*) about the subject matter, then the drawing of *aporiai* from them, and finally the working out of these puzzles (Cooper and

46. If in claiming this Aristotle could have hardly avoided looking into his own soul and his own relations, one may ask who Aristotle’s own fathers and friends were. And who were Aristotle’s own fathers and friends? His own work gives us a good idea: among them were indeed the Platonists, and even Plato himself, but also his predecessors such as Empedocles, Democritus, Parmenides, Eudoxus, and Heraclitus. For an elaboration of Aristotle’s relation to the “things said” (ta legomena), see Long, 2011: 49–70.


49. Rh. I, 2, 1356a25–26. “And, as in Protagoras, also in Aristotle, dialectic and rhetoric find their most natural terrain of application in political life, where democracy accepts the free confrontation of opinions: rhetoric in fact, says Aristotle, is like an offshoot of dialectic and of the treatment concerning peoples’ customs which is rightly called politics” (Berti, 1978: 364).

50. See, for instance, Ross, 1949: 59. For an overview of the recent discussions of dialectic in Aristotle, see Bolton, 1990: 185–236.

51. In the introduction to his translation, Barnes views the Posterior Analytics as concerned not with “methodology of research,” but with “the organization and presentation of the results of research” (Oxford: Clarendon, 2002, xiii). This changes the relationship one expects between the Analytics and Aristotle’s scientific work: “Since A Pst does not describe a scientific methodology, it would be misconceived to complain that the methods which Aristotle follows and occasionally describes in the scientific work do not fit the prescriptions of A Pst. Again, in so far as the biological writings do not purport to present a finished science, we should not expect them to exhibit the organization and structure which A Pst describes” (xix).

52. Many recent scholars agree with this point of view. See Berti, 1990: 261. See also Bolton who cites Owen, Barnes and Burnyeat (Bolton, 1990: 186). It is worthwhile to note that Aristotle’s approach often tends toward exposition precisely when his field of inquiry is a new one, that is, one that precisely lacks widespread opinions to proceed from. See also SE 2, 165b1–3: “Didactic arguments are those which reason from the principles appropriate to each branch of learning and not from the opinions of the answerer, for he who is learning must take things on trust.”


58. For the distinction between the sublunar and the supralunar realms in Aristotle, see *Mete.* I, 2, 339a19–20; 3, 339b5.

59. Aristotle often stresses that the kind and amount of certainty to be expected in a discipline depends on the subject matter of the discipline itself (*NE* I, 3; *Protrepticus* in Aristotle, 2015: 16). According to the tradition, Thales not only made exact and profitable deductions concerning heavenly motions, but also advised the Ionians to build up a central chamber for deliberating issues that involve a modality that is fundamentally inadequate for such exactness and predictability (KRS: 78–79)

60. *APo.* I, 30, 87b20; II, 12, 96a8; *APr.* I, 13, 32b4–13. See also *On Int.* 9, 19a18–22; *Metaph.* V, 30, 1025a14–21; VI, 2, 1026b31–33; *Cael.* I, 12, 283a32–b1; III, 2, 301a7; *GC* II, 6, 333b5; 9, 336a27; *Ph.* II, 5, 196b10, 20; II, 5, 197a32; II, 8, 198b35; II, 8, 199b24; *PA*, III, 2, 663b28–29; *GA* IV, 8, 777a17–21; *EE* VIII, 2, 1247a31–33; *Rh.* I, 10, 1369a32–b2. See also Natali, 1989: 143–45; Evans, 1977: 89–94. For a bibliography of the more standard and traditional view that Aristotle’s method is narrowly demonstrative, and of the recent recovery of the function of dialectic in Aristotle, see Berti, 1978: 366, n. 82.

61. We are roughly following Denver, 1991: 73–83. See also Ross, 1949: 31.


63. Our example is partially inspired by Carlo Natali’s seminar entitled “Le Premier Traité d’éthique—La structure et les desseins de l’*Ethique à Nicomaque*” that took place at the University of Paris I in February–March 2006. See also Sparshott, 1994: esp. 28.

64. Sparshott, 1994: 25.

65. “Especially in the *Ethics*, Aristotle tends to use terms critically, not simply as standing for established notions” (Sparshott, 1994: 12).

66. See also *EE* 13, 1215a4–5. In this definition of happiness, only the concept of “actuality” is Aristotelian.

67. That Aristotle takes his definition of human happiness as a “principle” can be seen from *NE* I, 7, 1098b2–12. It is exactly here that Aristotle emphasizes the modality of dialectic, “for the most part,” by discussing the extent to which external goods, fortune, and even the fate of one’s descendants may impact human happiness.


69. *Metaph.* V, 30, 1025a14, 1025a30; VI, 2, 1026b27, 1027a8; *Ph.* II, 8, 198b34–199a3.

70. See also Aubenque, 1963: 37–41; Rorty, 1980: 2–3.


72. Plato, *Theaetetus* 189E.

73. See also Plato, *Sophist* 263E, and *Philebus* 38C–E. According to Aubenque, these may be the passages Aristotle alludes to in *Top.* VIII, 14,163a36–163b3: “If we have nobody else, we must [argue for and against] with ourselves” (Aubenque, 2002: 256, n. 3). See also *Cael.* II, 13, 294b8.

74. Unlike Socrates in the *Phaedrus* 230D.


76. If it is true, as Berti says, that Socrates was the first to know “how to bring the two requirements of dialectic,” namely the value of opinion in Protagorean dialectic, and the principle of non-contradiction implicit in Zenonian dialectic, Aristotle puts dialectic to
work in the investigation of nature (Berti, 1978: 355). For explicit Aristotelian criticisms of Socrates’s turn away from nature, see *Metaph.* I, 9, 992a24–28, b8–9.

77. “Dialectic also arrives at its most complete development which is at the same time a recapitulation of the most important of the preceding stages” (Berti, 1978: 363). On this dialectical and elenchic character of Aristotelian method, see Ross’s introduction to Aristotle, 1924: xxv; Morel, 2003: 82; Berti, 1991: 59; Natali, 2013: 67. For the extent and depth of Socrates’s influence on Aristotle, see also Jaeger, 1950: 21–22, 47ff. For Aristotle’s more radical conception of dialectic in comparison to even Plato, see Aubenque, 2009: 64. In light of the recognition that Aristotle’s method is for the most part dialectic, I am more tempted to see him in continuity with Plato, than to oppose his “demonstrative” method to the Platonic privilege of dialectic.

78. See also *Metaph.* I, 3, 983b3–7.

79. From here one may also quantify the frequency of the word *logos* in Aristotle’s “books” and compare it with similar statistics extrapolated from Plato, Heraclitus, or the Gospel according to St. John. This procedure would be convincing, clear, and easily knowable by just looking. But, as Aristotle remarks, deduction is more efficacious against objections. Hence the inductive “results” can never be bulletproof or even conclusive, since any number of statistics can by definition be refuted by a higher number of samples to the contrary. To take up Aristotle’s example of the skilled person above, one can discuss at length whether a skilled killer, liar, or thief is also the best—a classical problem in ethics in ancient Greek philosophy.

80. See Berti, 1978: 364.


83. Thus, Sallis’s warning for *logos* in Plato may be repeated in Aristotle’s case: “When we regard it as self-evidently correct to allow *logos* to be taken as ratio, hence, as reason, we reaffirm, without even really considering the matter, one of the most overwhelmingly decisive transitions in that movement away from the Greeks that constituted the course of Western thought. To assume, in advance, a specific, well-defined determination of *logos* in this direction—to take for granted in an interpretation of Platonic writings subsequent notions of ‘rationality’ and ‘demonstrative argument’—is to be misled by the tradition, made possible by Plato’s work, into ignoring the original struggle with the problems of determining *logos* which takes place in Plato’s writings” (Sallis, 1996: 14–15).

84. For, sure enough, there the same problem emerges because the task of understanding was deferred: what does *ratio* mean in Thomas Aquinas or *aql* in Ibn Rushd? (For *logos* as *nutk*, see Averroës, 2000: 141, 179; for *logos* as *aql*, see Averroës, 2000: 109.) Further, why didn’t Aristotle use *nous* in the sentence from the *Politics*, given that *nous* is equally translated and interpreted as “intelligence” by many “authorities”? If, in the context of the *Politics*, *logos* is to be understood as “reason” in the sense of “intelligence,” so is *nous* in other contexts. If *logos* is translated as “reason” in the sense of “cause,” so is *aition*. If *logos* is translated as “definition,” so is *horos* and *horismos*. If *logos* is translated as “relation” in one context, so is *pros ti* in many others. What warrants Aristotle’s use of *logos* in one context and of another word in another?


86. Jaulin, 1999: 8–11; Guthrie, 1981: 14–15: “Jaeger took these facts, that Aristotle started his career as a Platonist and finished it as something different, and was inclined
to conclude on no other grounds that the development of his philosophy took the form of a steady and continuous movement away from Platonism; and to use this conclusion as a premise for all subsequent deductions. Thus, when a new portion of the Aristotelian corpus came up for discussion, he asked the question: ‘how far removed from Plato is its philosophical position?’, and according to the answer assigned it its place, early or late, in the chronological series of Aristotle’s writings.” Similar remarks concerning Jaeger’s genetic interpretation of the diverse uses of *phronēsis* in Aristotle can be found in Aubenque, 1963: 15–31.


89. “While appreciating the seriousness of all these analyses, one cannot but remark that they all stem from Jaeger’s assumption that Platonism is simply identical with the doctrine of Ideas, and their abandonment means turning one’s back on it” (Berti, 1981: 8).

90. For “logos tou einaï” see also Plato, *Sophist*, 78D1ff. Perhaps it is no coincidence that one of the earliest uses of the adjective *dialektikôs* is found in Plato’s *Meno* (75D), so famous for its discussion of the paradox of inquiry.

91. Grene meaningfully compares this procedure with Heraclitean flux: “from one page to the next one is never reading the same Aristotle, and finally there is no Aristotle left to be read at all” (Grene, 1963: 27–28, cited in Lang, 1998: 14).

92. Our two-sided criticism of “inductive” and “deductive” methods agrees almost point by point with Lang’s criticisms of both “genetic” and “acontextual” methods; both start out as looking contrary, but end up equally vacuous, arbitrary and insufficient (Lang, 1998: 13–18).

93. The reader will notice that the use of *logos* in the *Metaphysics* (especially books VII and VIII) is scattered throughout the book.

94. Both animals and elements are capable of locomotion. What distinguishes the two is precisely *logos*: if displaced elements have an impulse for locomotion, animals *hold that impulse together with particular sensations* as a result of which they move. So, elements are not self-movers in the latter sense (*Ph.* VIII, 4, 255a5–10).

95. See also *Rh.* II, 6, 1384a23–25; *EE* II, 1, 1219b27–1220a11. Again, *NE* VI, 2 states: “Thus choice is either thought infused with desire or desire infused with thinking through, and such a source is the human being.”

96. See also *Pol.* VII, 12, 1332b5–6; *NE* IX, 9, 1169b20–21; *EE* II, 8, 1224b30. But see also *NE* VIII, 12, 1162a15–25.

97. Hesiod’s uses of *logos* emphasize that a *logos* can be second or third hand, or that it might be simply deceitful. See Hoffmann, 2003: 32, n. 12.

98. *NE* IX, 4, especially 1166a32–b2: “a friend is another self . . . It would seem that there could be such a love [friendship toward oneself] insofar as each person is two or more, and because the *hyperbolê* of friendship resembles friendship toward oneself.”

99. It is true that Aristotle himself often exaggerates the distance between him and Heraclitus. See also Cherniss, 1935: 380–81.

Chapter 1

1. The traditional arrangement of Aristotle’s corpus indeed goes back not to Aristotle, but to Andronicus of Rhodes who is said to have had access to original manuscripts in Rome and arranged the Aristotelian corpus in the second half of the first century B.C.E. See Ross, 1949: 7n.

2. On Int. 2, 16a19–20, 16a26–29; 4, 16b33–17a2; Po. 20, 1456b35, 1457a2, 11, 14, 23.

3. At the rudimentary level of word count, however, logos is not a frequent word in the Categories. It occurs there forty-six times. Even when logos does occur in the text, Aristotle mostly employs it in its nontechnical meaning of “something said” (e.g., nine occurrences of logos in Cat. 5, 4a23–4b11) or of “assertion.” (e.g., Cat. 10, 12b7–10). At first, then, logos does not seem to be a theme or explicit focus in the Categories. In fact, the Categories is traditionally considered as a text not on logos, but on its constituents. See, for instance, Cat. 4, 1b25: “Each one of those that are said without combination [tôn kata médemian symplokên legomenón . . .] means eitherousia or how-much . . .”

4. This point is developed only in other texts such as SE 1, 165a6–14 and On Int. 9, 18b38–19a1. See especially Metaph. IX, 10, 1051b7ff.

5. In Ancient Greek, onoma can mean “noun” as opposed to “verb” (rhêma) as well as “name” and “reputation.” See the “onomà” article in LSJ, 1996: 1232.

6. Gegrammenon. Although there is indeed no word for “representation” in Ancient Greek, especially no word that has the same strong philosophical connotations, the meaning of “representation” can be compared to gegrammenon which can mean “that which has been drawn,” but also “that which has been written down” or even “the one whose name has been written.”

7. Dexippus explains the clause “according to this name” in the follow way: if this clause was omitted “it would have been possible to show that the same things were homonyms and synonyms, as for instance the Ajaxes, for if the definition had not been specified as ‘corresponding to the name’, one and the same definition could have applied to them as men” (Dexippus, 1990: 45).

8. For “logos tês ousias” in Aristotle’s biology, see PA IV, 13, 695b19.

9. See also PA I, 1, 640b34–641a7; or DA II, 1, 412b20–22: “the eye is the material of vision, and if vision is left out there is no eye, except homonomously, as for instance the stone or painted [gegrammenos] eye.” For the distinction between representation and the represented, see On Memory and Recollection 1, 450b15–451a14.

10. See Ph. VII, 4, 248b7–249a8. For a discussion, see Ward, 2008: 17ff. The case of homonymy between a species and its genus is especially puzzling, since calling a species (say, “ox”) by its genus (“animal”) is precisely Aristotle’s example of synonymy. Thus, if homonymy operates between a species and a genus, it seems like it is reserved to instances where a genus is addressed as one of its species and not vice versa.

11. See also NE I, 6, 1096b25–30. Compare Heraclitus’s play on the ambiguity of bios in Fragment 48.

12. On Int. 2, 16a19–20, 16a26–29. For an explanation of synthêkê, often translated as “convention,” see also On Int. 4, 16b33–17a2; Po. 20, 1456b35, 1457a2, 11, 14, 23. We shall elucidate this word in chapter 6, section 2. For a cogent discussion of the question as to whether homonymy holds between two things or two names, see Ward, 2008: 13.

13. See also Top. VI, 10, 148a23–25.

15. This version constitutes the first step away from Protagorean dialectic toward Aristotelian dialectic. See Berti, 1978: 355: “if Protagoras discovered the value of opinions for dialectic and hence for freedom of speech, a thing neglected by Zeno, then Protagoras in his turn neglected the value for dialectic of the principle of non-contradiction and hence of refutation.”

16. See also Metaph. XI, 5, 1062a31–35; IV, 4, 1006a4–5, 1006b34–1007a1; On Int. 5, 20a16–17. For another ambiguously critical reference to Heraclitus in this context, see Metaph. IV, 8, 1012a33.

17. See also SE 4, 165b39–166a7.

18. Our analysis in this part of the book seems roughly in line with Kosman, 1967.

19. Ph. I, 2, 185a5.

20. Aristotle’s more central objection to the hypothesis of Parmenides and Melissus stems from his investigation of the precise way in which “being” and “one” are meant. Ph. I, 2, 185a22ff.


22. This structure of contraries and the thing underlying them is in fact a leitmotif in the Aristotelian corpus. See Metaph. IV, XII, or Ph. I, 6, 189b12–22: “this opinion seems to be the ancient one, that the one and excess and deficiency are the sources of beings . . . If among four, there were two oppositions, there would need to be present some nature in between, apart from each pair [of contraries].” Aristotle’s conclusion concerning the number of sources in this first book of the Physics is the following: “It is impossible for contraries to be acted upon by one another. But this is solved because the underlying thing is something different. For it is not a contrary. So in a certain way the sources are not more than the contraries, but two in number in this way of speaking; but neither are they altogether two on account of there being the [underlying thing] different from them—but three” (Ph. I, 7, 190b33–191a2).

23. Aristotle is arguably the one who introduced the term hypokeimenon as a philosophical term, perhaps taking it from its momentary but highly suggestive occurrences in Plato’s dialogues. See especially Plato, Protagoras 349B. See also Plato, Republic IX, 581C, and Cratylus 422D.

24. The same definition is given in Top. VI, 10, 148a23–25.

25. The only change that beings do not undergo in the proper sense is coming-to-be and passing-away. (See Ph. V.) We will indeed return to this crucial exception in chapter 3. See On Int. 13, 23a21–25; Metaph. IX, 8, 1050b6–35; XII, 1, 1069a30–1069b2.

26. See especially its legal senses, such as “a cause, judicial process, lawsuit, the hearing before the decision, . . . a business undertaken . . . a concrete question, case for discussion.”

27. Just as res and causa in Latin often mean much less a “mere object” than an “issue,” a “matter of concern,” and so on, pragma in Greek often refers to a matter of public concern. For instance, in the Rhetoric Aristotle employs pragmata as “the main issue to be discussed” and “the proper subject-matter of rhetoric” (Rh. I). In chapter 2, we shall return to this issue in the context of the connection between pragma, pragmateuesthai, and praxis.

28. For a discussion of this point in connection with Metaph. IV, see Jaulin, 1999: 35.

29. For a good analysis and elaboration of this point, see also Aubenque, 2002: 83–93.

30. For one of the many discussions of the denial of this qualification in the Aristotelian corpus, see SE 22, 178a17–19.
31. Why does Aristotle omit the clause “in relation to the same” (pros to auto) that we find in Socrates’s version? It indicates the fact that x cannot be, say, both bigger and not bigger than y, although it may well be bigger than y and not bigger than z. Indeed, this is a crucial theme in many dialogues such as the Parmenides and the Republic. Since Aristotle has an extensive account of relation (pros ti) both in Categories 7, and in Metaphysics V, 15, he cannot have been unaware of this qualification. The only possibility seems to be that he did not deem this qualification to be crucial in that it is superfluous to indicate that something can have properties that stand in opposite relations to different objects. Thus, a statement such as “this finger is longer” or “this boy is the nephew” would be, in the eyes of Aristotle, an inherently incomplete statement.

32. Fragment 84.

33. For an analysis of this articulation of motion and rest in living bodies, see MA 1, 698a7–698b8.

34. In my discussion of the principle of non-contradiction and of the top example, I have benefited much from Recco, 2007.

35. DA III, 10, 433b27.

36. Many famous examples in the history of philosophy have exploited the fact that wax is almost pure matter without form. Plato, Theaetetus, 191C–D; Aristotle, On Memory and Recollection 450a32–b11; GA I, 21, 729b17; Ph. VII, 3, 245b11; Cael. III, 7, 305b30; DA II, 1, 412b7, III, 12, 435a2. See also Klein, 1998: 187; Themistius, 1999: 58. In chapter 4, we shall discuss another famous use of the wax example in Aristotle from DA II.

37. Cat. 2, 1a20–1b8; 5, 2b3–5.

38. See also HA, V, 21; V, 22, 553b31–554a1. According to the Meteorology, wax is composed out of both water and earth, can be impressed, squeezed and melted, and is soft, malleable, and more inflammable when mixed with other things than by themselves (Mete. IV, 9).

39. See also Aristotle’s refutation of the Megaric view of potentiality in Metaph. IX, 3.

40. We shall touch upon problems concerning the pictorial representation of human character in chapter 5, section 3.

41. Nietzsche, 1962: 107. There is indeed truth to Nietzsche’s claim. See especially Ph. I, 2, 185b20; Metaph. XI, 5, 1062a32 and XI, 6, 1063b24. And yet Metaph. IV, 3, 1005b25 and IV, 5, 1010a13 clearly distinguish Heraclitus from what is said about him and from his followers. Top. VIII, 5, 159b31 and Metaph. IV, 7, 1012a24 do not provide sufficient support for simply confronting Aristotle and Heraclitus as Nietzsche does. Furthermore, there is an explicit sentence in the Aristotelian corpus where a contradiction is said to be “quite reasonable [mal’eulogon]” (EE VII, 12, 1246a13).

Chapter 2

1. In fact, modern physics and metaphysics took this option quite seriously against the Aristotelianism of their time. But it is not the case that nobody thought of such a possibility in ancient Greece; in fact, Aristotle himself defends the multivocity of being explicitly and insistently against the tenets of a view according to which there is no such thing as potentiality, namely the Megaric school (Metaph. IX, 3). He may also have the Atomists in mind. For a clear exposition of Aristotle’s position with regard to the multivocity of being, and his modern critics, see Berti, 2001: 185–207.


3. On Int. 13, 23a21–22. Again, for the distinction between the sublunar and the supralunar realms in Aristotle, see Mete. I, 2, 339a19–20; 3, 339b5.
4. For the fragile sense of divinity in or around nature, see, most famously, *PA* I, 5, 645a15–23, and *Metaph.* XII, 8, 1074b1–14.

5. See the pseudo-Aristotelian *Oeconomica* I, 1, 1343a5–7: “Some of the arts are divided into two, producing [poisai] and using the product [khrēsasthai tōi poiēthenti] do not belong to the same, just as the lyre and the flute . . .”

6. Cat. 1, 1a3, 1a8–12; 5, 2a16–18ff.

7. Annick Jaulin and Hakan Yücefer objected to my interpretation of the phrase “logos of being” as an inherent standard of being. For, they said, even an artifact can have a “logos of being,” and, thus, “logos of being” need not be inherent to the being under question, but can equally be imposed from without as in artifacts. This objection poses a serious threat not only to my point here, but also to my overall argument in this book. For if artifacts have a “logos of being” as much as natural beings, then the “logos of being” of something may well be imposed from outside, without the being itself having a “say” on what it is, contrary to my claim here. Then there may be no necessary connection between the question of the “logos of being” and natural beings, living beings, and humans as I shall claim in the following chapters of this book.

This objection seems to be supported by at least three major Aristotelian texts: the logos of the house in *DA I*, 1, 403b4–8, the soul or form of the axe in *DA II*, 1, 412b12–16, and the true nature of the bed in *Physics II*, 1, 193a11–b19. Yet the objection seems to lose its power once the contexts are taken into account. For all three texts try to establish the difference between matter and form in non-artifacts. Aristotle uses artifacts as examples in discussions about form in non-artifacts not because artifacts have form in the same way non-artifacts do, as the objectors claim, but simply because form is much easier to differentiate from matter in artifacts. So the distinction between form and matter is clearer in a “house” than in an affection of the soul such as “anger” in *DA I*, 1, 403b4–8; the distinction between soul and body would be quite clear if we imagined an axe to have a soul (“chopping”) in *DA II*, 1, 412b12–16; and, as to *Physics II*, 1, 193a11–b19, it is easier to see how form (or rhythm or logos) is destroyed in a bed than in a natural being, for artifacts ultimately dissolve into natural beings, while natural beings dissolve again into natural beings: “Bodies seem to be beings [ousiai] to a highest extent, especially natural ones; for, the latter are the sources [arkhai] of the former” (*DA II*, 1, 412a11–13; also see *Metaph.* VII and VIII generally, especially VIII, 3, 1043b21–22; *Ph.* II, 1, 192b33, where the example of house occurs precisely in distinction from beings who all “are beings [ousiai]”).

Artifacts are convenient examples in the study of non-artifacts (ensouled beings, animals, or natural beings) not because they are beings or have form or a “logos of being” in exactly the same way non-artifacts do, but rather because, on the contrary, their form is precisely imposed from without, that is, because their “standard of being” or “logos of being” is not inherent to the being at hand. Hence, when the distinction between form and matter is no longer a central issue, Aristotle clearly reverts to non-artifacts, as can be seen by the frequency of the term “logos of being” applied to living beings in the biological texts as in the opening of the *Categories* and indeed later in *Cat.* 5. Not only are artifacts derivative of natural beings, but art in general imitates nature for Aristotle (*Ph.* II, 2, 194a22; II, 8, 199a15–21, where again the example of “house” is used). So if artifacts are derived ultimately from natural beings or imitate them, then the “logos of being” should apply primarily to natural beings. I think this discussion and Aristotle’s examples here support my point that, unlike the derivative or heuristic use of “logos of being” for artifacts, the “logos
of being” referred to at the opening of the Categories means an inherent standard of being. (Compare the Idea of the Bed in Plato’s Republic X, 596A–597D.)

8. See also Klein, 1965: 148.

9. The ambiguity of Socrates’s active and deliberate not-moving is indeed at the heart of his protest against Anaxagorean accounts of nature in the preceding crucial discussion in the Phaedo 98E–99A.

10. Note that even here we have not departed from our implicit dialogue with Descartes. In the Meditations, one of the things that are explicitly bracketed is the concept of life. Similarly, the concept of soul (anima) as a principle of life is bracketed as unclear, and yields to the concept of mind (mens) which is “distinct and clear” to itself: clear in its immediate self-grasping, and distinct from the body.

11. For the multivocacy of being for Aristotle and its implications, once again see Berti, 2001.

12. See, most famously, Metaph. XII, 3, 1070a10ff.

13. See Ph. III, 4, 203b6ff. “Un monisme serait alogos, en ce qu’il ne peut pas expliquer la différence entre le principe et ce qui n’est pas lui . . . La cellule minimale est la dichotomie qui permet d’accéder au logos” (Brague, 1978: 178).

14. Of course, this central concept of Aristotelian philosophy is used and thematized in many parts of the corpus. See, most famously, Metaph. V, 12; Metaph. IX; Ph. III, 1–3.

15. See Aristotle’s mention of the Megarics’ use of potentiality in Metaph. IX, 3.

16. Aristotle’s exception is affirmations or negations that are predicated of universals but not universally. Aristotle addresses this at the end of chapter 8 of On Interpretation.

17. In some manuscripts the word “melan” (black) here appears as “mega” (big, large).

18. A similar necessitarian point of view, defended sub specie aeternitatis, and its pessimistic (and, according to us, vacuous) implications, can be traced in the discourse of a character, probably “Heraclides,” in Aristotle’s Protrepticus: “for to those who behold anything eternal it is silly to take seriously those things [things that seem to us great, secure, beautiful, and honorable]. What is great or what is long-lasting in human affairs? No, it is owing to our weakness, I think, and the shortness of our life, that even this appears anything great” (Protrepticus in Aristotle, 2015: 20–21).

19. The “kinds” (genê) here are indeed the kinds of change (Ph. III, 1, 200b33–34).

20. According to the famous manuscript E (Parisinus gr. 1853): “For nature too comes to be in the same; for it is in the same genus as potentiality.”

21. The broad and politically oriented scope of praxai may gesture back to our emphasis in chapter 2 on the word pragma as not simply meaning “object” or mere “thing,” but also act, deed, work, matter, affair, duty, business, a thing of consequence or importance. The first chapters of the Rhetoric may provide good examples for the usage of pragmata not as “object,” but as “issue.”


Chapter 3

1. DA II, 4, 416a10ff.

2. This point is expressed, although not developed, in Sparshott, 1994: 44.

3. According to Aristotle’s Protrepticus, the origin of the comparison between a natural philosopher gazing at the heavens and a spectator at a festival can be traced, through Anaxagoras, to Pythagoras (Protrepticus in Aristotle, 2015: 22–23). In this context it is interesting to note that, in his philosophy of nature, Aristotle might be the theôros not
exclusively of the heavenly spheres, like Pythagoras and Anaxagoras, but also of the most humble life forms on and under the earth (PA I, 5, 645a22–23).

4. Aristotle clearly calls physics (physikê) an epistêmê theorêtikê (Metaph. VI, 1, 1025b27). See EE I, 5, 1216b11ff.; and PA I, 5, 645a8–11, which emphasizes the “theoretical” aspects of natural science. But compare also PA I, 1, 640a1ff.

5. That physis is less determinable and yet perhaps wider than our concept of “nature” can be seen in its uses in early Greek thinkers such as Heraclitus and Empedocles. It is true that medieval and modern philosophy has thought in terms of dualities that set up nature against history, production, spirit, nurture, culture, or divinity. (See Heidegger, 1998: 183–85.) Aristotle does admit that there is, besides nature, at least one other cause or source of coming-to-be in Ph. II, 1, 192b8–9. He names these causes or sources in the Metaphysics: “[A being] is generated by art [tekhnêi], by nature [physei], by fortune [tykhêi] or by chance [automatôi]. Then art is a source in another whereas nature is a source in [the being] itself (for a human being begets a human being), and the other causes are privations of these” (Metaph. XII, 3, 1070a4–9).

One can see that, although art is named as a source of generation besides nature, its opposition to nature is much less emphatic than their structural parallelism (see also PA I, 1, 639b15–30). Aristotle’s main point remains that being is generated from a synonym—whether the source of generation is outside of it (as in art) or inside it (as in nature). In the Physics again, he insists that art imitates nature and that, just like it is obviously absurd to think of the matter without any form, this is because it is equally absurd to think of nature as mere matter (Ph. II, 2, 194a19–28; see also Aristotle, Protrepticus in Aristotle 2015: 22).

6. “That which comes from these [morphê and eidos kata ton logon], such as a human being, is not nature, but by nature [physei]” (Ph. II, 1, 193b6–7).

7. “According to nature are both these and as many things as belong to these in virtue of themselves, as being carried up belongs to fire. For this is not a nature, nor does it have a nature, but it is by nature [physêi] and according to nature [kata physin]” (Ph. II, 1, 192b35–193a2).

8. For Aristotle’s analysis of “being-in,” see Ph. IV, 3.

9. Themistius, Simplicius, and Philoponus suggest that “according to nature” is a narrower specification than “by nature,” and give the example of monstrosities that are “by nature” but not “according to nature” (cited in Aristote, Physique, trans. Pierre Pellegrin [Paris: Flammarion, 2002], 117, n. 3. Pellegrin adds that it is difficult to find warrant for such a distinction in Aristotle’s text).


11. The following overview should indeed be supplemented by the works of historians of science such as Leclerc, 1972, and Koyré, 1957.

12. See the “aitia” article in LSJ, 1996: 44.


14. One explicit example of this usage of hylê is even found in GC I, 10, 327b12.

15. “In the context of nature, [one must consider] the composite and the whole being, and not that which never occurs apart from their being” (PA I, 5, 645a35–37).

17. These four kinds of motion are in turn derived from the categories that do admit of being otherwise (Metaph. XI, 12; Ph. V, 2). One can see here why Aristotle spends so much time discussing whether a given category admits of contraries in the Categories (for instance Cat. 5, 4a10–4b19; 6, 5b11–6a18; 7, 6b15–26).

18. Again, the idea that matter is not generated and does not perish is found in, and fundamental to, Aristotelian metaphysics and physics. See GC I, 4, 320a2 and Metaph. VII, 7, 1032a17. For Aristotle’s discussion of such theories, see Metaph. I, 3–4 and Ph. II, 2–4.

19. “A proper assessment of the rationale of Aristotle’s procedure in the analysis of the most basic materials and the processes of their combinations explains at the same time, however, why he was not predestined to become the ‘father of chemistry,’ as he became the father of so many other disciplines. If his study of the elements and their properties did not encourage the development of chemistry in antiquity, this is because of the constraints imposed by his principles” (Frede, 2004: 313).

20. This idea of a “lump,” “bulk,” or “mass” of stuff deprived of unity is also a prevalently but not exclusively modern one, and is often termed onkos in Ancient Greek. Aristotle mostly uses onkos as synonymous with sôma and as opposed to kenon (void). Among its recurrent uses in philosophical contexts (in Empedocles, Parmenides, Plato, Aristotle, and later Epicure), its in-depth treatment in the seventh deduction of Plato’s Parmenides (especially 165B and the following) is relevant to our discussion here.

21. See, for instance, DA III, 9–11.

22. Ph. IV, 4.

23. Ph. IV, 5, 212b16–17: “Besides the all and whole [pan kai bolon], there is nothing outside of the all.” We must point out here the informative etymology of kosmos which makes the word “cosmetics” intelligible: kosmos means order in a strong sense, both physically and almost aesthetically. This sense of kosmos is by no means obsolete at the time of Aristotle. See for instance Mete. I, 338a23, and other instances of kosmos, kosmopoiia, diakosmein, diakosmêsis, kosmein, kosmêsis, and so on in Bonitz, 1955.

24. Compare Ph. IV, 5, 212b20–24: “The earth is in the water, and the water is in the air, and the air is in the aether, and the aether is in the heaven, but the heaven is no longer in anything else.”

25. One can see here the early modern breakdown of the Aristotelian distinction between natural motion and forced motion. See, for instance, Cael. I, 2, 269a7.

26. Ph. IV, 5.

27. It may be helpful to contrast Aristotle’s discussion of the wholeness of the universe in On the Heavens or Physics IV, 5, with his definition of the “infinite” in Physics III, 6, 207a1–2.

28. Compare the concept of koinos topos “in which all bodies are,” in Ph. IV, 2. For the details of the long evolution which we necessarily simplify here, see Leclerc, 1972.

29. For the meanings of pathos and pathein, see Metaph. V, 21.

30. Compare the Cartesian idea that the essence of bodies is extension precisely in a space understood as partes extra partes. If space is defined by the mutual exclusiveness of its parts, what does it mean to say that a body is defined by its occupying various parts of space at once? What warrants for the unity of that body stretched along mutually exclusive parts? Of course, these questions are ones Descartes is prepared to face by means of his methodological skepticism.
31. See Ph. I, 1, 184a16–22; NE I, 4, 1095b1–5; Metaph. VII, 3, 1029b3–12.
33. It is indeed an impoverished version of it, because the source of motion that is a kind of cause for Aristotle is the first source of motion (protē arkhē kinēseōs or metabolēs) and certainly not the immediate source such as a moving hand.
34. See especially APo. II, 2, 3.
35. “It is ridiculous to judge from the outside” (On Breath 9, 485b4).
36. René Descartes, Discours de la méthode, VI.
39. This point converges with Aristotle’s assurance that the heavens and the order in the cosmos are eternal, and not threatened by any apocalypse (Cael. I, 1).
40. Ph. IV, 4; IV, 5; Cael. I, 8, 277a12–277b9; Mete. I, 3, 340b24–341a9; I, 4, 341b13–24.
41. See also the un-Aristotelian On Breath 9, 485b18: “Fire exhibits differences with respect to more and less.”
42. See again On Breath, 9 485b7–10: “The arts use [fire] as an instrument, nature [uses it] also as matter. Indeed this is not a difficulty, [the difficulty lies] rather in the fact that nature, which uses [the fire], itself thinks [noēsai], also providing at the same time the rhythmōs to sensible affections [hētis hama tois aisthētois pathesi kai ton rhythmōn apodōsei].”
43. “legomen dê genos hen ti tôn ontôn tên oussian, tautēs de to me hōs hylēn, bo kath’ hauto men ouk esti tode ti, heteron de morphēn kai eidos, kath’ hēn éde legetai tode ti, kai triton to ek toutōn.”
44. “ousiai de malist’ einai dokousi ta sómata, kai toutón ta physika. tauta gar tòn allôn arkhai. tòn de physikōn ta men ekbei zōen, ta d’ ouk ekbei. zōen de legomen tòn di’ autou trophy tē kai auxēsin kai phtēsin. hōste pan sóma physikon metekhon zōēs oussia an eī, oussia d’ houtós hōs synthētē. epei d’ esti soma toionde, zōen gar ekhon, ouk an eī to soma psykhē. ou gar esti tòn kath’ hypokeimenou to soma, mallon d’ hōs hypokeimenon kai bylē.”
45. Later, Aristotle implies that there is an important exception to the requirement of nutrition and generation for sharing in life: “This [potentiality to absorb food] can exist apart from the others, but the others cannot [exist apart] from this in mortal beings” (DA II, 2, 413a31–33; emphasis mine). See also the famous passage about the immortal and everlasting in DA III, 5, 430a23.
46. See also PA II, 10, 655b32–33.
47. Ph. II, 1, 193a31, 193b2.
48. For the same example, see Protrepticus in Aristotle, 2015: 26.
49. Metaph. IX, 8, 1050b28–30. See also Lang, 1998: 10–11.
50. For the relation between the locomotion and shape of fiery beings in the sublunar sphere, see Mete. I, 4.
51. Metaph. VII, 16, 1040b5ff. Compare the structure of fire and that of living beings with Aristotle’s distinction between simple plots and complex plots in the Poetics, and his doctrines of the unity, length, and structure of tragedy (Po., 6, 7, 8, 10; esp. 8, 1451a34–36).
52. We are well aware that we have skipped one step between elements and organs: the distinction between uniform and nonuniform parts. Yet this distinction does not contribute to our main goal of understanding the inherence of logos first in nature as such, and now, more specifically, in living beings. So let me refer the reader to, for instance, PA II, 2ff.
53. Heraclitus, Fr. 115.
54. See also GC II, 6, 334a9–15.
55. Even mixture in an inorganic level involves more than any percentage. The following passage on mixture by Dorothea Frede is extremely close to the Heraclitean idea of self-opposition (she even talks about “mutual tuning,” 2004: 305) and to our claim that the fundamental meaning of logos is a relation between terms that preserves them together in their difference instead of collapsing one term to the other or holding them in indifference: “If one ingredient overpowers the other, there will be no mixture, but only an increase in the bulk of the predominant element. Thus a drop of wine does not mix with ten thousand pints of water but loses its form and merges entirely with water. Only if the ingredients are somehow equal in power can there be mixture. In that case there is change in both constituents, but neither will turn into the other. Instead, the mutual change will result in a dominant state (kratoun) that is ‘in between and common’ (metaxu kai koinon) to both. Given that mixables must be able to affect each other, there must be a basic opposition (enantiôsis) between them” (Frede, 2004: 295; emphasis mine). Mixture is indeed one of the most interesting and intriguing questions in GC, and became an intense topic of discussion through Alexander of Aphrodisias.
56. Metaph. VII, 16, 1040b5–16.
57. For the close affinity between concocting, digestion and growth, and even maturing, see GD I, 1, 715b24; II, 6, 743a31ff.; I, 12, 719a34.
58. See, for instance, later in Euclid, Elements, Book V, definition 3: “Ratio [logos] is a certain type of condition [skhesis] with respect to the size of two magnitudes of the same kind” (Euclid, 2007: 291).
59. See also PA I, 1, 621a138–144. For the genesis of the Aristotelian idea that the soul is a harmony, see Jaeger, 1950: 39ff.
60. It is not entirely clear to me whether toutôn refers to “logos and synthesis” or is an apposition to “tôn mikhotentôn.” This will not affect our argument, since we will argue that if the soul is a logos, it is not a logos as the quantitative percentage of ingredients.
61. Of course, Aristotle’s major text on mixture is GC, especially I, 10 and II, 6, but also I, 5–6. In I, 10, Aristotle resolves problems arising from explaining change by appealing to the distinction between action and passion, and potentiality and actuality: “Neither the art of healing nor health make health by mixing bodies” (GC I, 10, 328a22–23).
62. I take it that this same point is made in Metaph. VII, 17 and VIII, 3.
63. For flesh as logos, see also Averroès, 1998: 91, 249.
64. In this last sentence, On Generation and Corruption may be gesturing toward the spectacular character of nature and life in Aristotle’s philosophy. The same text also explicitly identifies the work of the natural scientist as theôrein in the sense of watching. For, those who argue that all change happens between like beings and those who argue that it happens between unlike beings oppose one another simply because, “while it is necessary to watch [theôreai] a whole, they happened to express a part” (GC I, 7, 323b18–19). (For a similar methodological point, see Pol. III, 9, 1280a9; Ph. III, 6, 206a13; IV, 9, 217b20–23; II, 2, 194b11; I, 2, 186a1.)
66. See also Metaph. XII, 7, 1072b3, 26, GC II, 10, 336b25–337a7, and EE I, 5, 1216a11–14: “Now they say that Anaxagoras was questioned with respect to such problems and asked why one should choose to be born rather than not; he said ‘for the sake of theôrêsi the heaven and the order around the whole kosmos.’”
Chapter 4

1. DA II, 2, 413a26–413b1; HA VIII, 1, 588b24–25.

2. “You ought to remember that you are a human being—not only in living well, but also in doing philosophy” (On the Good, Fragment 1, in Aristotle, 1955: 113). See Aristotle’s comparison of the skeptic aspiring to reject the principle of non-contradiction to a “plant” (Metaph. IV, 4, 1006a15). Later in this chapter, we will have the opportunity to interpret this characterization in a way more subtle and philosophical than as an expression of sheer meanness against the skeptic (see pp. 100–101 in this volume).


4. See also On Youth and Old Age, On Life and Death 1, 467b23–26; DA II, 2, 413a21ff.; PA II, 10, 655b28ff.

5. For the sake of sheer consistency, here we shall translate alloiôsis by “alteration” and pathos by “affection.”

6. This point is nicely put by Heidegger: “Were our hearing primarily and always only this picking up and transmitting of sounds, conjoined by several other processes, the result would be that the reverberation would go in one ear and out the other. That happens in fact when we are not gathered to what is addressed” (Heidegger, 1984: 64–65).

7. Again Heidegger puts it nicely: “We hear when we are ‘all ears’ ” (Heidegger, 1984: 65).


11. To put it in contemporary terms: “How exactly the senses acquire the appropriate content or provide the appropriate information to the rational capacities without becoming colored is the Aristotelian analogue of a problem that troubles modern researchers, namely, how the non-representational, non-computational sensory system can provide information which the computational brain can access” (Silverman, 1989: 279).

12. For Aristotle’s classical refutation of the Megaric view that reduces all potentiality to actuality, see again Metaph. IX, 3.

13. For another instance of wax being used as a metaphor of receptivity, see DA III, 12, 435a2–10; On Memory and Recollection I, 44931–450b1; and also Plato, Theaetetus 190E5–196C5.


16. For sight, see GA V, 1, 780a22–25; for hearing see DA II, 8, 420a9–12; for touch, see DA III, 3, 435a21–b3.


18. For the distinction between two senses of logos in order to account for Aristotle’s understanding of sensation beyond the dilemma of a literal, purely physicalist reading (which reduces sensation to “physical change”) and of a non-physicalist interpretation, see Bradshaw, 1997: 143–61.

20. Barbara Cassin claims that the challenger of the principle can exempt himself from being refuted in face of his own contradiction because he is precisely laying claim to his right to contradiction. But, if I am understanding Cassin correctly, in his claim to his right, the challenger cannot appeal to the principle since he must distinguish being granted this right and being refused it. Aristotle’s point seems to be that the challenger cannot lay claim to anything, be it the claim to contradiction. “To destroy a logos, one stays behind [hypome-nei] a logos” (Metaph. IV, 4, 1006a26). The challenger cannot pragmatically refuse to engage in the “dialectical game” either, because refusal is commitment. The challenger can only imitate a vegetative state (Cassin, 1997: 13). See also Lear, 1980: 103–14: “But Aristotle is not arguing with a vegetable. He is arguing with someone who can present a coherent, if fallacious, argument for the falsity of the law of non-contradiction” (194).

21. DA III, 12, 434b18.

22. See also Aristotle’s example of a shield struck by a spear in DA II, 11, 423b12–17.

23. The terms “distant sensation” and “sensation of time” are not stretches of the Aristotelian terminology. He in fact names this anticipatory sensation “proaisthēsis” (De Sensu 1, 436b21), and insists, as we shall see, that some animals have a “sensation of time”—all functions of the “common sensory power” (DA III, 10, 433b8; see also On Memory and Recollection 2, 452b8; see Labarrière, 2004: 179–80).

24. DA II, 10, 656a27–28; De Sensu 2, 439a2–5; MA 11, 703b22–23.

25. See also DA II, 2, 413b24–25; III, 9, 432b29–30.

26. AT, VII, 29.11–18; AT, IX, 23.

27. This latter is characterized in almost complete opposition to what we understand from imagination today; far from being a capricious, disinterested, arbitrary, or creative fancy of the mind, phantasia here is fundamentally interested; it is primarily fused with desire.


29. For the “universal premise of desire” see also Nussbaum, 1994: 81.

30. The reason why Aristotle puts the question of motion and action in terms of the continuity and intermittence of nous is presumably that he has in mind some opinions, such as that of Anaxagoras, according to which nous would be the arkhē of all.

31. DA III, 10, 433b26; 9, 432b29–31.


33. See the eight occurrences of the word or its cognates in MA 8. Cf. Sorabji, 1993: 40.

34. MA 7, 701a9; DA III, 11, 434a7–10.

35. DA III, 11, 434a18; NE VII, 3, 1147a27, 35; MA 7, 701a32, 33.

36. DA III, 10, 433b6; III, 11, 434a17; NE VII, 3, 1147b1ff.

37. APo. II, 19, 100a1–6. It is this disambiguation of logos that seems to be lacking in Lee and Long, 2007: 348–67.

38. Metaph. I, 1, 981a12–23.

Chapter 5
1. See also Rh. II, 6, 1384a23–25; EE II, 1, 1219b27–1220a11.
2. See also GA II, 1, 731b18ff.
5. David Konstan translates this phrase as “it ‘is heeding of it’” (Aspasius, 2006: 37).
Richard Bodéüs nicely notes about this passage: “La même expression ambiguë (logon echein) sert en grec dans les deux cas: (a) pour dire qu’une partie de l’âme ‘rend compte de’ quelque chose (et est ainsi rationnelle en elle-même) et (b) pour dire qu’une autre partie ‘tient compte’ de quelque chose (et est ainsi rationnelle par participation)” (Aristotle, 2004: 98). See also Sorabji, 1993: 69–70.
6. But compare a few lines later, NE I, 13, 1103a2, where only the “father” appears.
7. See, for instance, H. Rackham’s translation: “in the sense in fact which we speak of ‘paying heed’ to one’s father and friends” (Aristotle, 1926: 67).
8. See, for instance, the rendering of W. D. Ross: “this is the sense in which we speak of ‘taking account’ of one’s father or one’s friends” (Aristotle, 1966). Sachs also prefers the disjunction: “In the same way too we call listening to one’s father or friends ‘being rational’” (Aristotle, 2002: 21). In his commentary, Sparshott seems to be clearly aware of Aristotle’s reference to the relation and possible conflicts between family and the state (Sparshott, 1994: 28).
9. In this regard, we are quite in line with Baracchi’s approach (Baracchi, 2007: 175–79).
10. For the complications arising from the practical syllogism in the case of humans, see also Sparshott, 1994: 7.
11. This intermediary part brings to mind many passages from the Platonic corpus such as Republic IV, 439E3–441C3; Timaeus 70A5; Phaedrus 253D8.
12. For Aristotle’s analysis of ekhein, see Metaph. V, 23; Cat. 15. As we shall see, these two analyses will prove to be insufficient for understanding ekhein in this context.
14. Dodds points out how the irrational part of the soul became gradually neglected after Aristotle (Dodds, 1951: 239).
15. NE I, 13, 1102b26, 31, 33.
16. See also Pol. VII, 13, 1333a16–18.
17. See also HA IV, 9, 536b3–5; Prob. 11, 898b34–899a4.
18. This word means “language,” “dialect,” “accent,” and even “speech” in Aristotle as well as in Hippocrates and others. (See Zirin, 1980: 339.) Here, however, it cannot but mean “idiom” in a very loose sense, which Aristotle mentions in the following sentence: “Inanimate beings never utter voice, but are said only by resemblance to do so, just like a flute, a lyre or any other inanimate being that has a musical compass, tune and dialekton” (DA II, 8, 420b6–8). Accordingly, Hett translates dialektos here as “modulation.”
20. GA V, 2, 781a26–30; Rh. I, 11, 1371b8–9; III, 9, 1409b1ff.; III, 10, 1410b15ff; see also the non-Aristotelian On Things Heard 800a29–31.
21. For a similar connection between eikasia and syllogismos, see On Memory and Recollection 1, 450b20ff.
24. After a lengthy and sometimes quite detailed survey of human education that will spill into book VIII, the triad “nature,” “habit,” and “logos” is taken up again in the context of education in Pol. VII, 13, 1334b5. See also NE X, 9, 1179b21ff.


26. For the idea that “learning” (mathēsis) is only one part of education (paideia), see Pol. VII, VIII, and especially Pol. VII, 15, 1336a24ff.

27. I am sympathetic to Joe Sachs’s remarks on hexis. Yet his rendering of it as “active condition” unduly associates the term with activity. I am trying to emphasize that hexis is an “included middle” beyond the false dilemma of activity and passivity (Aristotle, 2002: xii).

28. For ekhein, see Metaph. V, 23, and Cat. 15. The analysis of hexis in Metaph. V, 27, is promising, but excessively cryptic and elusive. In fact, the most informative passage on hexis we have encountered in the corpus is Ph. VII, 3, 247b1–18. We shall discuss this passage shortly.

29. For an example of human love, see section 2 of the conclusion to this book.

30. DA II, 3, 414b4–7; also see II, 2, 413b24–25; III, 9, 432b29–30.

31. See NE VI, 3, 1139b32; VI, 4, 1140a11. For the connection between art, action, and truth, see Roochnik, 2004: 144–48.

32. Politics VII and VIII. Most specifically, see the extremely detailed discussion of music in education starting at 1339a11 and that runs all the way to the end of the Politics. See also, indeed, Plato, Republic II, VI and VII.

33. “Everybody somehow seems to divine that virtue is a certain hexis, a hexis according to phronēsis. But this must be slightly modified: Virtue is a hexis not only according to orthos logos, but with logos” (NE VI, 13, 1144b24–28).

34. Metaph. I, 1.


36. For the distinction between suppression and virtue, see also Nussbaum, 1994: 82, 93.


38. It is important not to confuse a two-way capacity (with logos) with two one-way capacities (without logos). See Makin, 2000: 147–48.

39. I grant that the function of Socrates’s daimôn must be taken into account here.

40. For the alogos character of desire as such, see again DA III, 11, 434a12–15. For the alogos character of nous as such, see NE VI, 8, 1142a26–27; VI, 11, 1143a36–1143b1; for the superhuman character of nous, see also NE X, 7, 1177b30ff.; VI, 7, 1141b1–3.

41. This is why the couple potentiality/actuality cannot and certainly should not be thought as mapping on to passivity/activity. During a concert, the guitarist, the guitar, the audience, and even, or most of all the compositor, are all at-work, in actuality—except if one is distracted or in mere routine. For Aristotle’s analysis of passive actualities, see Metaph. IX, 2; also see the Protrepticus: “when some one word means each of two things [the potential sense and the actual sense], and one of the two is so called either by acting or being acted on, we shall attribute the term as applying more to this one [the actual sense)” (Aristotle, Protrepticus in Aristotle, 2015: 26; emphasis mine).

42. MacIntyre is driven to ask and answer very similar questions about the problem of portraying virtue and vice (MacIntyre, 2013: 207, 220).

Chapter 6

1. Pol. VII, 12, 1332b5–6; NE IX, 9, 1169b20–21; EE II, 8, 1224b30. But see also NE VIII, 12, 1162a15–25. For the power of speech as a human “privilege” and foundation of community, see also the “Hymn to Logos” in Isocrates, Nicocles or the Cyprians 3.5–9; also 15.253, 15.273, 4.48ff.; Xenophon, Memorabilia 4.3.1ff.

2. As will be seen in this part of the book, I talk about “double articulation” (or “duality of patterning”) because I find the idea and even the term (diarthrôsis) in Aristotle. Nevertheless I am indeed aware of its immediate connotations in twentieth-century linguistics. See also Labarrière, 2004: 27ff.

3. For reasons that will become clear shortly, I adopt neither Balme’s translation of “phônê” as “hum,” nor D’Arcy Wentworth Thompson’s as “sound,” nor Barthélemy Saint-Hilaire’s and Tricot’s as “son.”

4. See Pliny the Elder, Naturalis Historia XI, 10, (p. 432 Littré), who represents the hive like a camp of soldiers under most severe and wise orders. Virgil also talks about an arguably similar sound made in the evening, followed by the bees’ murmuring around the edges and threshold of the hive (Georgics IV, 188; see also ll. 71–72). Earlier, in HAIV, 8, 534b16–17, Aristotle makes a more general, but less clear-cut point: “The Cephalopods, the Crustacea and the Insects possess all the senses; all, for indeed they possess [sight and] both smell and taste.” The bracketed words are omitted by Wimmer in Aubert and Wimmer’s edition, as approved by A. L. Peck.

5. On Int. 9; Metaph. III, 2, 996b26–30; 7, 1011b26–27; IV, 4.


8. Balme translates tói krotói paraphrastically as “the sound of a rattle,” Thompson as “a rattling noise,” Barthélemy Saint-Hilaire and Tricot as “bruit.” Compare Pliny the Elder, Naturalis Historia XI, 22 (p. 438 Littré).

9. With a view to our later discussion of psophos, let us remark that here psêphois, “counters,” appears in some manuscripts as prophoi, “sounds” or “noises,” and this reading is supported by some Latin translations. See Balme’s footnote on his translation of HA IX, 40, 627a18.

10. Esti mentoi adêlon holôs ei akouousin, to which Balme adds the object “it,” standing for the “sound of a rattle.” The sentence is translated quite differently by Thompson (“it is uncertain, however, whether or not they can hear the noise at all . . .”), Saint-Hilaire (“Toutefois on ne sait pas du tout si elles ont la faculté de l’ouïe, ou si elles ne l’ont pas”), and Tricot (“On n’a pu encore déterminer toutefois d’une manière absolue si elles possèdent ou non le sens de l’ouïe”). Balme’s footnote explains his emendation: “In the context the question seems to be, not generally whether bees are deaf, but whether they hear this sound at a distance . . .” In any case, he takes this passage to conflict with Metaph. I, 1, 980b23.

11. It is interesting to see that recent bee research seems to agree with Aristotle on the ambiguity of bee hearing in general, but also with his skepticism about the possibility of summoning bees by beating implements like pots: “Bees make various sounds—for example, the piping of virgin queens as they prepare to emerge from their cells, the warbling of the nurse-bees when they are producing more ‘bee-milk’ than can be consumed by the larval bees, and the hissing of the workers when the wall of the hive is knocked—and these are all produced by the exhalation of air from the spiracles (or lung valves) on the thorax. The wing-beat frequency of the hive, if detectable, is an excellent warning system.
indicating the imminence of a swarm . . . But bees have no known auditory equipment beyond the ability to sense surface motion and the oscillation of air-borne particles, and the purpose of these utterances is so far unknown. Thus, various extremely ancient and persistent superstitions about ‘tanging’ the bees (calling them by beating on metal implements) are almost certainly meaningless” (Preston, 2006: 21).

12. In cases of “homonyms” in Aristotle’s terms, this ambiguity is not always philosophically interesting, given that names are conventional according to him (On Int. 2, 16a26–29; 4, 16b33–17a2), especially if the two beings in question are mere namesakes such as a worker “bee” and a spelling “bee.” Yet, there is a middle ground between trivial multivocity and downright univocity: in philosophically interesting cases of ambiguity, like that of “being,” “life,” and “good” according to Aristotle, the word in question refers neither to one single being or kind, nor has an arbitrary manifold of meanings. This point is nicely made in Shields, 1999. See also Ward, 2008.


14. “To hear a thing is usually akouein ti when the thing heard is something definite and when the meaning is simply hear, not listen to” (Smyth, 1920: 324). A typical example of this accusative use of akouein in Aristotle may be the following: “So, what you have hear, you can utter [hôsth' ho êkouse, tout' eipein]” (GA V, 2, 781a30).

15. Jaulin and Duminil are the exception, since they translate psophos here as “bruit,” unlike their predecessors, Cousin, Saint-Hilaire, Pierron and Zevort, and Tricot, who render it as “sons.” Similarly, Ross and Barnes translate it as “sounds,” William of Moerbeke as “sonus.”

16. De Sensu 2, 438b20. See also the non-Aristotelian On Things Heard 800a1ff.

17. The striking object and the object struck may seem to be identical as in a bell, but it is we who detect or rather impose such an identity through our concept of an “object.” The ringing bell is not one undifferentiated entity any more than two clapping hands are. A bell has a necessary internal differentiation, functionally interconnected parts, that is, “organs,” an unmoving part and a moving one very much like articulations in the bodies of animals capable of locomotion (MA 1, 698a15ff.). The parts of the water that stir up one another and thereby emit the roaring of a tide, taken by themselves, are external to one another. Even in the snapping of fingers taken as pure sound, the palm is precisely used as something external to the fingers. In short, sound is a shock, a stroke, that is, the effect of a motion against another motion. A human being may put these two motions in a certain order by understanding a strictly mathematical proportion (logoi) between them in a Pythagorean or Platonic way. We saw in chapter 4 how Aristotle himself compares the destruction of the logos of a sense organ to the destruction of the harmony of a lyre (DA II, 12, 424a29–33; De Sensu VII, 448a9).

18. Compare the case of touch in DA III, 13, 435a21–b3, or the case of sight: “The sight of the eye which is intermediate between too much and too little liquid is the best, for it has neither too little so as to be disturbed and hinder the movement of the colors, nor too much so as to cause difficulty of movement” (GA V, 1, 780a22–25).


21. Compare De Sensu 2, 438a13–17, b5–16, where Aristotle says that vision requires that the pupil or eye-jelly be transparent.

22. See also Georgin, 1961: 871: “psophos: BRUIT; son.”
23. *DA* II, 8, 420b29; and *HA* IV, 9, 535b31. *LSJ*, s.v. “psophos.”

24. Warrington suggests that ants are among these unnamed species, and refers to *PA* II, 4, 650b26 (*Aristotle’s Metaphysics*, ed. and trans. John Warrington [London: J. M. Dent and Sons, 1956], 51, n. 2). Yet the mentioned *PA* passage suggests no more than that ants and bees have a more intelligent [*synētōteran*] soul than some blooded animals. On the other hand, Asclepius gives the following examples, none of which are Aristotelian: “The dog, the parrot, the horse, the donkey, etc.” (Asclepius, in Brandis, *Scholia Graeca in Aristotelis Metaphysica* [Berlin: Berolini Typis Academicis, 1837], 552).

25. As mentioned before, this word means “language,” “dialect,” “accent,” and even “speech” in Aristotle as well as in Hippocrates and others. (See Zirin, 1980: 339.) Here, however, it cannot but mean “idiom” in a very loose sense, which Aristotle mentions in the following sentence: “Inanimate beings never utter voice, but are said only by resemblance to do so, just like a flute, a lyre, or any other inanimate being that has a musical compass, tune and *dialekton*” (*DA* II, 8, 420b6–8). Accordingly, Hett translates *dialektos* here as “modulation.”

26. See also *PA* II, 17, 660a35–660b2; and *GA* V, 2, 781a26–28: “Learning [*mathēsis*] of things said happens in such a way that one can repeat what is heard [*antiphtheggesthai to akousthen*].” One of the major passages concerning the role of imitation in learning according to Aristotle is indeed *Ps.* 4, 48b4–28. See chapter 5, section 1 above.

27. See also the passage just quoted, *HA* IV, 9, 536b14–18: “Among small birds, some when singing send forth a different voice [*phônên*] from their parents, if they have been reared away from the nest and have listened to other birds singing.”

28. In the Pseudo-Aristotelian *Problems*, it is said that withholding breath sharpens hearing as well, “this is why in hunting they recommend one not to breathe” (*Prob.* 11, 903b34–36, 904b11–14).

29. *PA* II, 17, 660a29–660b2; *DA* III, 13, 435b25.

30. In *Cael.* II, 9, 290b12ff., one can see that Aristotle is sensitive to the difference between a sound (*psophos*) and a voice (*phônê*) when he first uses the traditional term “*symphonia*” in discussing the Pythagorean/Platonic “harmony of spheres” of stars, but then reverts to his own perhaps corrected term: “sound” (*psophos*).

31. As in the case at hand, analogous features occur between genera, like feathers of birds and scales of fish, whereas different species of the same genus exhibit features that differ by the “more-and-less,” like birds having long feathers and birds with short feathers. “In distinguishing extensive kinds from one another, this term [analogous structures] usually refers to a relationship between structures which at a very abstract level perform a similar function for their possessors, but do so by different means, and are not structural variations on a common theme, i.e. are not open to more/less comparison” (Lennox, 1987: 341n). See also Balme’s introduction to his translation of *History of Animals* VII–X, p. 16.

32. Although Aristotle does not himself use the word *analogon* for the buzz and its physiology, our usage of the word here is warranted by his canonical account of *analogon* in *PA* I, 5, 645b8–21, where counterparts of lung are associated with the lung in terms of their functions (*praxeis . . . koinas*).

33. Aristotle does not have more than one line to talk about antennae or “horns” (*HA* IV, 7, 532a26–27).

34. It is this sound that has been metaphorically named a “song,” “hum,” or “murmur,” and imitated musically. “But whether ‘bee dance’ is a charming misnomer or not, bees really do seem to sing. The variations in pitch produced by the irregular flight of a foraging
worker bee—the ‘slender sound’ and ‘faint utterance’ which Wordsworth remembered had accompanied ‘ages coming, ages gone,’ the sound of summer days which William Cullen Bryant imagined as a murmuring wind, and Emerson as a ‘mellow breezy bass’—is reproduced by Rimsky-Korsakov’s famous “The Flight of the Bumble Bee” (Preston, 2006: 110–11).

35. See also Po. 1, 1447a20–1447b2.

36. For a discussion, see Labarrière, 2004: 23–26.


39. Note that all we are claiming is that bees do not hear “noise” while they are capable of hearing a counterpart of voice. We are indeed not claiming, and do not need to claim, that birds are incapable of hearing voice according to Aristotle (which is not true). Just to mention a striking example: “all [birds] use their tongues also as a means of interpretation [pros bermêneian] with one another, and some to a larger degree than other, so that there even seems to be learning [mathêsin] among some” (PA II, 17, 660a35–660b2). Compare HA IX, 40, 626b4, which states that the young bees make combs roughly “out of ignorance” (anepistêmosynên). See also Labarrière, 2004.

40. LSJ, s.v. akouein, A.II.2. Many other languages, including Turkish, English, Latin, and Arabic, associate the idea of “listening” directly to that of “obeying.” One striking example of this kind of “voice” is found in Aristotle’s remark that, when an elephant is subdued in fight, he “really becomes a slave [douloutai iskhýrôs] and is won over by the voice” (tên tou nikêsan phônên) of the winner (HA IX, 1, 610a17).

41. That the head bee is female was not suggested until 1586 (Preston, 2006: 169). Despite its some questionnable inferences, see also Byl, 1978: 17.

42. See also Plato, Statesman 301E. For more information, see my article “Aristotle at Work: Method in Generation of Animals, III, 10,” Epoché, especially footnote 52 (forthcoming in 2017).

43. Contrast the lazy, irascible, annoying, and careless attitude of drones in HA V, 22, 553b12; IX, 40, 624b16, 28; 625a15–33; 625b1–6; 626a14–15.

44. We should note that, to our knowledge, there is only one Aristotelian passage that threatens our interpretation: “Hearing is of the differences between sounds only, [it is] of the differences between voices for a few” (De Sensu 1, 437a10–11).

45. Similarly, a note by Daniel J. Castellano interprets the Metaphysics passage as indicating not that bees are deaf as such, but that they are “unable to understand the sound they hear”—which is John McMahon’s translation that Castellano quotes and supports albeit not without reservations (http://www.arcaneknowledge.org/philtleo/aristotlebees.htm). Yet Castellano’s argument does not provide much textual evidence and does not distinguish, for that matter, between “sound,” “noise,” “voice,” and “buzz.”

46. Before moving on to the next chapter, it may be of some interest to compare our conclusions about Aristotle’s remarks concerning bee communication with twentieth-century research on bees, especially Karl von Frisch’s following notes: “Sound waves borne by the air are not perceived by bees, and . . . hence they cannot hear in the customary sense. In this respect bees differ from grasshoppers, cicadas, and many other insects that, by means of drumlike structures, are able to perceive sounds . . . Krönig (1925) tried in vain to train bees to tones. Hansson (1945) conducted training experiments too, with better
technique but with no better results” (Frisch, 1993: 285). Yet, Frisch also notes a positive outcome: the “piping” and “quacking” of the queens are heard. “According to Simpson (1964) the tones—like those in the workers’ tail-wagging dance—are produced by the flight musculature and conveyed to the substrate by pressing the thorax against it” (Frisch, 1993: 287). Frisch concludes: “Thus the ancient concepts of a ‘language of sounds’ among bees belong in the realm of fantasy. There is indeed communication by means of sounds, but it is a most primitive kind.” Most importantly, in the concluding retrospective section of his book, Frisch states that the famous “bee dance” is accompanied or emphasized by buzz: “[The tail-wagging dance] is emphasized sharply by the tail-wagging movements and by a buzzing noise—the greater the distance the longer the duration of the tail wagging and the accompanying sound during each run” (Frisch, 1993: 524). In more recent research, James L. Gould and Carol Grant Gould state that the forager’s buzzing at a 280Hz frequency, along its famous waggle-dance, indicates the distance to resources. They also add that, unlike the case in human language, local characteristics are genetic in honeybees. If German bee larvae are carried to hives in Italy, they will grow up to “speak German” and cause confusion in their new hives. (See chapter 5 of Gould and Gould, 1994. For more recent work, see http://www.beekeeping.com/articles/us/bee_dance_2.htm; W. H. Kirchner, “Acoustical Communication in Honeybees,” *Apidologie*, no. 24 [1993]: 297–307; Eileen Crist, “Can an Insect Speak? The Case of the Honeybee Dance Language,” *Social Studies of Science* 34, no. 1 [February 2004]: 7–43.) Compare Sorabji’s discussion of the idea that Polish horses may not learn English (Sorabji, 1993: 82).

More relevant to our purposes, bees’ inability to relay messages is suggested by Karl von Frisch (Frisch, 1993: 43, 55–56). This has been underlined by Benveniste: “There is no indication, for example, that a bee goes off to another hive with the message it has received in its own hive. This would constitute a kind of transmission or relay” (Benveniste, 1971: 53). Finally, Deleuze and Guattari have noticed the significance of this feature: “Benveniste denies that the bee has language, even though it has an organic coding process and even uses tropes. It has no language because it can communicate what it has seen but not transmit what has been communicated to it” (Deleuze and Guattari, 1987: 77).
partridges cackle, others make a shrill noise. Among small birds, while singing some utter a different voice than their parents if they have been reared away from the nest and have heard other birds sing” (HA IV, 9, 536b8–17).

54. The situation becomes even more complex if one takes the semivowels into account, as Aristotle does in Po. 20, 1456b24–34. This lengthy argument concerning the crucial difference between logos and animal communication may be best contrasted with Porphyry’s arguments in On Abstinence from Animal Food 3.3–6. See Sorabji, 1993: 82ff.

55. On Int. 2, 16a19–21; Po. 20, 1457a10–12; Prob. 10, 895a4–14.

56. GA II, 6, 744b11; HA VII, 3, 583b23. For “adiarthôtos,” see also HA VI, 30, 579a24. Already Socrates denies articulation to animals (Xenophon, Memorabilia 1.4.12). I do not agree with Sorabji’s rendering of diarthrós as “segmentation of utterance” and his association of this with dialektos (Sorabji, 1993: 81).

57. Even though not as extensively as stoikheia, the grammata are often used as basic components of more complex structures, including organic ones, for instance in the Protrepticus: “For whether it is fire or air or number or any other natures that are causes and first principles of other things, it would be impossible to be ignorant of these things and to recognize any of the other things; for how could anyone either be familiar with speech [logos] who was ignorant of syllables, or have knowledge of these who understand nothing of the letter?” (Protrepticus in Aristotle, 2015: 12). The parallelism between the organic body and linguistic units is a fascinating question that has tempted many, including, most prominently, Plato, Darwin, and Saussure.

58. DA II, 4, 416a10–18. See also On Breath 9, 485b18: “Fire exhibits differences with respect to more and less.”

59. The material of logos is not as “raw” as one might think, just as the uniform parts of the animal body are not mere elements. See particularly PA II, 2ff.


62. For the sake of convenience, we are leaving aside the level of syllables. “The syllable is a meaningless voice, composed out of an unvoiced letter and a voiced one” (Po. 20, 1456b34–35). Thus, before being meaningful, letters are put into cooperation by center-periphery relations between vowels and consonants. Indeed, a syllable (“ah”) may well correspond to a meaningful unit on its own as a sigh, but not as a syllable—any more than a letter as such would be meaningful.

63. Compare Bonitz, 1955: 813, which does not seem be of much help. See also Ross, 1949: 24 n.

64. Plato, Sophist 261D–262D.

65. Besides the passages from On Interpretation referred to below, see “synthêkê” in LSJ, 1996: 1717. See APr. I, 44, 50a19; Rh. I, 15, 1376a33. See also Pol. III, 5, 1280b11; NE V, 5, 1133a30, and V, 7, 1134b33, where synthêkê is used respectively for “law,” “money,” and “rules of justice.”

66. Compare Po. 20, 1456b35, 1457a2, 11, 14, 23.

67. See On Int. 2, 16a28; On Int. 1, 16a3–4; even PA II, 16, 660a7; GA I, 18, 722b12; Mete. II, 4, 360a26; Pol. IV, 7, 1294a35.

68. Compare Antisthenes’s idea, in Plato’s Theaetetus 206E7–208E6, that complex entities could be defined only by enumerating their elements. “Antîsthène ne fait qu’aligner bout à bout les mots sans pouvoir par là recouvrir l’espace à définir” (Brague, 1978: 174; see also Metaph. VIII, 3, 1043b23–8).
69. Of course, this foreshadows the question of writing, which is much more susceptible of being taken out of context.


71. See again Metaph. VII, 17, 1041b11–19.

72. This idea is at the foundation of Socrates’s interpretation of the oracle (Plato, Apology, 21A1 and the following). Brague express the same idea concerning logos in Plato’s Meno: “L’irrationnel devient rationnel quand il est multiplié par soi-même. La raison provient de l’élevation au carré de l’irrationnel. [La ‘clôture du discours’] est d’abord, au niveau du sens, la constitution du sens par la courbure sur soi du non-sens” (Brague, 1978: 171).

73. How are we to understand the priority of the positive over the negative (such as “nonhuman” or “does not walk”), and of the present over the future and the past (such as “will walk” and “walked”)? The reason may be similar to that of the priority of the noun over the verb. Just as the meaningfulness of “walks” implies a subject, the meaningfulness of “not-human” depends on “human,” that of “will walk” or “walked” on “walks”: Aristotle prioritizes the tode ti, and the actual. The negative, the future, and the past are again derivatively meaningful. This is certainly in line with his understanding of beings: in the terminology of the Categories, primary beings (particular tode ti) and secondary beings (species and genus) are prior to their predicates (Cat. 5); the future and the past are derivative of the present, and most fundamentally actuality is prior to potentiality (Metaph. IX, 8).

74. On Int. 3, 16b19–25.

75. For Aristotle’s extremely interesting, but often very difficult, interpretations of rest (êrêmia), see his interpretation of nóeis and syllogismos as rest in DA I, 3, 407a33–35. For his further analyses of positive states and virtues and vices as rest, see Ph. VII, 3, 246a10ff.

76. On Int. 9, 13; Metaph. IX, 2, 5.

77. DA III, 3, 427b13.


80. On Int. 4, 16b26–28.

81. On Int. 6, 17a23–24. Thus, it is clear that the infinitive is not a verbal form.

82. On Int. 6, 17a25–26.

83. SE 1, 165a6–14.

84. DA III, 3, 427b13.

85. For the other three occurrences of autoptês, see HA VIII, 29, 618a18; 37, 620b23; 41, 628b8.


87. For a contemporary account of the importance of the social aspect of specifically human communication, see Burling, 2007: 181–209, especially 184, 208–9.

88. Indeed, the enklisis euktikê according to Alexandrian grammar. Smyth, 1920:107, 406; Dionysius Thrax, Art of Grammar 13, 638b8; Apollonius Dyscolus, Syntax 245.27. Dionysius Thrax adds also the infinitive mood (enklisis aparemphatos) (13, 638b7; Apollonius Dyscolus, 226.20). Compare Dionysius’s fourfold distinction with Farabi, Commentary and Short Treatise on Aristotle’s “De Interpretatione.” For a comparison between Greek and Latin, which is instructive in that Latin does not have an optative, see Buck, Comparative Grammar of Greek and Latin, 299–301; Moore, Comparative Greek and Latin Syntax, 98–101.

89. This is where we depart fundamentally from Heidegger’s analysis of logos in Aristotle which puts exclusive emphasis on logos apophantikos. See Heidegger, 1992: 39; 1996: 28–30 (§7b), 196–211 (§44); 1984: 64; Weigelt, 2002: 61; Sheehan, 1988: 75.
90. On Int. 4, 16b33–17a4.
91. Aeschylus, Seven Against Thebes 819–820; Euripides, Phoenician Women 70. See also Bailly, 2000: 863–64; LSJ, 739.
92. Rhetoric III, 2, 1405a16-18. In order to compare the Aristotelian conception of eukhê with its posterity, let us point out that the Definitions of Aquilius put prayer (eukhê) under the same genus (namely, aitêsis) and define it as a “demand of goods from the Gods” (aitêsis agathôn para theôn). Yet, probably dating from the Roman imperial period according to Marwan Rashed, this definition bears obviously post-Aristotelian (pseudo-Platonic and Stoic) influences. Most importantly, eukhê here is reserved to an address to God or to Gods, whereas it is not in the Aristotelian corpus (compare the mention of eukhê as a more honorable kind of demand than begging). Further, in contrast to the Classical Greek usages of the word as in Aeschylus and Euripides, eukhê in Aquilius does not contain the sense of imprecation (ara) which is defined by Aquilius as another kind of demand, namely a “demand of punishment from the Gods” (timôrias aitêsis para theôn). See Rashed, 2012: 149–50. See also Rashed’s analyses of “vow” (orkos) as a “speech act” (150–153). Our analysis of eukhê in the following pages are in line with Rashed’s remarks. I would like to thank M. Rashed for sharing his erudition and his article with me.
93. Po. 19, 1456b8–13.
94. Po. 19, 1456b15–17.
96. No wonder the word for the optative mood comes from the Latin verb optare, which means “to wish.” Compare the verb precare (“to pray”), the root of the adjective “precative.”
97. DaA III, 9, 432b5–6.
98. NE III, 2, 1111b12–113.
99. Again, this is why the semantics of eukhê is a fundamentally different question than the famous problem of future contingents in On Int. 9.
100. See, for instance, EE I, 8, 1217b21.
101. See Plato, Republic VI, 499D, but also V, 450D; VII, 540D. All three highlight the impossibility of the city described. Plato employs the same word, eukhê, for a child’s wish in the Sophist 249D. For a more extensive discussion of the relationship between logos and “prayer,” see Nussbaum, 1994: 50.
102. Pol. IV, 1, 1288b23; IV, 9, 1295a29–30; II, 1, 1260b28–29; see also the verbal forms of eukhê in Pol. VII, 13, 1334b22; VII, 12, 1332a30; VII, 10, 1330a37.
103. We are referring to our discussion earlier (100–101 in this volume) concerning Aristotle’s characterization of the skeptic as “similar to a plant” in Metaph. IV, 4, 1006a15.

Let us add some further questions to be answered: What is the role of imagination in the wishful attitude? Does one imagine an impossibility wished for? Similarly, does this non-practical attitude relate to hope, to infinity, and to contemplation? Further, even though prayers and wishes cannot be refuted in the sense in which declarative sentences can be, how can one account for the fact that prayers and wishes can contradict one another?
105. Euripides, Thyestes (Fr. 396, Tragicorum Graecorum Fragmenta), quoted in Rh. II, 23, 1397a.
106. While contemporary linguistic theories of “displacement” specify human language as having access beyond the “present” or the “here and now” (an idea shared by Gadamer [1976: 59–68]), we think that this might not be exact. For animal signals in case of danger, for instance, must have some content involving the future, the non-present. (See, for
instance, Burling, 2007: 36–37; Anderson, 2013: 19; Gärdenfors, 2013: 140, 145, 156–57; Gibson, 2013: 217, 218, 221; Langus et al., 2013: 230. For a good discussion of the ancient Greeks on this topic, see Sorabji, 1993, especially 79ff.) According to our account, then, human communication is specified not by spatiotemporal displacement, but by modal remoteness. While contemporary theories of “displacement” seem to miss the point, according to our account, contemporary theories concerning the “theory of mind” are welcome to our account as crucial, although not exhaustive, examples of the capacity for understanding and relaying non-firsthand experience. For my ability to think that you have a mind and are thinking of $x$ requires a preliminary access that I must have to something that is not and cannot be my firsthand experience.

107. Compare Gibson, 2013: 209: “many species of vertebrates, including some fish, some birds, and many mammals socially transmit information and habits (Box and Gibson 1999; Fragaszy and Perry 2003).”

108. For “logos tês ousias” in Aristotle’s biology, see PA IV, 13, 695b19.

109. See also Aristotle’s cogent refutation of the Megaric view of potentiality in Metaph. IX, 3.

110. DA II, 3, 414b4–7; also see II, 2, 413b24–25; III, 9, 432b29–30.

111. See also Pol. VII, 12, 1332b5–6.


113. SE 2, 165a38–165b1.

114. SE 2, 165b1–3.


117. SE 2, 165b6–9.

118. HA I, 1, 488a7–10.


120. Recent studies suggest that the first record of Halley’s comet was due not to the observation by Chinese astronomers in its orbit in 240 BC, but to a report of its appearance in its 466 BC orbit by Aristotle a century later in Mete. I, 7, 344b31–34 (http://journalofcosmology.com/AncientAstronomy106.html).

121. HA IX, 40, 625b9–10.

Conclusion


2. Fattal’s characterization of Aristotle’s uses of logos as mostly critical and analytic, and not as synthetic as we claim here, may be due to the fact that he seems to be more interested in Aristotle’s posterity, especially in the later interpretation of nous in DA III, 6, than with Aristotle’s own use of logos (Fattal, 1988; Fattal, 2001: 15, 20–21, 197–212).

3. Euripides, Thyestes (Fr. 396, Tragicorum Graecorum Fragmenta), quoted in Rh. II, 23, 1397a.


5. Loose and perhaps subjective as they are, these suggestions are not altogether unfamiliar to Aristotle: “Humans are the same in relation to xenoi and to their own citizens
as they are in relation to style: thus [in poetry] one should make one's language foreign, for things that are remote are wondrous [thaumastai], and wondrous things are pleasant” (Rh. III, 1, 1404b8–11; along the same lines, see the use of the adjective xenikos against barbarismos in Po. 22).

6. Po. 2, 1448a15; Pol. I, 1, 1252b22–23. But see NE X, 9, 1180a29; Rh. II, 3, 1380b. For an implicit but clear reference, see also Pol. I, 1, 1253a5–7, and the intriguing parallel in Pol. III, 11, 1287b25ff. The figure of the Cyclops is the one we encounter in Homer’s Odyssey IX, 114ff., and in this sense Aristotle develops a figure already present in Plato, Laws 680B, 682A. But the earth-born beings in Pol. II, 5, 1269a6–7 refer to the other figure of Cyclops we find in Herodotus, IV, 27; Hesiod, Works and Days 108, Pindar, Nemean 6.1.

7. See Pol. VIII, 1, 1337a22ff.

8. NE I, 13, 1102b31–34. Emphasis is ours for reasons exhibited in chapter 5.


17. There is a specific term for the prepolitical agglomeration of households in Aristotle: kômê. (See Pol. I, 1, 1252b16ff.)

18. The same idea appears in Pol. III, 6, 1282a16–23. For the association between logos and synopsis, see also Pol. VII, 1, 1323b6–7.


20. Euripides, Cyclops 493. Although I have reservations for her argument as a whole, Nussbaum makes this exact same point and refers to this exact same passage (1982: 284).


22. See Aristotle, fr. 172 Rose.

23. See also Homer, Odyssey IX, 275–78.


25. It is unclear to me what someone like Polyphemus exactly wants to do with the ship here. Perhaps it might have some relevance as we shall see him needing a ship below.

26. Rh. II, 3, 1380b.


29. Cat. 1.

30. For the significance of the “linguistic defects” of the Other in Greek culture, see Heath, 2005: 174: “Linking all marginal groups in Greece was the lack or deprivation of authoritative speech. All except animals of course could speak, but they were each thought to have a language disability of some sort.” Heath also nicely points out the circularity between Greek imputation of linguistic defects to the “Other” and their exclusion from public speech. “Women, for example, were politically silent because they were not allowed
to speak publicly; they were publicly silent because they had no political role" (174, 190). But see also Heath's conclusion: “I am suggesting, then—without irony—that the very nature of Greek Otherness has helped, indeed has been and will continue to be required to mitigate the evil consequences of dogmatism. The Hellenic foundation of difference was such that it is bringing about the collapse of the hierarchical structure it helped to build” (176–77). For a judicious account of the Cyclops, or Polyphemus, as fitting the Greek stereotype of a barbarian, see again Heath, 2005: 193–95.


32. Already in the Homeric text, because Odysseus somewhat hubristically announces to Polyphemus who he really is, Odysseus exposes himself to the wrath of Polyphemus’s father, Poseidon. The end of Odysseus’s encounter with the Cyclops is thus not simply a victory of the former over the latter.

33. Not to be confused with Theocritus of Chios (Theocritus, 2002: 33–35). I must thank Eric Sanday for pointing out this text to me.

34. For the subtle relationship between plausibility and possibility in tragedy and comedy, indeed see Po. 24, 1460a26ff.

35. NE I, 13, 1102a28ff.


37. Compare Ovid’s Galatea telling her story (Ovid, Metamorphoses 13.738–897).

38. As Hunter remarks, “Desperate desire is the negation of self-sufficiency, the painful acknowledgement of ‘otherness,’ and so the Cyclops is a limit-case of general experience” (Theocritus, 1999: 222).


40. Po. 11, 1452a25, 33; 13, 1453a11, 20; 14, 1453b7, 31; 24, 1460a30; 16, 1455a20; 26, 1462b2.

41. Po. 14, 1453b31.

42. The passage we have in mind is Pol. VII, 6, 1327b23–33. See also the more famous passage in Pol. I, 1, 1252b5–9. See also Pol. VII, 6, 1328a8–13: “Spiritedness [thymos] is something dominant and indomitable; but it is not beautiful to say that [the guardians] are cruel to strangers; for one must not be this way to anybody, and men of great-souled nature are not fierce except toward wrongdoers, and even more so against their companions if they think these are wrongdoing them, as said before.”

43. Most dramatically, when she describes Laius to Oedipus, Jocasta says: “His look was not very different from yours” (743). It is exactly upon this phrase that Oedipus realizes that he is Laius’s killer.

44. Sophocles, King Oedipus, ll. 132–46.

45. “King Oedipus might have had one eye too many” (Hölderlin, 1984: 251). Aristotle also uses this metaphor and he may have Oedipus in mind in NE VI, 13, 1144b8–12.

46. Po. 15, 1454b6–8; 24, 1460a26–32.

47. It is a pity that Aristotle’s insightful emphasis on “recognition” (anagnôrisis) seems to have been understood as a momentary outburst due to an extraordinary incident (as in a poor science-fiction movie), or due to the outstanding skill of one protagonist (as many mystery novels appeal to a keen detective for solving the mystery, or as the scenes in many comedy movies pivot around one central factor of funniness, the withdrawal of which renders the situation back to its “commonness”). See Po. 16, 1455a16–18: “The best kind of recognition is the one that comes out of the things themselves [hê ex autôn tòn pragmatôn], of the unfolding [ekplêxeôs] that happens by means of plausible events, like Sophocles’
Oedipus..."The all too well known Aristotelian precept that in tragedy “one should prefer a likely impossibility to an unpersuasive possibility” in fact grants events the power to be likely and persuasive without appealing to strict logic (Po. 24, 1460a26–27). But this is precisely granted to events in a tragedy. The designed unfolding of events is such that it makes even the impossible likely. This means that a good intrigue, the heart of tragedy for Aristotle, is capable of making the impossible likely, and that a bad plot fails even to make a possibility even persuasive.

48. NE VI, 6ff.; see also below, DA III, 5, 430a14–17.

49. Despite his many points converging with my argument here, I disagree with Long’s claim that “God is relationality” (2011: 237). All levels of relationality involve logos according to my central thesis, and God or any divinity is never ascribed logos in the Aristotelian corpus. Therefore, God cannot be relationality. As we shall see below, this discussion boils down to the interpretation of the relationship between logos and nous. “All knowledge is with logos, but there is no knowledge of the principles” (APo. II, 19, 100b10–17; see also Aubenque, 2009: 66). Further, for Aristotle’s prioritization of sensation over logos, see GA III, 10, 760b27–33; APr. I, 30, 46a17ff.


51. Lee and Long try to establish a close relationship between Nous and logos (Lee and Long, 2007: 348–67). This seems to require not only a disambiguation of the term Nous, which the authors provide (e.g., from NE VI, 9, 1143a35–b5), but also a disambiguation of the term logos, which is supplied neither by Aristotle nor by the authors. It is the same problem of disambiguating logos which is underlined in Gonzalez’s review of Long’s 2011 book (Bryn Mawr Classical Review, August 13, 2011). I have similar reservations for using logos and Nous interchangeably as “reason.” See, for instance Frede, 1996: 157–73; Sorabji, 1996: 331; Sorabji, 1993: 69; Baracchi, 2007: 175.

Besides, in light of Aristotle’s sharp distinction between Nous and logos (see below), I am not convinced that logos is intrinsically related to Nous beyond perhaps being the “condition of possibility for noetic insight” (Lee and Long, 2007: 366). Aristotle’s God must be beyond any logos, and a fortiori beyond dialogue. Again, I agree with Gonzalez’s review where he says: “In short, the unmoved mover’s eternal ‘thinking of thinking’ appears to be the very antithesis of a dialogical conception of truth.”

52. See also GA II, 3, 736b28.


54. NE VI, 5, 1141a5–8; VI, 9, 1143b1.

55. NE X, 7, 1177b30–1178a2; X, 8, 1179a23–31.