

As It Is, It Is an Ax: Some Medieval Reflections on De Anima II.1.

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If an instrument, e.g., an ax, were a natural body, then its substance would be being ax,¹ and this would be its soul; if this were removed, it would no longer be an ax, except homonymously. But as it is, it is an ax.

Aristotle, *De Anima* 412^b11–15

Commenting upon this passage from Aristotle's *De Anima* II.1, Aquinas duly notes that Aristotle says that, if we were to suppose that an ax has a soul which makes it what it is, and then supposed that soul to be removed, the ax would no longer be an ax. Then he continues his account:

*Now, however, because the ax is not a natural body and its form is not 'the what it is for it to be what it was' of such a body, if the form of the ax is removed, it still is an ax.*²

This is an odd remark. One would have supposed, quite to the contrary, that upon removal of its form, the thing would *ipso facto* cease to be an ax.

1. For 'pelukei einai' I adopt the 'being ax' of M. Furth, *Aristotle: Metaphysics: Books Zeta, Eta, Theta, Iota (VII–X)*, (Indianapolis: Hackett, 1985), p. 105, but without his subscript 'd' to indicate the presence of the characteristic dative construction; I use the same expression for the Latin equivalent in Aquinas' commentary, '*dolabre esse*'. Otherwise, I follow in principle the translation of D. W. Hamlyn, *Aristotle's De Anima* (New York: Oxford University Press, 1968). I accept his "the what it is for it to be what it was" as a formula rendering of Aristotle's formula "*to ti ēn einai*", and I use the same translation for the Latin rendering found in Aquinas' commentary, "*quod quid erat esse*."

2. Thomas Aquinas, *Sententia libri de Anima, Opera Omnia*, t. XLV (Paris: Commissio Leonina/Vrin, 1984). Cited as DA Lib. II, cap. 2, p. 75. Italicizing indicates the Leonine editors' decision about what part of commentary text is the lemma of Aristotle on which Aquinas is commenting. There are some problems with their decisions deriving partially from uncertainty about what text of *De Anima* Aquinas was using. For a very lengthy discussion of the text of Aristotle, used by Aquinas, cf. the introduction to this Leonine edition, part III, "Le texte utilisé par St. Thomas," pp. 172*–199*.

Aquinas quickly offers a gloss: by “it is an ax,” Aristotle means that “the substance of the ax” will remain in the sense that the same underlying substance will remain, “though the artificial body itself does not remain in actuality.”³

This is a fairly odd thing for Aristotle to mean by saying what he does. And Aquinas’s commentary raises some further questions. For one thing, Aquinas’s gloss on Aristotle’s “it is an ax” would seem to commit Aristotle to the irregular view that the ax is an ax just by virtue of being made of iron, which, on the face of it, presupposes a peculiar theory about artifacts. And how does the story go, according to Aquinas, when the form of the (never ensouled) ax is removed? Should we imagine that when the form of the ax is removed, we are left with a pile of scrap iron? Or should we imagine, not a residual heap of iron filings, but this very piece of iron rendered ineffective—blunted perhaps, or somehow mysteriously deprived of its ax-making “oomph”? Aquinas’s account is curiously uninformative about this. And what is the scope of “in actuality” in the interpretation Aquinas offers? Does Aquinas mean to say that the ax is no longer *an ax in actuality* (is the point that it is just potentially an ax?), or that the “bodily” residue of the ax is no longer *an actually functioning “body”* of an ax, once the form is removed?

I shall argue that the meaning of Aristotle’s text is relatively straightforward and unproblematic. I will then offer some suggestions about how so acute a commentator as Aquinas came to produce such an odd reading of this passage. It turns out that Aquinas’s problems are not unique. This passage is a veritable tar pit; Albert the Great, Themistius, and Averroes also produced obscure treatments of it. This sort of uniformity among commentators suggests that there are philosophical difficulties which lie behind the text. Most obviously in this case, since *De Anima* II.1 begins Aristotle’s presentation of his own account of the soul, commentators and translators are heavily influenced at this juncture by the need to make Aristotle’s text say what they want his theory of the soul to have been.

I want to concentrate initially on a prior problem, however; for the Aristotelian tradition, the ontology of artifacts is problematic, and so it is not clear how Aristotle’s counterfactual involving the ensouled ax is supposed to work, or what it is supposed to show. For Aristotle, I think, the issue of artifacts was not a very difficult one or one of critical importance. But, from the theological-philosophical perspective of the Middle Ages, the distinction between nature and art is extremely important: nature is the work of God, and is, as such, an appropriate object of scientific knowledge, whereas art, being a matter of the arbitrary imposition of arrangements and qualifications upon natural entities, is the product of man’s will and willfulness—art and artifacts are therefore not in principle scientifically knowable.

The issue of the ontological status of artifacts is thus of special importance to medieval philosophers of language who hold that language is, to a

3. DA Lib. II, cap. 2, p. 75.

significant degree, a matter of human artifice, for to the extent that it is a matter of artifice, it is placed outside of the range of scientific knowledge. As *De Anima* II.1 becomes a *locus classicus* for theorizing about natural objects, artifacts, and their respective levels of actuality and perfection, the philosophical and terminological problems we see in the *De Anima* commentaries tend to reappear in those theories of language which understand language on the artifact model.

I. *DE ANIMA* II.1

Aristotle's *De Anima* text is fairly straightforward:

(1a) *On the one hand* it has been stated, universally speaking, what the soul is; for it is substance, that corresponding to the principle_L of a thing.

(1b) This *on the other hand* is “what it is for it to be what it was” for a body of such a kind.

(2) Compare the following: If some instrument (*organon*), e.g., an ax, were a natural body then

(2a) *on the one hand* its substance would be “being ax”, and this would be its soul;

(2b) *on the other hand* if this were removed it would no longer be an ax, except homonymously.

(3) But as it is, it is an ax;

(4) for it is not of this kind of body that the soul is “what it is for it to be what it was” and the principle, but of a certain kind of natural body having within itself a source of movement and rest.⁴

Aristotle here first offers a reprise of his results to this point: the soul falls by definition under substance in the sense of form [1a], which makes it the *to ti ēn einai* (the “what it is for it to be what it was”) of a body of a particular kind [1b]. The kind of body in question he has specified in the text immediately preceding as “a natural (*physikou*) body having life potentially (*dynamei*),” (412^a20–21, 28) which, he says, is the same as being “a natural organic (*physikou organikou*) body.” (412^b6–7)

In (2) he offers a sort of thought experiment for purposes of illustration. Suppose, he says, that some tool like an ax were not an artificial body,

4. Aristotle, *De Anima*, 412^b10. In Hamlyn's translation, the subscript 'L' indicates that the English word following is a translation of some form or morphological relative of the Greek *logos*. I diverge from Hamlyn's translation in making explicit the *men . . . de* structure of the text by means of the awful “*on the one hand . . . on the other hand*” construction. Like the “*quidem . . . autem*” construction adopted by William of Moerbeke, it has frequently no lexical meaning in itself, but serves rather to reveal the intended logical structure of Aristotle's text.

but a natural one. Then (2a) “being ax” would be its substance, and this “being ax” would be its soul. Correspondingly (2b), if its substance in this sense should be removed, then it would no longer be an ax, having lost what made it what it was, that is, an ax. It might still be called an ax homonymously, he concedes; later in the passage he makes the similar point that a sightless eye is said to be an eye only homonymously, like an eye of stone or a picture of an eye.⁵ (3) But as things are, he continues, it is just an ax, for (4) the ax is not the kind of body which has a “what it is for it to be what it was” which is a soul; this is because only natural bodies having within themselves the source of motion and rest can have souls.⁶

I want to make several points about Aristotle’s text as I read it. First, (3) marks Aristotle’s return from his counterfactual hypothesis to the real world of soulless axes, and does not state a contrast with (2b). Secondly, I take (4) as a brief elucidation of (3), which seems to be the natural way to read its postpositive ‘for’ (*gar*).

Finally, Aristotle’s ax analogy is situated within a longer passage which has to do with the relationship between soul and body; the passage as a whole is concerned to explain the sense in which the soul is activity, but it is also concerned with the correlative question of how to determine the precise meaning of “a body having life potentially,” which, Aristotle has said, is the same as being “an organic body.” Early in this chapter, “*organon*” has been used to designate natural bodily organs:

Hence the soul is the first actuality of a natural body which has life potentially. Whatever is organic will be a body of this kind. Even the parts of plants are organs, although extremely simple ones, e.g., the leaf is a covering for the pod, and the pod for the fruit; while roots are analogous to the mouth, for both take in food. If then we are to speak of something common to every soul, it will be the first actuality of a natural, organic body. (DA 412^a27–412^b6)

In the ax analogy, as we have seen, “*organon*” is also used in a second sense to designate a tool or instrument like an ax. Aristotle follows the ax analogy with a second—and closer—analogy. “If the eye were an animal,” he says, “sight would be its soul.” (DA 312^b17–18) The eye is not an animal either, because it is a “part,” that is, not fully autotelic; but, being an organ itself in the biological sense, the eye offers a better analogy to the animal: “as the part is to the whole, so analogously is perception as a whole to the whole perceptive body as such.” (DA 412^b23–25) Aristotle does not, however, drop his first analogy at this point; instead, he draws out the parallels between

5. *De Anima* 412^b20–22.

6. To be sure the ax had to be made as it is in order to serve its purpose; but that purpose exists in the mind of the maker, and the ax has been constructed so as to embody that purpose by the art of the maker—its “development” is thus not motivated by some natural internal dynamic of its own.

both the ax and the eye, on the one hand, and the soul on the other: "Like cutting or seeing, so the waking state is an actuality, while the soul is like sight and the potential of the instrument (*dynamis organou*); the body is that which is this potentially." (DA 412^b27)

It seems a fair question why Aristotle is muddying the waters with an exploitation⁷ of the several applications of "*organon*" in a section devoted to giving his own account of the soul, having spent Book I on the vagaries, confusions and stray insights of his predecessors.

Certainly one thing he is doing is offering an artifact as an analogy for the teleological structure of the living creature. He wants to insist that a body which "has life potentially" must consist of a set of interlocking structures arranged according to purpose; and the more overt purposive character of the artificial tool suggests itself as an illuminating analogue. The ax analogy is also introduced for contrast; the latitude of meaning of '*organon*' and the succession of examples focus attention on the fact that the ax is the wrong sort of *organon* to have a soul; its matter has the wrong relation to its form for it to have life, for its body does not have "within itself a source of motion and rest."

In addition, the latitude of application of *organon* is important to a larger agenda. *De Anima* II.1 concludes:

(i) That, *on the one hand*, therefore, the soul or certain parts of it, if it is divisible, cannot be separated from the body is quite clear; for in some cases the actuality is of the parts themselves—not that anything prevents at any rate some parts from being separable, because of their being actualities of no body. (ii) *On the other hand*, it is still not clear whether the soul is the actuality of the body in the way that the sailor is of the ship. (DA 413^a2–10).

(i) is precisely what we have expected; and tacked on to the end of (i) is an intimation of a position explicitly held by Aristotle⁸—that in the way in which sight has the eye as its *organon*, reason has no proper *organon*. (ii) is surprising; although Aristotle does not here assert the pilot-and-ship analogy, he does not dismiss it either. Apparently, in this "most general" and "schematic" account of the soul, Aristotle means to leave open the possibility that the body is to be understood as related to the rational soul in somewhat the same way as the ax is related to woodsman or warrior, that is, as something by means of which reason's designs are realized in the world. What Aristotle does here is, I think, part of a larger investigation that is picked up again at *De Anima* III.9 ff., where he turns his attention from

7. Cf. esp. 432^a1–2, where the hand is said to be the "*organon organōn*." I am indebted to Ronna Berger for her insistence that some answer is wanted to the question about Aristotle's intent in mixing up his terminology at such a critical point in the presentation of his theory.

8. Cf. DA 429^a26.

perception and cognition to the movements of animals, which involve “something bodily which is the *organon* by which desire produces movement.” (433^b19) In any event, Aristotle’s exploitation in *De Anima* II.1 of the related, but distinct, applications of *organon* fixes a troublesome latitude of meaning upon the Greek expression which will carry over to its Latin translations, ‘*organum*’ and ‘*instrumentum*’.

II. AQUINAS’S COMMENTARY ON *DE ANIMA*

Aquinas’s commentary reads:

(2)_A *Just as, if some tool (aliquid organum), that is some artificial tool (artificialium instrumentum), for example an ax, were a physical body (corpus physicum), that is a natural one, its form would be related to it in the aforesaid way. And therefore he continues,*

(2a)_A *For indeed, “being ax” would be its substance, that is the form of the ax from which the rational principle (ratio) is received; this rational principle he calls “being ax” because on the basis of it an ax is said to be an ax . . . and further, if the ax were not only a physical body, but also an animated body, the form of the ax would be a soul.*

(2b)_A *and if it were removed, there would no longer be an ax, except equivocally, just as, if the soul is removed, there is neither flesh nor eye except equivocally.*

(3)_A *Now, however, because the ax is not a natural body and its form is not the “what it is to be what it was” of such a body, if the form of the ax is removed, it still is an ax, i.e., the substance of an ax. For the substance of artificial bodies is their matter, which remains when the form is removed, although the artificial body itself does not remain in actuality.⁹*

9. DA Lib. II, c. 2: “Sic igitur anima dicitur forma substantialis quia est de essentia sive de quidditate corporis animati . . . Et quia forme substantiales cuiusmodi sunt forme corporum naturalium, sunt latentes, manifestat hoc per formas artificiales, que sunt accidentales, et hoc est quod subdit: *sicut si aliquid organorum, id est artificialium instrumentorum, ut puta dolabra, esset corpus physicum, id est naturale, forma sua hoc modo se haberet sicut dictum est. Et ideo subdit: erat quidem enim dolabre esse substantia ipsius, id est : forma dolabre secundum quam accipitur ratio dolabre, quam quidem rationem nominat esse dolabre eo quod secundum eam dolabra dicitur esse dolabra . . . et ulterius, si dolabra non solum esset corpus physicum set etiam corpus animatum, forma dolabre esset anima et, ea separata, non esset amplius dolabra nisi equivoce, sicut, separata anima, non est caro aut oculus nisi equivoce; nunc autem quia dolabra non est corpus naturale, nec eius forma est quod quid erat esse tali corpori, remota forma dolabre adhuc est dolabra, id est substantia dolabre; substantia enim corporum artificialium est materia ipsorum, que remanet sublata forma artificiali, licet non remaneat ipsum corpus artificiale in actu” (p. 75).*

Like Aristotle, Aquinas shows little interest in describing the hypothetically living ax or what is left of it after its “death,” except to say, as Aristotle does in (2b), that it would no longer be an ax. But Aristotle’s (3), “As it is, it is an ax,” is read by Aquinas as describing a contrast to this outcome: in contrast to the ensouled ax, which would cease to be an ax if its form were withdrawn (2b), the soulless ax “is still an ax after its form is withdrawn.” He reads (3) as:

(3)_A Now, however . . . it still is an ax.

Aquinas has thus apparently read “however” in Aristotle’s (3) as indicating contrast, and has gone searching for whatever it is that (3) contrasts with; he finds it in (2b) that is, in the claim that the besouled ax, having lost its form, is an ax no longer. (3) must say, he reasons, that if the soulless ax loses its form, it stays an ax. As we have noted, he quickly glosses this peculiar reading of (3) as saying that the ax continues to be an ax only in the sense that its natural matter—the real substance of the artifact—remains. The artificial body is no longer *actually* there, he adds.

Aquinas’s reading is ingenious. There are some Aristotelian oppositional pairs in this passage, and the “however” of (3) and (3)_A is the sort of expression which could mark such an opposition. In addition, the gloss Aquinas offers for the strange claim that a soulless ax will still be an ax after losing its ax-form has the virtue of being something which Aristotle might have said, had he been talking about what Aquinas has him talking about: when an iron ax ceases to have an ax-form, the natural substance it is made of—its iron—is what is still there. Moreover, the point is germane; in this chapter Aristotle does take an interest in what counts as an appropriate body for a living thing and later states that what has lost its soul does not count as potentially being a living thing.¹⁰ Body as such, then, is not a substance like iron, which has a natural integrity that can be left behind when the form is removed, then reassumed. Finally, Aquinas has anticipated the obvious objection to his reading that (4) cannot be taken as an argument for (3) understood as Aquinas understands it; he proposes to take (4) as a general rationale for the whole contrast between animal and artifact which is set up in the passage:

(4)_A And because he has said that matters are one way now with respect to the ax, and would be otherwise if it were an animate natural body, he gives a reason for this, saying that this is because the soul is not the “*what it is for it to be what it was*” and rational character, that is the form, *of a body of this sort*, that is an artificial one, *but of a natural body of this sort*, that is having life; and in order

10. DA 412^b25–26.

to make clear what it is to be a natural body, he adds: *having in itself a principle of motion and rest*.¹¹

This reading is ingenious, but wrong. The gloss Aquinas offers for (3), understood as (3)_A, is implausible; even if (3)_A is authentically Aristotelian in spirit, it is unlikely that Aristotle would have expressed this sentiment by saying “It is (still) an ax,” and not “It is (still) iron.” We would need a good reason for adopting a reading which forced us to accept Aquinas’s gloss. An Aristotelian oppositional construction linking the claim about the “death” of the hypothetically besouled ax (2b) and a correlative claim about what happens when the merely artificial ax loses its form would constitute such a reason; but a look at the Greek passage shows that the “But” (*de*) of the introductory phrase of (3) is not the second part of such an oppositional pair, all of which are closed off by this point.¹² Aquinas’s reading requires that we ride fairly roughshod over the oppositional structure of the passage (which is very clearly marked in Moerbeke’s translations from the Greek by the use of ‘*quidem . . . autem*’ for ‘*men . . . de*’).¹³ Moreover, whatever his general practice, in *De Anima* Aristotle typically uses the locution ‘But as it is’ (*nun de*) just to mark the return to actual fact from one of his exasperating contrary-to-fact hypotheses.¹⁴

Why did Aquinas offer this interpretation? There is some similarity between Aquinas’s reading and Albert the Great’s treatment of the passage:

And if, holding to our earlier supposition, i.e., that the ax is a natural body, the body of the ax which is iron should be separated from the

11. DA II, c. 2, ll.70–79: “Et quia dixerat quod aliter nunc est in dolabra et aliter esset si esset corpus phisicum animatum, assignat rationem huius, dicens quod hoc ideo est quia anima non est *quod quid est esse et ratio*, id est forma, *huiusmodi corporis*, scilicet artificialis, *set corporis phisici huiusmodi*, scilicet habentis vitam; et ut manifestat quid sit esse phisicum corpus, subiungit *habentis in se ipso principium motus et status*: naturalia enim sunt que in se ipsis principium motus et status habent; huiusmodi enim principium natura dicitur” (p. 75).

12. There are two such oppositional pairs. The first, in [1a] and [1b], is of considerable interest in a way which is not entirely germane to our discussion. Aristotle seems clearly to be signalling a change of direction in the discussion. He first sums up what can be said of the soul as a universal—that it is substance and entelechy; then he turns to what can be said of the individual soul, that is, that it is the ‘what it was for it to be’ of a particular body of a special kind. There is, then, some support here for the position taken by Alan Code in “The Aporetic Approach to Primary Being in *Metaphysics Z*,” *The Canadian Journal of Philosophy*, Supplementary Vol. X, (1984) pp. 1–20, that Aristotle attempts “to assign distinct and independent causal roles to the particular soul and the species-form,” and perhaps for the further claim that “only the latter can function as a principle of life” (pp. 19–20).

13. This is one of the respects in which Moerbeke is systematically faithful to his Greek originals. Cf. the table of equivalents on p. LXV of Verbeke’s introduction to *Themistius: Commentaire sur de traité de l’âme d’Aristote: Traduction de Guillaume de Moerbeke* (PDA). (Louvain/Paris: Publications Universitaires de Louvain and Éditions Béatrice-Nauwelaerts, 1957).

14. Cf. DA 423^a10; 423^a20; 429^a25.

form of the ax, then it will have neither the being nor the ratio of iron; but that the iron is still (*adhuc*) customarily said to be iron (*ferrum adhuc est ferrum . . . apud usum loquendi*) when the form of the ax is separated from it is due to the fact that the ax is an artificial, and not a natural instrument.¹⁵

While Albert's commentary settles on the importance of the persistence of the iron, he focuses completely on the matter of the supposed ax-animal. That matter would not remain iron, he says, if the ax-soul were removed. We still property *call the matter iron*, he continues, if the form is removed—and this has to be because the ax is just an artifact. Albert seems to have forgotten, as Aquinas has not, that Aristotle's (3) says that the ax remains *an ax*.

There are two further circumstances which may bear on Aquinas's understanding of Aristotle's text and which bear looking into. First, it is frequently difficult to say precisely what version of the base text a medieval commentator is using. So, what precisely, did Aquinas' text of Aristotle say? As we have seen, Aquinas reads (3) as

(3)* Now, however, it is *still* an ax.

The "still" in (3)* tilts the meaning of (3) considerably, albeit perhaps not decisively, toward Aquinas's reading. The expression occurs in Albert's commentary; but, as we have noted, Albert was talking about the iron. The "still" (*adhuc*) was not in William of Moerbeke's translation of *De Anima*,¹⁶ and it is not in the earlier translation by James of Venice,¹⁷ which Aquinas had himself used until 1267, when he began his commentary on *De Anima*.¹⁸ However, it has been well established that Aquinas was working with a very idiosyncratic

15. Albertus Magnus, *Libri de Anima, Opera Omnia* VII, pars I, (Aschendorff: Monasterii Westfalorum, 1968), Lib. 2, tract. 1, cap. 4: "Et si, positione priori retenta, quod scilicet dolabra sit corpus physicum, corpus dolabrae, quod est ferrum, *seperatur* a forma dolabrae, iam *non* habebit nec *esse* nec nomen *dolabrae nisi* forte *aequivoce*, sed quod ferrum adhuc *est* ferrum, separata ab ipso forma dolabrae, apud usum loquendi, ideo est, quia *dolabra* est organum artis et non physicum" (pp. 68–69). The italicized text represents the editors' conjecture as to what part of the text is lemma taken from either the *vetus* or the *arabo-latina* translation of Aristotle's text.

16. Cf. the Latin text of "T," the approximate text used by Aquinas as constructed by the Leonine editors of the *De Anima* commentary (DA, p. 74), and also the text of Moerbeke's translation furnished by Verbeke in his edition of Moerbeke's translation of Themistius' paraphrase (*Commentaire*).

17. I thank Jos Decorte for this information from the forthcoming *Aristoteles Latinus* edition of the *vetus* translation. I have consulted the text of the *vetus* translation of *De Anima* from the text printed in Albertus Magnus's commentary; it reproduces in essentials the text published with Petrus Hispanus's commentary on *De Anima, Obras Filosóficas: Il Comentario al "De Anima" de Aristoteles* (Madrid: Consejo Superior Investigaciones científicas, Instituto filosófico Luis Vives 1944), no. 3, L. II, lect. 2, pp. 537–38. Neither text is a critical edition, and neither has extensive apparatus.

18. Cf. the discussion in the introduction to the Leonine edition of Aquinas's *De Anima* commentary, esp. pp. 172*–183*.

and defective edition of Moerbeke's translation;¹⁹ there also seems to have been fairly wide variation among *vetus* versions as well.²⁰ Was the suggestive "still" in his version of the translated Aristotle text? The fact that Aquinas here appears to give a quotation followed by "that is"—the standard formula for introducing a literal paraphrase of a quoted lemma—suggests slightly that his text did contain the word "still." It is difficult to say, for Aquinas frequently does mix elucidation and quotation, rephrasing slightly the text he is commenting on. But the precise answer to the question may not matter; even if the telltale "still" was not in Aquinas' text of Aristotle, the way in which he includes it at this point tends to show that he regards it at least as an unproblematic clarification of the text he is analyzing.

The question of why Aquinas considered the "still" to be unproblematic leads to a second consideration. Aquinas came to his text through the commentaries and paraphrases of others who were frequently working from yet other versions of the base text, and who tended to have philosophical axes of their own to grind in their commentaries. A vigorous Latin commentary tradition had grown up around the "old" translation of *De Anima* by James of Venice, among them the commentary of Albert the Great. Many of these commentaries were sympathetic to the interpretation of Averroes.²¹ Aquinas also had access to the *Long Commentary on "De Anima"* of Averroes, which included yet another translation of *De Anima*, the "arabo-latin."²² Through Averroes, Aquinas was familiar with a good deal of Greek and Arab commentary on *De Anima*.²³ Also, after 1267, Aquinas had available Themistius' paraphrase of *De Anima* in the translation of William of Moerbeke. Thus our second question: What were the Aristotle texts of Aquinas's "authorities" like, and what did the "authorities" think Aristotle's text meant?

III. AVERROES'S *LONG COMMENTARY ON "DE ANIMA"*

By the time of Aquinas's commentary on *De Anima*, Averroes's *Long Commentary* was a basic text in the scholastic tradition. Even if there are con-

19. William of Moerbeke's translation (the "*nova*") was itself a systematic correction of the earlier translation of James of Venice (the "*vetus*"). For some comparisons of (a) the *Vetus* text; (b) the *Nova*; and (c) the text used by Aquinas and his commentary on it, cf. esp. pp. 174*–184* of the introduction to the Leonine edition of Aquinas's commentary on *De Anima*, chap III.3.

20. According to the editors of Aquinas's *Commentary on "De Anima"*, the *vetus* text used by Aquinas was one of the "*deteriores*," i.e., a text "a text already altered and corrupted," Intro., chap. IV. 11, pp. 267* ff., "St. Thomas, utilisateur de la *Vetus*."

21. *Commentary on "De Anima"*, pp. 235*–273*.

22. The editors of the *De Anima* Commentary of Albert the Great, argue that Albert himself freely quoted from this "arabo-latin" translation, as well as from the *vetus* version, which seems to have been his main source (pp. v–vii).

23. Cf. intro. to Aquinas's *Commentary on "De Anima"*, p. 273*.

siderable differences between Aquinas' understanding of *De Anima* II and that Averroes, there is also a considerable and complex similarity in matters of textual division and line-by-line exegesis.²⁴ A look at Averroes' treatment of *De Anima* 412^b10–17 in his *Long Commentary on De Anima* shows why Aquinas might have considered the “still” of (3)* unproblematic.²⁵

(2)_{AV} And he says, *Just as if some tool, etc.* That is: Both the forms and the essences of natural bodies are substances, for just as if some tool like an ax were a natural body (that is if we imagine that it is a natural thing), then

(2a)_{AV} the keenness of the ax would be its substance.

(2b)_{AV} Then he gives the reason for this. And he says: *And similarly, this, when it has been removed, etc.* That is: and it is necessary with respect to the ax that if it were a natural body, its keenness would be its substance. For we do not call something an ax unless it is composed of matter, that is iron, and form, which is keenness. And if the keenness should be removed, and the ax were a natural body, then there would be no ax because there would not be matter and form, unless ‘ax’ were said equivocally. And that through whose removal this substance is removed is substance, for it is a part of it and a part of substance is substance.

(3)_{AV} Then he says *As things are, however, it will be an ax afterwards.* That is: as it is, however, because the ax is an artificial body, although its keenness should be removed from it, nonetheless it would afterwards be called an ax because of its shape; for its proper shape is the same in it with and without keenness.

(4)_{AV} Then he says *for the soul is not, etc.* That is, with the soul it is the opposite of how it is with keenness; for the name is removed from the living thing on account of the removal of the soul, and the ax retains its name, even if the keenness is removed. For the soul is not in such a body as that in which there is keenness—<not>, that is, in the body of an artificial instrument (*artifi-*

24. James C. Doig, “Toward Understanding Aquinas’ *Com. in De Anima*: A Comparative Study of Aquinas and Averroes on the Definition of Soul (*De Anima* B, 1–2),” *Rivista da filosofia neoscolastica* 66 (1974): pp. 436–74, gives a thorough comparison of the differences and similarities between the two passages of commentary on *De Anima* II.1–2, including an assessment of the effects of the differences between the *vetus* translation and the text of Aristotle used by Averroes as reflected in the “arabo-latin” version.

25. The editors of the Leonine edition of Aquinas’s *Commentary*, pp. 221*–223*, argue that it is difficult to assess the influence of Averroes’s *Long Commentary on “De Anima”* on Aquinas’s commentary. They argue for the view that Aquinas knew a “scholastic” Averroes, that is, knew the commentary—by then in the Latin West for more than forty years—as a classical text heavily commented on, which he thought of as a source “d’informations valables et de formulations heureuses.”

cialis organici)—, but in a natural <body>. This is what he means when he says *in such a body*.²⁶

Thus, instead of (3), Averroes's Aristotle text, a notoriously bad one, read;

(3)** As things are, however, it will be an ax afterwards.

The “afterwards” of (3)**, with which Aquinas must have been familiar, clearly weights matters decisively in favor of the interpretation of Aristotle's (3) Averroes adopts. Given Averroes's text, the point must be that *after* the removal of the artificial form, the ax remains an ax. And one has got to find some reason why Aristotle would say this.

It is easy enough to find a reason for (3) thus interpreted some lines later in Averroes's commentary:

With respect to the artificial form, because its matter is not removed when it is removed, but remains in name and definition (since when the shape of the ax is removed, the iron remains the same as before in name and definition), it is necessary and proper that its name, i.e., ‘ax’, remain, since it picks out this tool as an individual of a substantial kind, although the keenness is removed.²⁷

26. *Averroes, Commentarium magnum in Aristotelis De Anima Libros*, ed. F. Stuart Crawford (Cambridge, Mass.: Medieval Academy of America, 1953). The translation into Latin from Arabic is probably the work of Michael Scotus, and there is no Arabic edition extant of the commentary. Hereafter cited as CM. “Et dixit: *quemadmodum, si aliquod instrumentum*, etc. Idest, et forme et essentie corporum naturalium sunt substantie. Quoniam quemadmodum si aliquod instrumentum esset corpus naturale, ut securis (idest si ymaginati fuerimus ipsum esse ens naturale), tunc acumen securis esset eius substantia. Deinde dedit rationem super hoc. Et dixit: *Et similiter ista cum abstracta est*, etc. Idest, et necesse est in securi, si esset ens naturale, ut eius acumen esset substantia. Securis enim non dicitur nisi illud quod congregatum est ex materia, scilicet ferro, et forma, que est acumen. Et si acumen auferatur, et esset securis corpus naturale, tunc securis non esset, quia materia et forma non essent, nisi diceretur securis equivoce. Et illud per cuius ablationem auferatur hec substantia est substantia; est enim pars eius; pars autem substantie est substantia. Deinde dixit: *Modo autem erit post securis*. Idest, modo autem, quia securis est corpus artificiale, licet acumen sit ablatum ab eo, tamen post dicitur securis per suam figuram; figura enim propria ei eadem est in eo cum acuitate et sine” (pp. 140–41). “Deinde dixit: *anima enim non est*, etc. Idest, et est de anima econtrario acuitati; nomen enim aufertur ab animato per ablationem anime, et remanet in secure, licet acumen auferatur. Anima enim non est talis corporis in quo est acuitas, scilicet corporis artificialis organici, sed naturalis. Et hoc intendebat cum dixit *tales*. Et hoc quod dixit *principium motus et quietis* est dispositio corporis naturalis” (II.8.25–44, p. 143).

27. CM Lib. II.8.81–88: “Forma autem artificialis, quia, cum aufertur, non aufertur materia, sed remanet nomine et diffinitione (quoniam cum figura securis aufertur, remanet ferrum idem sicut ante nomine et diffinitione), necesse est et recte ut remaneat nomen eius, scilicet *securis*, quod demonstrat hoc instrumentum secundum quod est individuum substantie, licet acuitas auferatur” (p. 142).

This passage offers an obvious source for Aquinas's gloss on (3), that, possibly because of Averroes's influence, he read as (3)*.

But comparison with Averroes's initial account of Aristotle's argument uncovers an oddity; this passage offers a rationale for (3)* but is, in fact, not consistent with Averroes's original account of 412^b11–15. Although Averroes consistently identifies the form that is lost as "keenness,"²⁸ in his initial discussion he says that we rightly continue to call the residue an ax after its form is removed *because its proper shape (figura propria) remains the same*, even if it has lost its edge or ability to cut (*acumen*); in the section which seems to be the source of Aquinas's gloss on (3) he says that what is left of the ax is still rightly called an ax because the characteristics matter—the iron—remains, *even if it has lost the characteristic shape of an ax (figura securis)*.

One source of the inconcinnity in Averroes's commentary is an exegetical problem he faced. In his lengthy discussion of Aristotle's (3), Averroes elaborates: "the name 'ax', whether natural or artificial, is said of the combination of what is like form (*quasi forma*) in it and that which is like matter (*quasi materia*"); the name of an individual of a kind is of necessity imposed on "matter and form together."²⁹ But, apparently realizing that this rationale entails the opposite of (3) (which he read as (3)**), Averroes abruptly takes the opposite tack: "Or shall we say, " he asks, "that the name applies to it only as matter, for example, on the basis of its being an iron body?" He then explains that when the natural body's form is removed, its proper matter is removed also, as "when seeing is removed from flesh, the flesh does not remain either, except equivocally, like the "flesh" of the dead."³⁰ Thus in the case of the live thing, when the form is removed, nothing at all remains on the basis of which it can non-equivocally be called an individual of the kind it was when it was alive. By contrast, he continues, since the iron of the artificial ax remains

28. The Latin translation uses both '*acumen*' and '*acuitas*'. All things considered, '*acumen*' is more likely to mean 'edge' and '*acuitas*' 'keenness'; but they seem to be used interchangeably here. It is not clear whether Michael Scotus, the Latin translator of Averroes's *Long Commentary*, was reacting to differences he found in his Arabic version of the commentary or not.

29. CM Lib. II.8.46–53: "Manifestum est enim per se quod hoc nomen *securis*, sive fuerit naturale sive artificiale, dicitur de illo congregato ex illo quod est quasi forma in eo, et ex eo quod est quasi materia. Et etiam manifestum est per se quod *securis* dicitur de aliquo individuorum substantie. Et sic necesse est ut hoc nomen quod dicitur de eo secundum quod est individuum substantie sit dictum de eo secundum materiam et formam insimu" (p. 141).

30. CM Lib. II.8.57–81: "Aut dicamus quod hoc nomen non dicitur de eo nisi secundum materiam tantum, v.g. secundum quod est corpus ferreum? . . . Forme igitur naturales substantie sunt, quia cum fuerint ablate, aufertur nomen quod demonstrat ens secundum quod est individuum substantie, et similiter diffinitio que est secundum illud nomen; quia auferuntur genus et differentia, quorum unum demonstrat materiam et aliud formam; v.g. quod, cum sensus aufertur a carne, non remanet caro, nisi equivoce, sicut caro mortui" (pp. 141–42).

the same after the form is removed, we rightly continue to call it “ax,” which is the name which applies to is as an individual of a substantial kind, that is, iron.³¹

There is a fairly obvious philosophical source of Averroes’s difficulty as well. In the case of artifacts, the identification of formal and final cause that is typical of natural substances amounts almost to equivocation. To see why this is so, suppose the ax to change by progressive dulling. At some fairly indeterminate point—though surely well short of the point at which a museum visitor gazing into a case would cease to call it an ax—the ax’s shape will change enough so that only in very special circumstances by being wielded by Arnold Schwarznegger, for example—will it be useful for chopping. At that point, that ax’s “natural” fitness for its purpose is gone; its form as final cause is gone. But what, after all, is the form of the ax but its shape? Thus at this point, the shape of the ax is, and is not gone; it is gone in the sense that the ax no longer has the shape required to chop; however, it is not gone enough for the ax to be unidentifiable as an ax on the general basis of its shape. This, I think, is exactly the source of Averroes’s ambivalent intuitions. The keenness is gone, he says in the first passage; but the shape remains, whether the thing will cut or not. The ax has lost its form, he says in the second passage, and what can that be for so simple an object but to lose its characteristic shape?³² The inconcinnity can be avoided, obviously, by ignoring one intuition and stipulating that an ax-ish thing that is too dull to cut may not properly be said to have the shape of an ax at all, that is, by adopting a technical definition of shape: To be shaped like an ax is, strictly speaking, to be able to function as one. If this definition is accepted, then our museum visitor who identifies that ax-ish implement that will not cut as an ax on the basis of how it looks is just wrong—unless the viewer is just speaking homonymously—the sort of fellow who goes around talking of sightless eyes and dead men. The thing is not an ax; it does not even, technically speaking, have the shape of an ax.

If Aquinas followed Averroes’s commentary closely, he almost certainly must have noticed that he was faced with an extremely curious piece of work. It seems significant, given the tension in Averroes’s commentary, that Aquinas’s account says nothing about what it is that is removed when the form of the merely artificial ax is removed. Also, Aquinas does not elaborate on Aristotle’s claim that “being ax” would be the soul of the ax-animal.³³ He simply adopts Averroes’s understanding of (3), then skips to the only

31. CM Lib. II.8.81–88.

32. This, I think is the move to which Ackrill objects in “Aristotle’s Definitions of Psyche,” *Proceedings of the Aristotelian Society* 73 (1973): 119–33, when he objects that “The thing’s ability to do a certain job is not *identical with* its shape, structure, etc.”

33. In addition, clearly he decided to skip entirely the odd section of Averroes’ commentary which seems to give a rationale which renders (3)** false.

cogent rationale for (3) to be found in Averroes's commentary. He has borrowed-around the problem in Averroes's account.³⁴

IV. THE FORM AND MATTER OF ARTIFACTS

Averroes begins his expositions of *De Anima* 412^b11–15 by ascribing to Aristotle a clear motivation for posing the ax example:

Then he gives the example of artificial bodies, and thereby draws a distinction between natural and artificial bodies. For the essences of artificial things are accidents; and therefore certain people suppose that it is also thus with the essences of natural bodies. And he says: *just as if some tool, etc.*³⁵

Throughout his discussion, Averroes is concerned to stress the point that the animal body is not to be thought of as a substance with its own substantial integrity to which the soul is accidental or supervenient³⁶; to do so is *in effect* to understand living beings as artifacts.

Aquinas understands Aristotle's intent in proposing the ax example differently:

Because, then, the forms of artifacts are accidents which are more known to us than substantial forms inasmuch as they are nearer to the senses, therefore he elucidates the definition of the soul, which is a substantial form, by way of comparison to accidental forms.³⁷

34. A further problem for Aquinas was that he probably found Themistius's *Paraphrase of "De Anima,"* on which he frequently relied, unhelpful at this juncture. Themistius's paraphrase was available to Aquinas in the Latin translation of William of Moerbeke: "Put a si naturale corpus dolabra esset et species haec haberet, ut posset incidere non ab arte sed a natura, animal utique esset, et corpus quidem ipsius ferrum, anima autem talis figura et akme et incidere. Hoc enim esset dolabrae esse : hebetata autem et mutata figura non adhuc dolabra, sed aequivoce, sicut neque Socrates homo post incinerationem, sed aequivoce; nunc autem si salvetur forma, dolabra quidem est, animal autem non est, non enim artificialis organi species et ratio anima, sed naturalis vitam habentis: hoc autem erat organicum." Themistius, *Commentaire* p. 99. The question is what is meant by Themistius's curious addition "*si salvetur forma.*" It may in fact bring Themistius quite close to what Aristotle had in mind in (3), that is, if the ax be supposed to retain its artificial form (instead of being supposed to be an ax-animal), it is just an ax. But on Aquinas's reading of Aristotle's argument, the most obvious reading of Themistius phrase is something like: but if the (ensouled) ax keeps its form, it is still an ax. An obviously true, but pointless remark.

35. CM p. 140.

36. CM II.2.98–99: "Materia enim nullum habet esse in actu in corporibus naturalibus secundum quod est materia, et esse non est in actu nisi forme" (p. 143).

37. DA II, ch. 2, 11. 14–19, p. 74.

But he agrees with Averroes in warning against understanding the soul as accidental or adventitious with respect to a body which is already a kind of substance in its own right:

Therefore it cannot be held that soul is the actuality of body and that body is its matter and subject in the sense that body is constituted by one form which makes it be a body, and the soul is added over and above this to make it a living body. Rather, that it is and that it is body and that it is living body come from the soul.³⁸

And Aquinas's exposition of *De Anima* II.1 draws a sharp contrast between artifacts and natural bodies precisely because he takes the forms of artifacts to be accidental to pre-existing substances, in contrast to the substantial forms of natural substances.³⁹

Neither Averroes nor Aquinas is interested here in the ontology of artifacts *per se*. Rather, a particular position about the structure of artifacts becomes philosophically emphasized here because it allows these two commentators to dramatize the undesirable view that the soul is something accidental or adventitious with respect to body, which has its own independent substantial integrity.

Aristotle's text does not have this emphasis. In *De Anima* II.1, Aristotle does not seem to be interested in how artificial forms inhere in natural substances, but rather in the fact that artifacts have a causal structure very much like that of natural substances.⁴⁰ This is the reading of Themistius

38. DA II.1: "non est ergo sic intelligendum quod anima sit actus corporis et quod corpus sit eius materia et subiectum, quasi sit constitutum per unam formam que faciat eum esse corpus et superveniat ei anima faciens ipsum esse vivum corpus, sed quia ab anima est quod sit et quod corpus sit et quod sit corpus vivum" (p. 71).

39. DA II.1: "Corpora naturalia sunt principia artificialia, quia corpora naturalia sunt principia artificialium; ars enim operatur ex materia quam natura ministrat, forma autem que per artem inducitur est forma accidentalis, sicut figura vel aliquid huiusmodi" (p. 69).

40. In fact, it seems likely that the substance-*cum*-accident account of the ontological composition of artifacts is not, at least not consistently, the one Aristotle favors. There is some textual justification for attributing the view to him; in *Metaphysics* Z.15 where Aristotle asks whether being a cloak can be understood as an essence or whether it is not a composite like being pale man, he seems to opt for the latter account. But in *Metaphysics* Z.15, Aristotle uses an artificial form to illustrate the difference between form as general *logos*, e.g., "the being of house," and form in the concrete, e.g., *this* house; the latter can be "<in the process of> perishing . . . or <in the process of> coming to be," though the former cannot (1039^b22–25). Moreover, though Aristotle carefully describes the reductionist approach in *Physics* II. 1, he there refrains from asserting it. And in *Physics* II. 2 he refers to crafts which "produce their matter, some by producing it without qualification, others by making it suitable for their work," (194^a33–35). At the very least this conception of matter for art complicates the simple view that art superimposes an accidental form on pre-existing natural substance.

(who did consider artificial forms to be accidental)⁴¹; he reads both the ax and the eye examples as simple illustrative parallels, rather than investing the examples with critical programmatic significance. Indeed, his paraphrase carries Aristotle's style of illustration further. To Aristotle's brief remark that neither sperm nor corpses "have life potentially" in the appropriate sense, he adds an illustration of his own which harks back to the example of the ax:

For just as unformed iron is potentially a saw because it is able to take on such a shape, but is not yet a saw—rather, it will be one when it is formed and has a cutting shape (*figuram incisivam*)—, so the sperm is potentially animal, because it can become an organic body, but is not yet animal, but <will be one> when it becomes able to take nourishment of its own accord.⁴²

The iron and the iron implement reappear in Themistius' paraphrase of the final section of Aristotle's chapter:

Again, just as the saw was iron and this form together, and the eye in turn pupil and vision, so the animal is soul and body together. It is quite clear, therefore, that the soul is not separable from body; this is either total, if indeed it is the whole form (*species*) of such a thing as the shape is <the whole form> of the iron, or partial, if it [*scil.* the soul] is capable of being divided. For of certain parts of the body the parts of the soul are obviously entelechy and perfection, as sight is for the eye. Nevertheless nothing prevents some parts of the soul from being separated from body, or from not being entelechies in the way that shape and form are, either for the whole body, or for certain parts. The intellect seems to be of this kind. It is not yet clear, if it should be the entelechy of some body, whether it is such as to be inseparable, or separable, like the pilot from the ship; for he is a sort of entelechy, but is separable.⁴³

Thus Themistius read Aristotle's chapter without any pointed emphasis on the difference between natural and accidental forms. By contrast, both Aquinas and Averroes are interested in exaggerating the difference between natural substances and artifacts with respect to the relationship between form and matter in order to make a particular point about the

41. PDA: "Substantiae igitur maxime videntur esse corpora, et horum naturalia, puta terra, ignis, aer, aqua et quaecumque ex his natura operatur; haec enim sunt aliorum principia; lectus autem et serra et vestis et artificialia accidentis rationem habent ad ea quae naturae; accidit enim hoc quidem lignis, hoc autem ferro, hoc autem lanis, et omne corpus artificiale in subiecto naturali consideratur" (p. 93).

42. PDA p. 101.

43. PDA pp. 101–2.

relationship between soul and body. Regardless of who Averroes thought “those opponents” of Aristotle’s had been, who supposed soul to be accidental, he was surely aware that many Hellenistic and Arab philosophers, including Avicenna and Avicbron, had tended to consider the body to be something substance-like to which the soul was adventitious or supervenient.⁴⁴ Certainly, by the probable date of the *De Anima* commentary,⁴⁵ Aquinas was fully aware that he had to cast his own hylomorphism so as not to conduce to Averroes’s conclusion that there is no personal survival of the dissolution of the soul-body composite in death. Nonetheless, he had compelling reasons of his own for defending some form of vigorous hylomorphism. *Inter alia* Aquinas saw a connection between a correct understanding of the body-soul relationship and rejection of the incorrect “*positio Auicebron*” that human nature is to be understood as a plurality or hierarchy of substantial forms.⁴⁶

Even if the substance-*cum*-accident model of artifacts is present coincidentally, so to speak, in discussions of *De Anima* II.1, it is worth noting that the theory is problematic. It is easy to see how the forms of artifacts come to be thought of as accidental qualifications of pre-existing substances, particularly in the case of simple objects like iron axes, desks, and beds. After all, one may say, what is indisputably *there* in the case of the ax is iron, which is a substance in its own right. What *is* an ax over and above the iron but a particular spatial deployment of the iron which someone has produced to make a thing suitable for chopping? And so, if we look at the ax in itself as an object, its form or shape is an accident—though the fitness of that shape for chopping will not be a matter of accident.

But in this rationale lies a problem: what exactly is the accidental form that makes the thing the artifact it is? Themistius hedges; the artificial form is “the shape, the sharpness, and the cutting.” As we have seen, Averroes ends in contradiction by trying to respond to two different philosophical

44. Cf. Herbert A. Davidson, *Alfarabi, Avicenna, and Averroes, on Intellect* (New York: Oxford, 1992) for a view of Averroes’s Greek and Arab predecessors, and the succession of positions which he himself maintained.

45. The editors of the Leonine edition place the composition of Aquinas’s *Commentary on “De Anima”* December, 1267 and September, 1268, Thomas Aquinas, *Opera Omnia* XLV,1, intro., p. 283ff.

46. DA II.1. The argument seems to be that a substantial form like soul is understood properly when we understand that it makes the animal to be the kind of animal it is; and indeed, makes its matter to be actually the matter of that animal. From which, he says, it follows, “quod impossibile est unius rei esse plures formas substantiales, quia prima faceret ens actu simpliciter et omnes alie advenirent subiecto iam existenti in actu; unde accidentaliter advenirent: non enim facerent ens actu simpliciter, set secundum quid.” *A fortiori*, we understand that Auicebron’s “hierarchy of forms” is unacceptable, since it has to be understood as a progressing sequence of substantial forms informing the same individual (p. 71, ll. 251ff). For an enlightening account of the problem of the plurality of forms in the Latin tradition cf. Richard C. Dales, *The Problem of the Rational Soul in the Thirteenth Century* (New York: Brill, 1995).

intuitions. And what exactly is the substance which underlies the accident? Even if the “substance” of the substance-*cum*-accident account is obvious for simple objects like the iron ax and the wooden dish, what about artifacts whose matter does not pre-exist them, and is in fact made for them, such as cakes and tupperware cake containers?⁴⁷ And what is the underlying matter of artifacts that are extremely complex, like geiger counters or player pianos?

Moreover, the forms of artifacts do not logically or ontologically fit the pattern that Aristotelian theory assigns to accidents, which Aquinas summarizes as follows:

This is the difference between the definition of substance and accident that in the definition of substance *nothing is posited which is extrinsic* to the substance of what is defined; for each substance is defined by way of its material and formal principles; but in the definition of accident something is posited which is extrinsic to the essence of what is defined, i.e., the subject; for it is necessary to posit a subject in the definition of an accident, as when it is said: snubness is curvature of the nose. And this, then, is because the definition signifies what the thing is; but substance is something *complete in its being and in its form*; an accident, however, does not have complete being, but <being> dependent upon substance.⁴⁸

Metaphysically speaking, axes seem to be, like horses, “complete in their being and form.” To this metaphysical objection there may be an answer of sorts, *viz.* that there is a dependence in the case of the ax: x’s *being* an ax is dependent on its *being made of* a substance with independent existence, iron, which can have an ax-shape—there would not be axes, then, if there were not iron for them to be made of.⁴⁹

More serious, I think, is the logical problem: unlike ‘snubness’, which has to be defined as “a curvature *of a nose*,” ‘ax’ does not seem to require the positing of some extrinsic “subject” in its definition—unless we stipulate that ‘ax’ = *df* ‘ax-shaped *iron*’. This definitional strategy is adopted by

47. This argument is advanced by Akrill, “Aristotle’s Definitions of Psyche,” *Proceedings of the Aristotelian Society*, new series LXXIII (1972–73), pp. 132–33.

48. DA II.1: “hec est differentia inter diffinitionem substantie et accidentis quod in diffinitione substantie nichil ponitur quod sit extra substantiam diffiniti; diffinitur enim unaqueque substantia per sua principia materialia et formalia; in diffinitione autem accidentis ponitur aliquid quod est extra essenciam diffiniti, scilicet subiectum; oportet enim subiectum poni in diffinitione accidentis, sicut cum dicitur: Simitas est curvitas nasi; et hoc ideo est quia diffinition significat quod quid est res; substantia autem est quid completum in suo esse et in sua specie; accidens autem non habet esse completum, set dependens a substantia” (p. 68, emphasis mine).

49. This is not a very good answer. It can be improved, though not much, by extending it: There would not be an ax unless there were iron *or the equivalent* for it to be made of.

Aquinas in his commentary on *De Interpretatione*.⁵⁰ But such definitions may be circular; and their main virtue is also a defect: they leave out the function of the artifact, which is its most important feature, and the feature which determines art essentially as an activity which imitates nature.

V. LANGUAGE AS INSTRUMENTUM/ORGANUM

Some medieval theorists analyze language and linguistic meaning in terms of the theory of artifacts. In his commentary on *De Interpretatione*, for example, Aquinas observes that although the passions of the soul, which are the primary significates of language, represent things by virtue of a natural causal process, and although “the vocal sound is a natural thing,” nonetheless, “Noun and verb have meaning by virtue of human institution, which is added to the natural thing which serves as its matter, like the form of a desk to wood.”⁵¹ Thus here Aquinas treats linguistic meaning as an accidental form with respect to vocal sound, which is taken as the natural substance in which it inheres; “we say that a saucer is shaped wood, and similarly that a name is a meaningful vocal sound.”⁵² We find in Roger Bacon the related view that the the substantial perfection of an expression is the *modus pronunciandi*, whereas meaning is among the accidental perfections.⁵³ Similarly, Robert Kilwardby says that the vocal sound is the same

50. Aquinas, *Expositio Libri Periermenias, Opera Omnia* I, Lib. I.4 56–76, (Rome: Commissio Leonina, 1989). Hereafter cited as CDI. “Set dicendum quod artificialia sunt quidem in genere substantie ex parte materie, in genere autem accidentum ex parte forme: nam forme artificialium accidentia sunt; nomen ergo significat formam accidentalem ut concretam subiecto. Cum autem in diffinitione omnium accidentium oporteat poni subiectum, necesse est quod, si qua nomina accidens in abstracto significat, quod in eorum diffinitione ponatur accidens in recto quasi genus, et subiectum in obliquo quasi differentia ut cum <dicitur>: “Simitas est curvitas nasi”; si qua vero nomina accidens significant in concreto, in eorum diffinitione ponitur materia vel subiectum quasi genus et accidens quasi differentia, ut cum dicitur: “Simum est nasus curvus”. Si igitur nomina rerum artificialium significant formas accidentales ut concretas subiectis naturalibus, conveniencius est ut in eorum diffinitione ponatur res naturalis quasi genus, ut dicamus quod scutella est lignum figuratum, et similiter <quod> nomen est vox significativa,” (pp. 20–21).

51. CDI Lib. I.4. 81–84, p. 10.

52. CDI Lib. I.4 74–76, pp. 20–21.

53. Roger Bacon, *Sumule Dialectices, Opera Hactenus Inedita Rogeri Baconi*, fasc. 15–16: Ad quod dicendum quod duplex est perfectio dictionis, substantialis et accidentalis, ut patet. Perfectio enim substantialis hominis est anima, perfectio accidentalis sunt virtus et sciencia. Similiter in oracionibus et dictionibus; perfectio enim substantialis dictionis est modus pronunciandi sive ipsa pronuncia <cio>, perfectio autem accidentalis est figuracio sive consignificacio,” (pp. 330–31).

for everyone according to its substance, and is thus natural, but not with respect to what it signifies, or whether it is Latin or French.⁵⁴

It is easy enough to see why it is attractive to treat the linguistic item as an artifact, so that meaning has the status of an accident. After all, a given configuration of sound (*vox*) can have several meanings, either because of equivocation, like '*canis*', or because of occurring in differing languages, like 'chat'.⁵⁵ But the position is fundamentally problematic because it raises difficult questions of a sort that are by now familiar. Is it just vocal noise which is matter, so that the shape imposed by pronunciation must already be seen as some kind of artificial form—and then what sort of form is meaning? Or is the written or spoken word the natural substance with meaning its accidental form? Or is there a hierarchy of forms—and if so, which of them, if any, is quasi-substantial?

There are new questions as well. Most importantly for the medieval theorist, if there is to be any legitimate scientific study of language as a structure of meaning, then linguistic considerations cannot as a whole be dismissed as a matter of man's arbitrary conferral of accidental forms. It is part of the overall view which many medieval thinkers share that the works of nature can be supposed to flow from the creative will of God, thus to be constituted by necessity, and *a fortiori* to be proper subject matter for scientific knowledge. By contrast, to the extent that artifacts fall in the context of human choice, institution, and purpose, their necessity is hypothetical at best, and they are not scientifically knowable. If there is to be scientific study of language *qua* language, then meaningfulness must somehow be connected with the natural order.

Even if we look aside from these fundamental problems with the artifact or substance-*cum*-accident model, we find that *De Anima* II.1 fixes a troublesome latitude of meaning upon '*organum*' which is a source of ongoing difficulty for the interpreter of texts about language. *Instrumentum* has a similar latitude; it can designate a tool like an ax, but is also used to designate natural organs of the living organism in most sections of Michael Scotus's popular translation of Averroes's *Great Commentary*, and in the popular Latin translation of Avicenna's *De Anima*. In many cases, medieval authors recognize the latitude of Aristotle's terminology and its Latin translations, and themselves either use the expressions broadly or make it clear

54. Robert Kilwardby, Commentary on *De Interpretatione* (CDI) (Cambridge Peterhouse 205): "Ad aliud quod loqui forte est a natura et etiam vox, sed loqui sic vel sic, scilicet latinis verbis vel gallicis non est a natura. Similiter nec vox significativa sic vel sic de qua loquitur. Ad tertium iam patet ex dictis, quoniam haec vox 'homo' secundum suam substantiam est eadem omnibus eam proferentibus, tamen non secundum quod significat animal rationale; non enim omnes significant animal rationale per hanc vocem 'homo', sed diversi per diversam," (f. 22ra).

55. Even if comparative knowledge of languages is unevenly distributed and unsteady, theorists are familiar with the examples from Augustine's *De Doctrina Christiana* II.xxiv.37. *Corpus Christ.* XXXI, pars iv.1, (Turnholt: Brepols, 1962).

which meaning they intend. Interpretive problems arise, however, when *'instrumentum'* and *'organum'* are used in contexts in which it is precisely the distinction between nature and art which is at issue.

In discussing the primary and secondary perfection of *orationes* in the anonymous thirteenth century *Sophismata Grammaticalia*, the author poses a question: can a figurative construction like Ovid's "Turba ruunt in me luxuriosa proci" be imperfect literally (with respect to its surface grammar) but nonetheless perfect with respect to its secondary perfection (the meaning it conveys)? One argument against this sort of theory of figurative constructions runs:

Furthermore, the perfection of an organ or instrument is twofold, primary and secondary, as is obvious from the case of the eye (for here there is a twofold actuality, i.e., to have sight, and to see); and in the case of the ax there is similarly a twofold perfection, first and second (for its first perfection <consists> of iron and steel, and its secondary perfection is when it is well and rightly ordered to what it was invented for, i.e., for cutting, for it is ordered to this end as its final perfection.) Similarly in the sentence (*oratione*) there is a twofold perfection, primary when the suppositive and the appositive <elements> are correctly ordered, and secondary perfection when it is able to move the intellect correctly. But when the primary perfection of an instrument or organ is destroyed, the second is destroyed <as well>, and not the other way around, as we see in the case of the ax. Thus similarly, since the sentence is the instrument of the grammarian, when its primary perfection is destroyed, the secondary <perfection> is destroyed as well.⁵⁶

Here the author may be using *'organum'* and *'instrumentum'* without any definite differentiation between the two, and we are not forced to make a distinction either. An *organum*, he says, or if you like, an *instrumentum*, has a twofold perfection. The conclusion then says that since the *oratio*

56. Robert Kilwardby (?), *Sophismata Grammaticalia*, ms. Zwettl f. 135vb: "Ad idem, duplex est perfectio organi vel instrumenti, scilicet prima et secunda, sicut patet in oculo (est enim duplex ibi actus, scilicet lucere et videre); et in securi similiter est duplex perfectio, scilicet prima et secunda (prima eius perfectio est ex ferro et chalybe, secunda eius perfectio est quando bene et recte ordinatur <ad> illud <ad> quod instituta est, scilicet ad secandum, quia ordinatur ad hanc finem sicut ad perfectionem ultimam.) Similiter in oratione duplex est perfectio, scilicet prima et secunda. Et est prima quando suppositum et appositum ibi sunt recte ordinata; secunda perfectio est quando recte movere potest intellectum. Sed sic est quod destructa prima perfectione instrumento vel organo, destruitur secunda, et non convertitur, sicut patet in securi. Ergo similiter cum oratio sit instrumentum grammatici, destructa prima perfectione orationis, et destruitur secunda." For a discussion of this and related arguments, cf. Mary Sirridge, "Robert Kilwardby: Figurative Constructions and the Limits of Grammar," in *De Ortu Grammaticae*, ed. G. L. Bursill-Hall, Sten Ebbesen, and K. Koerner (Amsterdam/Philadelphia: John Benjamins, 1990).

has this general ontological structure, if it lacks grammaticality (*prima perfectio*), it perforce has no cogent meaning (*secunda perfectio*), just as there is no ax to do cutting without iron, and no seeing without the power of vision.⁵⁷

But when the Ps.-Kilwardby says that the *oratio* is *vox significativa*, “*non sicut instrumentum, sed ad placitum*,”⁵⁸ he seems to have in mind some specific contrast with “*ad placitum*,” not just the wider application of *instrumentum*; and which application he has in mind makes a difference to our reading of the passage. He probably means to say that meaning is not the substance or actuality of the vocal sound, but rather a conventional or artificial property of that substance. But there is a second reading which cannot be excluded. Ps.-Kilwardby knows the theory of Augustine’s *De Doctrina Christiana* well.⁵⁹ And so his point might be that there is no inherent fit between the sound vehicle and its meaning, as there is between the ax’s shape and its function; rather the vehicle is established arbitrarily in a situation in which any choice is better than none whatsoever, given the importance of the institution of communication.

And when the Ps.-Kilwardby later says of interjections that “they are *quasi instrumenta* by which actions of this sort are performed,”⁶⁰ it again does not seem possible to determine what he means by ‘*instrumentum*’. Is the point that, unlike most aspects of language, which are strictly conventional, the interjection is to be thought of as quasi-natural—as being *like* a natural organ such as the eye? (In fact, Ps.-Kilwardby does think that when someone bursts out with an interjection, a conventionally meaningful expression functions quasi-naturally—somewhat in the way a moan expresses pain.⁶¹) Or is his point that the interjection is to be thought of along the lines of an ax, as a sort of artificial tool crafted to the purpose of expressing emotion? In either case, we have the same conclusion: the interjection is more intrinsically related to the expression of feeling than words usually are to their meanings. But we understand his reasoning differently, depending on which reading of the argument we adopt. In a similar case, the precise force of Robert Kilwardby’s claim in his commentary on *De Interpretatione* that “*veritas est in oratione sicut in organo*” is unclear; possibly the point is that the sentence is a tool by means of

57. I am indebted to Scott MacDonald for this reading of this passage.

58. Ps.-Kilwardby, *Commentary on “Priscian Maior”* (Cambridge Peterhouse 191), sect. 1, f. 106ra.

59. Cf. Mary Sirridge, “The Wailing of Orphans and the Cooing of Doves: the Effects of Augustine’s *De Doctrina Christiana* on Some Medieval Theories of the Interjection,” in *Vestigia, Imagines, Verba. Semiotics and Logic in Medieval Theological Texts (xi–xiv Century)*, (Proceedings of the Eleventh European Symposium for Medieval Logic and Semantics.) ed. C. Marmo and R. Lambertini, forthcoming.

60. Ps.-Kilwardby, *Commentary on “Priscian Maior,”* f. 108ra.

61. Ps.-Kilwardby, *Commentary on “Priscian Maior”*: “*et sic prorumpit homo in voce, que re vero illud significat ex institutione ad quod significandum homo utitur quasi naturaliter et sensualitate (ms = naturalitate) dominante*” (f. 108vb).

which truth-saying is effected,⁶² or just that truth is a relational accident of a statement. But the context here is logic, and so he might mean instead that truth is an actuality or perfection of the statement in the way that the act of seeing is an actuality and perfection of the eye.

Thus in several different ways, *De Anima* II.1 exerts a powerful and confusing influence upon the subsequent tradition. The problem with *De Anima* II.1 is only partly that different translations of the text gave rise to different interpretations of it. More importantly, Aristotle could write a passage with a very satisfying rhetorical complexity keyed to the shifting application of ‘*organon*’ precisely because he could take the distinction between artifacts and natural substances more or less for granted; however, as we see in Aquinas’s and Averroes’s commentaries and in medieval theories of language, for philosophers of a later age, the distinction has become entwined with important items of a changed agenda. The result is that Aristotle’s sophistication becomes a source of considerable confusion.

62. Robert Kildwarby, Commentary on *De Interpretatione*, “Ad questionem literalem dicendum quod veritas est in anima sicut in efficiente, in re sicut in subiecto, in oratione sicut in organo; de simile de sanitate, que est in corpore humano sicut in subiecto, <in> medico sicut in efficiente” (f. 22rb).