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Some Comments on *Metaphysics* E. 2, 3

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I

I wish to call in question a certain interpretation of sentences in Aristotle's *Metaphysics* E, an interpretation which is enshrined in the English translations most widely used. According to this Aristotle is interested here in the contrast between gradual and instantaneous change. It is my belief that this distinction has no relevance at all to the passages in question.

II

I begin with the first two sentences of E. 3:

> Ὅτι δ' εἰσὶν ἀρχαὶ καὶ αἴτια γενητὰ καὶ φθαρτὰ ἄνευ τοῦ γίγνεσθαι καὶ φθείρεσθαι, φανερόν. εἰ γὰρ μὴ τοῦτ', ἐξ ἀνάγκης πάντ' ἔσται, εἰ τοῦ γιγνομένου καὶ φθειρομένου μὴ κατὰ συμβεβηκὸς αἴτιόν τι ἀνάγκη εἶναι.

I should translate this as follows:

> That there are principles and causes which are capable of coming to be and perishing without ⟨actually⟩ coming to be and perishing is clear. For if this were not so, everything would be of necessity, given that there must needs be a cause of what non-accidentally comes to be and ceases to be.

Christopher Kirwan translates thus:

It is obvious that there are origins and causes that are able to come to be and to be destroyed without [being in process of] coming to be and being destroyed. For otherwise everything will be of necessity, if whatever is [in process of] coming to be and being destroyed necessarily has some cause non-coincidentally.[1]

The words which Kirwan candidly places in brackets are central to his interpretation of the entire chapter. The word "process," without the warning sign of brackets, occurs also in the translations of Ross and Warrington,[2] and the interpretation it embodies is to be found in, if it is not derived from, the commentary on this passage ascribed to Alexander of Aphrodisias.[3]

The difference between Kirwan's translation and mine lies, not only in the occurrence in his translation of this word "process," but in the construal of the phrase μὴ κατὰ συμβεβηκός in the second sentence. Kirwan takes this with αἴτιόν τι ἀνάγκη εἶναι; I take it with τοῦ γιγνομένου καὶ φθειρομένου. Again Kirwan's construal conforms to that of the other translators. If μὴ κατὰ συμβεβηκός is taken in this way, with αἴτιόν τι ἀνάγκη εἶναι, the heavy emphasis on the present tense of γιγνομένου and φθειρομένου involved in including the phrase "in process of" in their translation is more or less inevitable.[4] To say without qualification "there must needs be a cause non-accidentally of what comes to be and ceases to be" would be to rule out altogether the existence of things whose only cause is an accidental cause. It would contradict a sentence of the previous chapter: τῶν γὰρ κατὰ συμβεβηκὸς ὄντων ἢ γιγνομένων καὶ τὸ αἴτιόν ἐστι κατὰ συμβεβηκός (1027ᵃ7–8). There has to be some restriction on the generality of "what comes to be and ceases to be." On my interpretation, however, Aristotle is restricting the necessity of having a cause to non-accidental

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[1] *Aristotle's* Metaphysics Books Γ, Δ, Ε, Clarendon Aristotle Series (Oxford 1971). The same interpretation is to be found in W. D. Ross, *Aristotle's Metaphysics* (Oxford 1924), Vol. I, pp. 362 sq.

[2] *The Works of Aristotle Translated into English*, ed. W. D. Ross (Oxford 1928), Vol. VIII; *Aristotle's Metaphysics*, ed. and translated by John Warrington (London 1956).

[3] Alexander Aphrodisiensis, *In Aristotelis Metaphysica Commentaria*, ed. M. Hayduck (Berlin 1891). Hayduck (p. v) does not regard the commentary on Book E as a genuine work of Alexander.

[4] Not quite inevitable, since Aquinas manages to avoid it. He, like Ross and Kirwan, construes μὴ κατὰ συμβεβηκὸς with the succeeding, rather than with the preceding words. But he does not interpret γιγνομένου and φθειρομένου as referring to process. His way out is to take the clause εἰ τοῦ γιγνομένου . . . ἀνάγκη εἶναι (1027ᵃ31–32) as a genuine conditional, repeating the content of εἰ. γὰρ μὴ τοῦτο (1027ᵃ30–31). Kirwan and I interpret it as a reason-giving clause, taken by Aristotle to state something true, although we differ about *what* it states. (Aquinas takes the first sentence of the chapter in the way I do.)

comings to be and ceasings to be. The way is therefore open for the backward-stretching chain of causality to come to an end with an accidental coming-to-be: δῆλον ἄρα ὅτι μέχρι τινὸς βαδίζει ἀρχῆς, αὕτη δ' οὐκέτι εἰς ἄλλο (1027ᵇ11–12).

If Ross and Kirwan's motivation for translating τοῦ γιγνομένου καὶ φθειρομένου as "whatever is in process of coming to be and being destroyed" is the construal of the second sentence, the immediate consequence of it is their need to translate τοῦ γίγνεσθαι καὶ φθείρεσθαι in the first sentence in the same way. This makes the first sentence an assertion of the existence of causes that come to be and perish instantaneously. Kirwan has considerable difficulty in explaining how the argument of the chapter as a whole can be taken to support this thesis. On my interpretation the first sentence asserts the existence, amongst possible causes, of some which are unactualized possibilities—a rejection, in effect, of the Megarian modal thesis "If possibly p, then p." This fits in admirably with the opening words of the second sentence, which point out that admitting this thesis is tantamount to admitting the determinist thesis "If p, then necessarily p."[5] It is, however, causal determinism that the chapter as a whole is concerned to refute, and the third sentence of the chapter begins a *reductio* argument against the thesis of causal determinism: suppose every event is determined by some prior cause; then eventually the series of causes of future events will reach back to the present or past; but what is or has been the case cannot now be otherwise; ἐξ ἀνάγκης ἄρα πάντα ἔσται τὰ ἐσόμενα (1027ᵇ8–9). *This* is regarded as absurd; and the statement of 1027ᵇ11–12, insisting that breaks occur in causal chains, is brought in as the alternative. Where the break occurs we have an ἀρχή of which we can say: ἔσται οὖν ἡ τοῦ ὁπότερ' ἔτυχεν αὕτη, καὶ αἴτιον τῆς γενέσεως αὐτῆς ἄλλο οὐθέν (1027ᵇ12–14). Such principles and causes, before they occur, belong to the class of things which are capable of coming to be and perishing without *having to* come to be and perish. Now there would be no such class if whatever *could* come to be *did* so. If "possibly p" entailed "p," "p," as we have seen, would entail "necessarily p"; and if these were both true, "possibly p" would entail "necessarily p". So for there to be a class of things which come to be, but which do not, in virtue of some prior cause, come to be *necessarily*, there has to be a class of things "which are capable of coming to be and perishing without ⟨actually⟩

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[5] Aristotle shows himself aware of this equivalence, which, as I am about to argue, is crucial to the understanding of this chapter, not only by his words at 1027ᵇ30–31, but also by his attributing to the Megarian determinists, in *Metaphysics* Θ. 3, the thesis that potentiality is indistinguishable from actuality.

coming to be and perishing"—which is how I translate the first
sentence of E. 3. The uncaused causes of 1027ᵇ12–14 do, of course,
themselves actually come to be; but they have to belong to a class of
γενητά which, at a time when *they* have not so far come to be, includes
others which never will. It is the existence of these which the first
sentence of E. 3 asserts.

III

Support is claimed for the view that these sentences are concerned
with "processes" by a similar interpretation of a sentence in E. 2.[6]
The sentence is found at 1026ᵇ22–24:

τῶν μὲν γὰρ ἄλλον τρόπον ὄντων ἔστι γένεσις καὶ φθορά, τῶν δὲ
κατὰ συμβεβηκὸς οὐκ ἔστιν.

Kirwan translates:

with things-that-are in another sense there is [a process of] coming to
be and destruction, but with things [that are] coincidentally there is
not.

Again Aristotle's contention is supposed to be that accidental beings
come to be and perish instantaneously. If this were what the sentence
meant it would have little connection with the remarks which precede
it. These mention certain arguments of the sophists, which are said
to be for the most part concerned with the accidental. Examples
given are: Whether musical and literate, or musical Coriscus and
Coriscus, are different or the same; Whether everything that is, but
not always, has come to be, so that if, being musical, someone has
come to be literate, he has also, being literate, come to be musical.
Clearly the sophists were getting entangled, or entangling others, in
puzzles over being (εἶναι) and coming to be (γίγνεσθαι). They were
drawing attention to sentences like

(1) Someone musical is literate
(2) Coriscus is musical
(3) Someone being musical has come to be literate
(4) Someone being literate has come to be musical.

If (1) and (2) are taken as assertions of identity, the sophists used
what we should now call Leibniz's Law to derive from "Coriscus has
come to be musical" and from (3) and (4) the *prima facie* absurdities

⁶ See Kirwan, *op. cit.*, pp. 192, 196; and Richard Sorabji, *Necessity, Cause and Blame*
(London 1980), p. 6. Cf. Ross, *op. cit.*, Vol. I, pp. 360, 362.

Musical Coriscus has come to be musical
Someone musical has come to be musical
Someone literate has come to be literate.

Aristotle's regular response to sophisms like this is to draw a distinction between *per se* identity and accidental identity,[7] a distinction which has close connections with two other distinctions, that between *per se* and accidental unity and that between *per se* and accidental being. It is the last of these which, in my view, is relevant to the sentence at 1026ᵇ22–24.

But is this view correct? *Has* the sentence at 1026ᵇ22–24 any close connection with the preceding passage? Whether or not this is so depends on the translation of the first part of 1026ᵇ22: δῆλον δὲ καὶ ἐκ τῶν τοιούτων λόγων. The phrase τῶν τοιούτων λόγων echoes τοιοῦτοι τῶν λόγων of 1026ᵇ20—the arguments of the sophists which I have sketched. Ross and Kirwan, however, see it as having a different reference. Ross has to defend with parallels his interpretation of τοιούτων as forward-looking against the more natural backward-looking interpretation. He and Kirwan take it to refer to arguments like that *to be given* in 1026ᵇ22–24. (What arguments would be *like* this, and in what sense is it an "argument?") The presence of καὶ might be thought to support this, by indicating that we are about to be given *new* evidence for the proximity of τὸ συμβεβηκός to τὸ μὴ ὄν. This view is encouraged if φαίνεται in 1026ᵇ21 is translated (with Kirwan) by "obviously": δῆλον δὲ καὶ then comes out naturally as "as is plain also." But φαίνεται γὰρ τὸ συμβεβηκὸς ἐγγύς τι τοῦ μὴ ὄντος should, perhaps, rather be translated "for the accidental *seems* ⟨to be⟩ something approximate to non-being." The copula is here omitted after φαίνεται, so we cannot know whether what we have is elliptical for φαίνεται ὄν or φαίνεται εἶναι. The rule "φαίνομαι ὢν *quod sum, quod non sum* φαίνομαι εἶναι" is therefore inapplicable.

I am, however, inclined to construe the sentence as if it were εἶναι which was present after ἐγγύς τι—τι itself is a sign of reservation on Aristotle's part. So "seems to be" rather than "obviously is" is preferable as a rendering of φαίνεται. Again, this sentence, as γάρ indicates, is not a conclusion drawn from the exhibition of sophistical arguments, τοιοῦτοι τῶν λόγων, but a comment on them. What it suggests is only represented as a conclusion, as something shown to

[7] See Alan Code, "Aristotle's Response to Quine's Objections to Modal Logic," *Journal of Philosophical Logic* 5 (1976), 159–86; Gareth B. Matthews, "Accidental Unities," in *Language and Logos*, edd. M. Schofield and M. Nussbaum (Cambridge 1982), pp. 223–40; and my own interpretation of Aristotle's distinctions, "Aristotle's Theory of Descriptions," in *The Philosophical Review* 94 (1985), pp. 63–80.

be true, by the following words, δῆλον δὲ . . . , for which 1026ᵇ22–24
provides a backing, as the γάρ of 1026ᵇ22 makes clear. δῆλον δὲ καὶ
ἐκ τῶν τοιούτων λόγων cannot, therefore, be introducing a *further*
reason for the conclusion. So the καί here is not to be translated
"also," but by emphasizing in some way the succeeding words. My
own way of translating δῆλον δὲ καὶ ἐκ τῶν τοιούτων λόγων would be
"This is clear from such arguments themselves." The following
sentence explains this, by showing that the fallacy of some at least of
the arguments lies in the assumption that there is γένεσις and φθορά
of τὰ κατὰ συμβεβηκὸς ὄντα. This harks back to a premise of one of
the sophistical arguments, πᾶν ὃ ἂν ᾖ, μὴ ἀεὶ δέ, γέγονεν. It is
unbelievable that the remark about γένεσις and φθορά at 1026ᵇ22–24
has no connection with this premise. What then is the connection?

IV

The connection cannot be discovered without understanding the
structure of the sophism which, as I see it, 1026ᵇ22–24 is designed
to solve. This argument is not easy to reconstruct. Aristotle's sketch
of it is given in 1026ᵇ18–20:

> εἰ πᾶν ὃ ἂν ᾖ, μὴ ἀεὶ δέ, γέγονεν, ὥστ' εἰ μουσικὸς ὢν γραμματικὸς
> γέγονε, καὶ γραμματικὸς ὢν μουσικός.

The consecutive clause here is a hypothetical proposition, but the
sentence as a whole is an indirect question introduced by εἰ: the
sophists query the apparently analytic "Whatever is, but has not
always been, has come to be" on the grounds that, if it is true, (3)
and (4) are mutually implicative. (It is clearly immaterial which is
taken as implying which.) However, the connection between "What-
ever is, but has not always been, has come to be" and its alleged
consequence is not immediately obvious.

The connection is quite overlooked in recent reconstructions of
the sophism.[8] Here the propositions μουσικὸς ὢν γραμματικὸς γέγονε
and γραμματικὸς ὢν μουσικός ⟨γέγονε⟩ are translated "The musical
person has become the literate person" and "The literate person has
become the musical person." With "singular terms" in both subject
and complement position, and the truistic assumption that what a
person has become he now is, Leibniz's Law is thought to be enough
to license substitution of complement for subject, and vice versa. No
appeal to the principle πᾶν ὃ ἂν ᾖ, μὴ ἀεὶ δέ, γέγονεν is needed.

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[8] By Code and Matthews, whom I follow, for the sake of argument, in my
"Aristotle's Theory of Descriptions."

However, the absence of the definite article from Aristotle's actual exposition of the sophism and the presence of the participle ὤν suggest that in any case another reconstruction is required. The following has some plausibility:

    (3)   Someone being musical has come to be literate
  (3A)   Someone being musical is literate
  (3B)   Someone being literate is musical
    (4)   Someone being literate has come to be musical.[9]

Here the move from (3) to (3A) rests on the principle, already mentioned, that what a person has become he now is; the move from (3A) to (3B) relies on the convertibility of an I-proposition; and the move from (3B) to (4) rests on the premise, explicitly stated by Aristotle, πᾶν ὃ ἂν ᾖ, μὴ ἀεὶ δέ, γέγονεν, together with the commonsense assumption that a person who is musical has not always been so (musical technique has to be learned).

Set out in this way, the fallacy is made plausible in English only by a clumsily literal rendering of the Greek, retaining the participial construction "being musical" and "being literate." A more natural English version would be

    (3′)   Someone who was musical has come to be literate
  (3A′)   Someone who was musical is literate
  (3B′)   Someone who was literate is musical
    (4′)   Someone who was literate has come to be musical.

The present participle, in Greek as in English, has to represent both the imperfect and the present tense of the finite verb. When relative clauses are substituted this distinction between the present and imperfect tense can be made explicit; and now the fallacious reasoning can easily be seen to occur in the transition from (3A′) to (3B′). We have a pair of propositions not of the form "Some A's are B" and "Some B's are A," but of the form "Some A's are B" and "Some C's are D."

It should not be thought, however, that the fallacy rests simply on a superficial feature of Greek, its inability to make fine tense distinctions at the participial level. It would have been possible to set out the sophism thus:

    (3″)   Some musical person has come to be literate
  (3A″)   Some musical person is literate
  (3B″)   Some literate person is musical
    (4″)   Some literate person has come to be musical.

[9] An equally plausible translation would be obtained by deleting "Someone" and inserting "he" after the second word in each of these sentences.

Here there is nothing amiss with the move from (3A″) to (3B″), but the other steps are invalid. (This would be strikingly obvious if we substituted "illiterate" for "musical" in (3″) and (3A″) and "unmusical" for "literate" in (3B″) and (4″).) They are invalid because the unexpressed tenses involved in the "subject-phrases," "Some musical person" and "Some literate person," are different in the case of (3″) and (4″), where "has come to be" is the main verb of the sentence, from what they are in the case of (3A″) and (3B″), where the main verb is "is." If these were made explicit, (3″) would begin "Some person who was musical," (3A″) "Some person who is musical," (3B″) "Some person who is literate," and (4″) "Some person who was literate." The fallacies arrive through failure to appreciate the quantificational structure of propositions whose "grammatical subject" is of the form "Some musical person," or, for that matter, "The musical person." Aristotle's distinction between accidental beings and unities and *per se* beings and unities is an attempt to trace these fallacies to their source. It is an attempt remarkably similar to that constituted by Russell's Theory of Descriptions.[10] He presents a wide variety of sophisms which can be solved by application of the *per se* / *per accidens* distinction. (A variation on the theme of the sophism outlined at 1026^{b}18-20 is given at *Metaphysics* K 1064^{b}23-26, and the same sophism is hinted at in *Topics* 104^{b}25, sqq.) Thus the fallacious inference from (3″) to (3A″) can be seen to be due to allowing an expression like "Some musical person," which in Aristotle's terms stands for an accidental being, to be substituted for *x* in "If *x* has come to be *F* then *x* is *F*"—a valid schema if names, which, in Aristotle's terms, stand for *per se* beings, are substituted for *x*. Again, the inference from (3B″), even if expanded to "Some literate person is musical, but has not always been so," to (4″) fails to exemplify the schema "*x* is *F*, but not always; therefore *x* has come to be *F*," because the expression substituted for *x* stands for an accidental being: put the name of a *per se* being (a "logically proper name") in this position, and all will be well. Since the topic of *Metaphysics* E. 2 is accidental being, one might well have thought that this would be the moral he wished us to draw.

V

If we had merely the exposition of the sophism in 1026^{b}18-20, together with Aristotle's general theory of accidental being and his

indication that this would provide the clue to solving the sophism, we should perhaps be content with the reconstruction of his thought given in the previous section. But, as I have already argued, the solution is supposed to be given by application of the thesis of 1026ᵇ22–24. (The thought is: the thesis receives support from its ability to solve such paradoxes, and itself lends support to the doctrine of the proximity of accidental being to non-being.) This, I believe, shows that Aristotle interpreted the sophism in a way distinct from those put forward in section III. What is at stake is the distinction between what, in *De Generatione et Corruptione* I. 3, he calls "coming to be ἁπλῶς" and "coming to be *something*." The reconstruction that is needed is the following:

(3‴)   Someone literate who is musical has come to be
(3A‴) Someone literate who is musical is the same as someone musical who is literate
(4‴)   Someone musical who is literate has come to be.

What we have is simply an application of the Law of the Substitutivity of Identicals (Leibniz's Law), which allows us to pass from (3‴) to (4‴) on the strength of the identity statement (3A‴).

Understood in this way, the argument might well be accepted as valid. The evident invalidity of the argument depended on interpreting μουσικὸς ὢν γραμματικὸς γέγονε and γραμματικὸς ὢν μουσικὸς γέγονε as (3) and (4), respectively. It looks as though the sophists took these sentences one way and Aristotle another. It is important, therefore, to see how these Greek sentences are ambiguous as between (3) and (4), on the one hand, and (3‴) and (4‴) on the other.

I have discussed in my note on *De Gen. et Corr.* I. 4. 319ᵇ25–26,[11] the parallel ambiguity of ἄνθρωπος δ' ἄμουσος ἐγένετο, which occurs in Aristotle's text at that point. The context there, however, is his attempt to distinguish alteration, ἀλλοίωσις, from generation and corruption, γένεσις καὶ φθορά. He is arguing that if ἄνθρωπος ἄμουσος ἐγένετο could be construed in the same way as ὑγρὸν ψυχρὸν ἐγένετο (which would describe the generation of water), where cold is *not* a *per se* affection of wet, as unmusical is of man, it would report a case of generation. As it is (319ᵇ30–31), it is a case of alteration. Unfortunately, Aristotle does not stick to his distinction between γίγνεσθαι ἁπλῶς and γίγνεσθαί τι, the existential and copulative senses of "come to be," in order to disambiguate ἄνθρωπος ἄμουσος ἐγένετο and distinguish generation and alteration. He allows an existential interpretation

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[11] Aristotle's "*De Generatione et Corruptione*," in the Clarendon Aristotle Series (Oxford 1982), p. 101.

of the sentence and transfers the distinction from γίγνεσθαι to its subject. In ἄνθρωπος ἐγένετο the subject, man, is a *per se* being, so the sentence reports a case of generation; in ἄνθρωπος ἄμουσος ἐγένετο the subject, unmusical man, is an accidental being, so the sentence reports a case of alteration. As I remarked in my note on the passage, Aristotle thus cuts away the ground from under the feet of his own distinction.[12]

Here, in the *Metaphysics* passage, it seems to me, it is by interpreting μουσικὸς ὢν γραμματικὸς γέγονε as "Someone literate who is musical has come to be" and γραμματικὸς ὢν μουσικὸς ⟨γέγονε⟩ as "Someone musical who is literate has come to be" that Aristotle argues that the one entails the other. For the "literate musical" is the same accidental being as the "musical literate" (3A‴), and if "has come to be" is truly predicable of the one it is truly predicable of the other. Moreover, so the argument goes, since this accidental being "is, but not always" (for there was a time, according to (3), when the musical was not literate), "has come to be" must be truly predicable of it under either description. Aristotle's answer, that there is no coming to be of accidental beings, challenges the premise of this last part of the argument. Accidental being is not covered by the phrase "is, but not always," since accidental being is not fully entitled to be said to *be*; in some ways, Aristotle holds, it is closer to *what is not*. This seems, if anything, to be his misleading way of saying that a sentence like μουσικὸς ὢν γραμματικὸς γέγονε *cannot* be understood in the sense "Someone literate who is musical has come to be," but only in the sense expressed by (3).

However, there is a sentence in *De Generatione et Corruptione* which seems flatly to contradict this interpretation of *Metaphysics* 1026ᵇ22–24. At 319ᵇ29–30 the text reads:

διὸ ἀνθρώπου μὲν ταῦτα πάθη, ἀνθρώπου δὲ μουσικοῦ καὶ ἀνθρώπου ἀμούσου γένεσις καὶ φθορά.

ταῦτα are musicality and unmusicality. "Musical man" and "unmusical man" are often said to be names for accidental beings, and this sentence attributes to them, explicitly, γένεσις καὶ φθορά. But at 1026ᵇ23–24 Aristotle says there is no γένεσις καὶ φθορά of accidental beings. When I was preparing my notes on the *De Generatione et Corruptione*, I was not aware of this sentence in the *Metaphysics*. Had I been so aware, I should have felt more inclined than I was to regard 319ᵇ29–30 as an alien intrusion into the text. Philoponus and Joachim are both unhappy with the text as it stands, and Philoponus suspects

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[12] *Op. cit.*, p. 102.

a scribal error. However that may be, the doctrine of *De Generatione et Corruptione* demands that there be a sense of γένεσις in which it is contrasted with ἀλλοίωσις, and in this sense what ἄνθρωπος ἄμουσος ἐγένετο and (3) and (4) report are not cases of generation or corruption, but of alteration. Whatever the verbal clash with 319ᵇ29–30, the overall doctrine of *De Generatione et Corruptione* I. 3–4 fully justifies the interpretation of 1026ᵇ22–24 as denying that there is generation and corruption of accidental beings. The reason for the denial is not that such changes are instantaneous, but that there are no such changes. The sophist argues for the paradoxical conclusion that either (3) entails (4) or the principle "What is, but not always has come to be" must be abandoned. Aristotle's reply is that we need not fear that the truth of μουσικὸς ὢν γραμματικὸς γέγονε will entail that of γραμματικὸς ὢν μουσικὸς γέγονε, since, in the sense in which the former will entail the latter, in the sense, namely, of (3‴), the former is not going to be true at all. Accidental beings, such as "Someone literate who is musical" is supposed to stand for, are not subjects of γένεσις or φθορά. We have no need to jettison the principle πᾶν ὃ ἂν ᾖ, μὴ ἀεὶ δέ, γέγονεν, because in the only sense in which it is relevant to that principle, μουσικὸς ὢν γραμματικὸς ἐστιν, οὐκ ἀεὶ δέ is false. The principle should be interpreted, Aristotle is suggesting, as equivalent to πᾶν ὃ ἂν ᾖ ἁπλῶς, μὴ ἀεὶ δέ, ἁπλῶς γέγονεν. But μουσικὸς ὢν γραμματικός ἐστιν ἁπλῶς would be asserting *per se* being falsely of an accidental being; so the principle has no application in this case.

VI

My argument has been that neither E. 2 nor E. 3 is concerned with the distinction between gradual and instantaneous change. The point of the sentence in E. 2 to which this distinction was thought to be relevant is, I maintain, to restrict γένεσις to what elsewhere Aristotle calls ἁπλῆ γένεσις, "coming to be *simpliciter*." The sentences in E. 3 for whose interpretation translators have thought it necessary to use the word "process" are, in my view, saying that some comings to be, namely those which are accidental, are not necessitated by prior causes. But, it will be objected, these interpretations of E. 2 and E. 3 are incompatible with each other. In E. 2 I make Aristotle say that only *per se* beings come to be. In E. 3 I attribute to him a theory about the coming to be of ὄντα κατὰ συμβεβηκός.

On the surface the incompatibility is there anyway. In 1026ᵇ22–24 Aristotle denies that there is γένεσις of ὄντα κατὰ συμβεβηκός. But in 1026ᵇ33 and 1027ᵇ7, before we have even reached the end of chapter 2, Aristotle is using γίγνεσθαι to refer to accidental beings. Little

wonder that he does so again in chapter 3! The point is that Aristotle's use of γένεσις and γίγνεσθαι is far from uniform. Sometimes ἀλλοίωσις is described as a subordinate species of γένεσις; sometimes γένεσις is a species co-ordinate with ἀλλοίωσις. I am not, in this paper, concerned to affirm that there is a single sense of γίγνεσθαι or γένεσις, to be found in the sentences of E. 2 and E. 3 we have been examining: rather, I am concerned to *deny* that these words are used in these sentences in the single sense of a "process" of coming to be, in a sense which rules out instantaneous change. My belief is that passages in Aristotle's works that have been interpreted as devoted to the distinction between gradual and instantaneous coming to be have less unity than has been supposed. The passages in *Metaphysics* E which have been thought to require this interpretation should, I have argued, be understood in other ways, though not in just one other way. To deal thoroughly with the "process" interpretation it would be necessary to examine the long list of passages cited, e.g., by Ross in his note on 1026ᵇ22–24, to see how many of them require us to talk of gradual or instantaneous change. If they all do, my interpretation of E. 2 and 3 is called in question. I think in fact that many of them do not; but there is hardly room here to justify this claim. It is a topic for another paper.

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