MARTHA CRAVEN NUSSBAUM: Aristotle's de Motu Animalium. Text with Translation, Commentary, and Interpretive Essays. Pp. xxiii + 430. Princeton: Princeton University Press, 1978. £17.05.

Martha Nussbaum's new edition of the de Motu divides into four parts: first, a brief introduction, discussing questions of authenticity and chronology, and describing the textual tradition; then, a text, equipped with apparatus and faced by an English translation; thirdly, five long 'interpretive essays' [sic] on the larger philosophical issues raised by the de Motu (teleological explanation, scientific method, body and soul, practical reasoning, φαντασμα); finally, a detailed, line by line commentary.

This is a splendid book. The blurb announces, absurdly enough, that it is 'probably the best work in print on Aristotle's de Motu': in fact, it is a major and durable contribution to Aristotelian studies. N. is an able scholar and an acute philosopher: she has produced a new text, placed it on sure foundations, and elucidated many of its most obscure passages; and, in the best Anglo-Saxon tradition, she has exposed and unravelled those strands of thought which give philosophical interest to A.'s little treatise. For her talents have been given to a worthy object; and the de Motu, despite its brevity — and despite the peculiarity of some of the views it expounds — is now generally recognized as one of A.'s more significant writings.

But I have three serious complaints. First, there is no Index Verborum: to compile an Index would have been a small labour and a large service — particularly so, since the authenticity of the treatise has been disputed. Secondly, the commentary is tiresome to use: notes are keyed to the text by line number only, and there are no running heads; thus on p. 358 there is a long note labelled '21' — and the reader must turn on six pages, or back five, to discover that the reference is to 702a21. Thirdly, the book is not self-sufficient: the student of A.'s text must have at his side N.'s paper in HSCP, 1976 on 'The Text of Aristotle's de Motu Animalium'. Although much of the article reappears verbatim in the book, various vital bits do not: for a full description of the MSS, for discussion of certain cruces, and for a more ample apparatus, the reader of the book is referred to the paper — and the keen reader of the paper will find that he needs to turn up N.'s Harvard thesis, which was the original of the whole thing.

I hope that at some future date N. will be able to publish a second edition in which those formal flaws do not mar the excellence of her matter. She might then save space by omitting the bulk of the essays, much of which is only loosely tied to the de Motu and might better have received separate publication.

Other reviewers will treat the more philosophical parts of N.'s edition: here I shall restrict myself to a few comments on her work on the text.

After Bekker (1831 = Bk.), the de Motu has been edited by Bussemaker (1854 = Bu.), Jaeger (1913 = J.), Forster (1937 = Fo.), Torraca (1958 = T.), and Louis (1973 = L.); and the Oxford Translation by Farquharson (1912 = Fq.) contains numerous textual notes. Do we really need yet another edition? Yes: N. shows that earlier editors have not done their work well; they have relied on a small and unrepresentative sample of MSS; they have produced no proper stemma; their collations are inaccurate. Of the 44 extant MSS of the de Motu,
N. selects ten, five of which she has collated for the first time; in addition, she uses the indirect tradition represented by Michael of Ephesus and William of Moerbeke (and she occasionally appeals to the translation of Leonicus and to the paraphrase of Albert).

The text N. prints is considerably different from those of her predecessors: in six Bekker pages she differs from J.'s Teubner at upwards of 40 places; and the differences are usually improvements. In some cases, N. can call upon fresh MS evidence or on a better reading of old evidence; in some cases — notably in matters of punctuation — N.'s philosophical grasp of the sense of the treatise enables her to make textual advances; and she has added a few interesting conjectures of her own.

The comments that follow pick out a few places where, in text or translation, N. has failed to convince me; lest that impart a hostile aspect to my review, let me repeat that I find her edition for the most part admirable.

698a6-7: the διαφοραί and συμβεβηκότα are those of animal movements, not of the animals themselves; N.'s translation implies the opposite (but see pp. 274-5) — Fo, is better.

698a13: δι' ἀπερ is 'because of these', not 'through these'. And καὶ is 'actually', 'indeed', not 'also': see too a25; b5 (where N.'s 'also' turns A.'s argument upside down); 702b1. (At 700b31 and 702b20 καὶ is left untranslated.)

698a23: N. conjectures and prints ἡ μὲν Δ for ἡ μὲν Α καὶ Δ (v.l. ἡ μὲν Α καὶ Δ: at a24 some MSS have ἡ Α καὶ Γ for the correct ἡ ΑΓ'). On the received reading ἡ Α must designate the point Α: as N. remarks, A.'s usage would require τὸ Α; more importantly, what matters for the argument is the immobility of the line Α. (But since in the same line ἡ Β designates the line AB, we might read: ἡ μὲν [Α καὶ (ἡ)] Δ.)

698a26: With Bk., N. prefers κωεῖται (P, Leonicus) to the orthodox κωεῖθαι, and she turns the parenthesis into a criticism of Plato's astronomy. But such criticism is hardly appropriate, and N.'s account can give no good sense to ὡς φασι (which Leonicus omits). κωεῖθαι is unobjectionable: κωεῖται is one of the 'amazingly large number of errors of all sorts' found in P (HSCP, p. 130).

698b1: ἡ ἄρχη ἡ πρὸς ὰ, 'the origin relative to which (the movement takes place)': so N. But ἡ πρὸς ὰ is superfluous: it does not mark off 'a particular sort of ἄρχη' (p. 295); for every ἄρχη of movement is trivially πρὸς ὰ. The MSS show some variety: ἡ πρῶτη makes good sense (see T. p. 39); but I prefer to omit the phrase with b2, Leonicus (so Bk., Eq.).

698b9: N. glosses ὅπλως by 'not moved with the animal's own motion, even accidentally' (p. 286); but ὅπλως can hardly convey that. Rather, the phrase refers to the unmoved first mover (see 698a9): that is why the issue bears upon 'the motion and course of the universe' (b12).

698b16: On this notorious and amusing crux N. has changed her mind between HSCP and AMA. The MSS present a rich selection of readings (which N.'s apparatus does not readily discover); but all are trifling variations on: τοις μυοί τοις ἐν τῇ γῇ ἡ τοῖς ἐν τῇ ἀμιμο πορευομένως — except that E has ποιη for μυοί. Diels conjectured ἔμωι (water-tortoises: see Bonitz, 244a37-60) for μυοί: so J., and now N. In HSCP, N. retained μυοί, which, following a suggestion by Owen, she took in the sense of 'mussels' (see Bonitz, 479a3-11). In both HSCP and AMA she prints πτηλῷ (better, τῷ πτηλῷ) for τῇ γῇ.

The first thing to see is that τῇ γῇ will not do: earth is a resistant medium par excellence, and cannot be cited as something which ὅπλωσει ἀει. (T., p. 40,
proposes to take γῆ in the sense of ‘terricio’, ‘loam’; but that is not possible.)

N.'s πηλικων gives an appropriately slippery medium, and one which fits her water-tortoises. But the tortoises do not appear on sand, so that N. is obliged to introduce a new subject for the second part of the sentence: ‘as when tortoises walk on mud or men on sand’. I cannot think that such a change of subject is possible.

If we are to hold to a single subject and yet have two terrains, then ζεῖα (Fq.) for γῆ is best: ‘as when mice walk on corn or on sand’. But it is better to be satisfied with one terrain, and to excuse τοικεν ἐν τῇ γῇ ἡ (Platt, JPhilol, 1913) — the phrase is a gloss, excited by b 17. Thus we have mice slipping in the sand — a pretty picture (perhaps A. was thinking of African mice: Bonitz, 478b37–60; cf. Hdt. iv. 192). But the picture is fairly remote from ordinary Greek experience (and, if my juvenile experience is anything to go by, mice are perfectly capable of trotting over the sands). Perhaps heedful of that, Platt preferred ποις to μου; but it would be sad to lose the mice altogether — and I do not know if A. could say that feet πορευονται. I suspect that ἀμμων is a corruption of ἅλω (cf. Michael, in IA 138.17–21), and that A. wrote: τοις μοι τοις ἐν τῇ ἅλῳ πορευομένων — that, after all is where A.’s audience will have seen mice, and where mice do scramble about.

698b24: οὐκετ', codd; οὐδέ', Leonicus, followed by J. and N., needlessly.

699a13: With most scholars, N. rightly prefers τε δεῖ to θέλει (J., T.). She also prints καὶ τοῦτο, καὶδιμηθέν . . . (Fq.: [καὶ] τοῦτο ημεθέν . . . Fo.). But that gives the wrong sense: the puzzle is not whether the mover of the universe must be unmoved, but whether, if the universe has a mover, there must be something — either the mover (a16) or its support (a14) — which is outside the universe and unmoved. The received text can give that sense: N. finds it ‘intolerably awkward’ (p. 292); if so, read τι δεῖ for τε δεῖ (cf. b 32).

699a26: αὐτών (William (?), Leonicus; Platt) is preferable to αὐτών (Platt’s omission of καὶ is unnecessary): it is true that ‘A. elsewhere shows his interest in the movement of lifeless things by animals’ (p. 300); but he does not do so here, since in such cases it is not the ground but the motive animal which acts as the resisting medium.

699b6–10: N., following Michael, takes το ἡρεμοῦν to refer to Atlas, and translates: ‘that which imparts motion starts out by being at rest’ (other versions in Fq., Fo., T.); but it seems more natural to construe το ἡρεμοῦν πρώτον as equivalent to το πρώτον ἀκυπήρθων, i.e. (on the hypothesis under discussion) as referring to the earth. Thus: ‘since the primary immobile is what imparts motion, the force of its immobility must be greater [sc. than the force of Atlas], and also greater than that of the heavens. Hence . . . ’.

700a19: ἐν αὐτῶς is a misprint for ἐν αὐτοῖς.

700a28–33: This is Aristotle at his most cryptic. N.’s discussion (pp. 325–30) is helpful; and her punctuation of a29–30 and a32–3 (after Fq.) is probably right. But the argument is greatly improved if, with Platt, a28–31 (περὶ δὲ . . . πασῶν) is put in parentheses: αὐτή in a32 is then easily referred to locomotion (see a 26), and with αὐξήσεως we can understand ‘there must be something at rest’. (There is no need for Fq.’s δῆ for δὲ at a30 — put a colon before καὶ. In a29 ἤπερ is a misprint for ἢπερ.)

700b17–18: Alone of editors, T. prints the full list of movers found in b 2 1 N. (p. 333; HSCP, pp. 143–4) argues on behalf of the curtailed list that the addition of αἰώνιος and θειος is unnecessary, and that it is hard to see how those words would have dropped out of the text. But the additions are certainly required for
A.'s argument; and any scribe not worth his salt can omit a couple of items from a list of seven.

700b24: William has *quare movet primum quod appetibile et quod intellectuale*, and past editors all print *ωστε καὶ πρῶτον τὸ ὀρέκτων καὶ τὸ διανοητόν*. The Greek MSS are corrupt (see *HSCP*, pp. 130-1); but P has a text which makes some sense: *ωστε καὶ πρῶτον τὸ ὀρέκτων καὶ διανοητόν*. N. prints the text of P. Now, as N. points out (p. 337), William's text gives precisely the conclusion which A. is entitled to draw at b24, whereas P's text, though presenting good Aristotelian doctrine, has A. make a claim to which he is not yet entitled. And that is surely enough to vindicate William over P. N. argues that, with William's text, A. 'seems positively to mislead us concerning the nature of his conclusion'; but that is not so: with William's reading, the course of the argument — which exactly parallels that of *An* Γ 10 — is plain and intelligible.

700b32: τὸ μὲν (Fq.) for τὰ μὲν is unnecessary: τὸ ἀπεὶ κυνωμένων (b30) is general ('whatever is eternally moved'), not singular.

701a2-4: The argument is obscure and the text uncertain. (a) Lines a4-6 show that locomotion is 'last' in animals; a1-2 explain why it is 'reasonable' that locomotion should be last: the last motion need not move anything else, and the animal's locomotion does not impart motion to anything else (in the animal). (b) Line 3, on any account, must mean something like: 'locomotion is the last κύνης to occur in animals'. The received text can be construed in that way (e.g. T.: 'la locomozione è l'ultima delle forme di movimento che si producono negli esseri soggetti al divenire'); but it is awkward. N.'s conjecture is too bold (κυνησεως for γυμνησεως — κυνωμευσων P); if emendation is needed, excise ΕΝ ΤΟΙΣ ΓΥΜΝΕΥΟΝ.

701a20: 'the “I have to make a cloak” ' is not English; and it translates τὸ twice over.

701b4-6: The lines remain perplexing, even with ἄρα δχούμενος (Fq. et al. — what is ἄρα doing here?). The reference to the cart interrupts the flow of thought: it neither illustrates the point implicit in b2 (a small initial movement may produce great changes), nor receives mention in b7-10 (the cart contains nothing corresponding to bones and sinews). It is tempting to excise b4-6: the lines will have entered the text from a marginal note on the casual allusion to ἡμάξα in b11. But b2-10 are a mess; and despite N.'s learned commentary (pp. 347-9; *HSCP*, pp. 146-152), they remain inscrutable.

701b30: I do not see that εἰ καί is 'clearly preferable' to καί, which all other editors prefer.

702a3: τάλλα τὰ σωματικά, N. (with Bk., Bu., Fq., Fo.); others omit τὰ which according to J.'s apparatus, is found only in P.

702a30: 'which is what we mean by saying that it is . . .' — so N., after Fq., Fo., T., L. But surely the Greek means: 'and that is what we say is . . .'?

702a34: τις (Fq.) for τὴν is needless.
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702a36: N.'s translation is better punctuated than her text.
702b10: 'because it is still higher up'; better: 'because there is something still higher' (Fq., T.). After ἐνταῦθα a colon or stop has been omitted.
702b19: N., after T., prints καὶ πρὸς τὰς, which is better than καὶ πρὸς τὰ (Fq.) or πρὸς τὰ (J.); though Fo.'s καὶ τὰς is perhaps preferable. The central point is that καὶ τὰς in b18 requires a corresponding καὶ τὰς in b19. But I think that N. (p. 371; HSCP, pp. 154–5) and her predecessors have misunderstood the reference to movements proceeding ἀπὸ τῆς πάχεως: it is not that the ἄρχη must be 'higher than the "center" for the whole body', but rather that the ἄρχη must be 'in the middle' in the front-back dimension as well as in the left-right (b12–17) and the up-down (b17–19).
702b26–7: N.'s translation, after Fq., Fo., is odd; I take A. to mean: 'for it happens both that the limbs move at the same time as one another, and that one moves when the other is at rest: (cf. T.). It is the former possibility which grounds the argument of the next few lines.
703a1–2: N. accepts ἀναγκαῖον (ἐν) (Fq., from William); but the sense does not require ἐν (that point is already made at b30), and J.'s ἀναγκαῖον ἄκυψτον gives a better run to the argument. (But I prefer ἄλλα ἄκυψτον τὸ κυνόν . . .)
703a10–11: N.'s parentheses (after Fo., T.) do not suit A.'s particles; similarly at a16–18.
703a35: Translate 'because of their nature' (similarly at b2). — N. renders ἐκαστὸν οὐτῷ οὐσίαντων by 'each part of them, since they are so ordered'; and that is surely what A. meant to say. But it is hard to get it from the Greek: Fq.'s ἄπο τῶν οὐτῶν does not help much; perhaps ὡς τῶν οὐτῶν οὐτῶ.
703b7: Perhaps 'the mind forbidding' (cf. παρὰ τὸν λόγον, b16), rather than 'without the command of thought'.
703b13: ἥνι is 'thereby', not 'at once'.
703b22–3: N. defends J.'s excision. (The commentary is muddled: the note at pp. 384–5, though keyed to b22, in fact comments on b32; and on b32 N. refers to HSCP, p. 158, the passage which she reprints against b22. The comment on b22 is to be found at HSCP, p. 158). It is true that b22–3 gives reasons for the claim that the heart and the penis are 'like separate animals', and not for the claim that 'they contain vital moisture'. Even so, the received text may stand: b22–3 gives a general reason for regarding those organs as like separate animals; b23–6 — μεν οὖν = 'or rather' — gives specific argument for each case.
703b36: ταύτα is just as good as ταύτα (P, William, Leonicus: Fq., J., Fo., T., L., N.). Editors ascribe ταύτα to J., as though it were his conjecture: in fact Fq. suggested it independently of J.; and it is in any case an attested reading.

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EPICURUS' EPISTLE TO PYTHOCLES

Jean Bollack, André Laks: Épicure à Pythoclès. (Cahiers de Philologie, 3.) Pp. 373. Lille: Université de Lille, 1978. Paper.

Most people will by now be familiar with the work of the Lille 'Centre de Recherche Philologique' from which this is the latest offering. All their work exhibits an extreme conservatism in textual matters mated rather uncomfortably to great exegetic subtlety. The present volume's almost exclusive concen-