ARISTOTLE ON THE RANGE OF THE PRINCIPLE OF NON-CONTRADICTION

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At *Metaphysics*, Γ, 1006b28-34 Aristotle completes an argument on behalf of the principle of non-contradiction [PNC]. At least since Lukasiewicz[1] the passage has been the source of the view that, here at least, Aristotle proves PNC for substances or substantial predications only.[2] More recently Anscombe[3] and possibly Kirwan[4] have followed Lukasiewicz. Thus Aristotle is held to regard PNC not as a general principle but as restricted to essential propositions about substances. This in turn mars much of Γ's announced program, since PNC was counted in the subject matter of metaphysics because it holds generally, in Aristotle's idiom, of that which is *qua* thing that is. Further, Γ's initial statement of PNC at 1005b18-22 contains no hint of such a restriction. Accordingly, an interpretation relating our passage to a general proof of PNC would be desirable, if only to insure consistency in Aristotle's attitude toward PNC as a general principle. I shall suggest how such an interpretation is possible.

The passage in question is this

(1) It is accordingly necessary, if it is true of anything to say that it is a man, that it be a two-footed animal (for that was what «man» signified); and if that is necessary,

(2) it is not possible that the same thing should not be, at that time, a two-footed animal (for «to be necessary» signifies this: to be incapable of not being). Consequently,

(3) it is not possible that it should be simultaneously true to say that the same thing is a man and is not a man.[5]

At the outset we should caution against making too much of the language of the passage. Occurrence in the final sentence of the essential predicate «man» and its negate «not man» is no warrant for a restricted interpretation of the passage, for precisely at issue is whether they are stand-ins for any predicates whatever. Similarly, occurrence of «at that time» at 1006b31 and «simultaneously» at 1006b33

is not conclusive for the general interpretation. While the career enduring nature of an essential property excludes predication of an essential predicate and its negate *even at different times*, it follows only that such specifications are otiose not that the passage must be read generally. In any case, the decisive consideration is whether, as proponents of the restricted interpretation urge, a general reading of the passage vitiates the argument it contains.

There are at least two versions of the argument depending on the scope of «necessary» in (1). If «necessary» is taken to range over the entire conditional sentence, the passage yields as the argument

> A1 $\Box(x)(Mx \rightarrow Tx)$
> A2 $\sim\Diamond(\exists x)(Mx \ \& \sim Tx)$
> A3 $\sim\Diamond(\exists x)(Mx \ \& \sim Mx)$;

if, on the other hand, its range is the consequent only of (1), the argument runs

> B1 $(x)(Mx \rightarrow \Box Tx)$
> B2 $\sim(\exists x)(Mx \ \& \ \Diamond\sim Tx)$
> B3 $\sim\Diamond(\exists x)(Mx \ \& \sim Mx)$. ([6])

The B argument is an enthymeme whose suppressed premise is B2.1, $\sim(\exists x)(Mx \ \& \ \Diamond\sim Mx)$. This plus Aristotle's wording in (1) recommend the A argument on grounds of naturalness. But there is a more serious objection to the B argument which is also more relevant to our problem. While B2.1 validly yields B3, it does so only if the «$\rightarrow$» of B1 signifies so-called strict implication. But then B1 is true only if «Mx» is restricted to essential predications and so B3 [PNC] is proven, if at all, only for the select case of essential predications. Thus, in point of proof at least, Aristotle seems committed to a non-general version of PNC. For reasons similar to these, Kirwan has proposed the A argument as catching Aristotle's intent in the passage.

There is, however, something peculiar about this proposal. For the above considerations to tell in favor of the A as against the B version of the argument, A3 and so A1 must be taken generally. And although we may not be required to read «$\rightarrow$» as there marking strict implication, surely A1 is satisfied only by Aristotelian essential predications. A1 is true, says Aristotle, because being a two-footed animal [T] is what «man» [«M»] signifies. Earlier at 1006a32-34 he has said that if

«F» signifies one thing G, then if something is F, then G will be the being of F. With our example, if «man» signifies two-footed animal, then two-footed animal is what the being of man is [τὸ ἀνθρώπῳ εἶναι]. The conspicuous use here of the dative [7] suggests that what a term signifies is its essence and that this relationship between M and T accounts for the necessity of A1. Instantiating A1 with contrasting cases makes the point clear. So far from being even contingently true it is plainly false that if Socrates is white that he is a color; while it is true, and necessarily so, that if he is a man that he is a two-footed animal. Thus A1's truth seems also to depend on construing «Mx» as a schema for essential predications only.

In either version, then, the argument would prove PNC only for a limited class of propositions. Lukasiewicz and Anscombe restrict the class to essential propositions about *substances*. Thus they construe the range of values for the universal quantifier of A1 to be substance particulars. This precludes any interpretation relating 1006b28-34 to a general defense of PNC. On the other hand, opening the range to quality or accident particulars as well does not vitiate the argument and, what is more important, makes possible relating its conclusion to a general defense of PNC.

That the argument's validity is unaffected by assuming A1 to cover essential predications about accident as well as substance particulars is clear from example. Let «α» be the name of a color particular. Then by A1 it is necessary if α be white, that α be a color. And this is surely true. The admittedly infrequent use of such predications is due to their marked lack of utility. The virtual absence of proper names for such particulars testifies to this. Nonetheless, on at least one standard interpretation of Aristotle's doctrine of categories [8] such items exist and are subjects of essential predications. So, at the very least, restriction of the argument to essential predications about *substances* is not required.

But can the A argument be made to support an unrestricted version of PNC, given that A3 is proven for essential predications only? I believe so. Suppose we begin by marking the restriction on A3 with a subscript «E»: $\sim\Diamond(\exists x)(Mx_E \& \sim Mx_E)$. We may now read «M» as standing for any predicate whatever, since any standard predicate is, for Aristotle at any rate, essentially predicated of something or other. We can solve our problem if there is some way to relate A3 to an unrestricted statement of PNC.

Consider, then, an ordinary accidental predication to the effect that Socrates is white. For Aristotle the truth conditions for such a predication are not just that Socrates exist and be white. There must also obtain what I shall call a fine ontological configuration of roughly the following kind: $(\exists x)(\exists y)(x$ is a substance particular & x=Socrates & y is an accident particular & y is in x & $Wy_E)$. Suppose now we consider what sort of ontological configuration must obtain were it possible that Socrates be simultaneously white and not white. Aristotle must be requiring the following to hold: $(\exists x)(\exists y)(x$ is a substance particular & x=Socrates & y is an accident particular & y is in x & Wy_E & $\sim Wy_E)$. But since A3 holds for any predicates whatever, it is impossible that Wy_E and $\sim Wy_E$. Thus the ontological configuration which would have to obtain were it possible that Socrates be simultaneously white and not white is, by A1 - A3, an impossible ontological configuration.

The principle, then, which relates A3 and, so, the A argument to a general defense of PNC is

$$4 \quad \Diamond(\exists x)(Fx \ \& \ \sim Fx) \rightarrow \Diamond(\exists x)(\exists y)(y=x \ \lor \ y\varepsilon x \ \& \ Fy_E \ \& \ \sim Fy_E)$$

where «ε» is read as the *Categories'* «in but not as a part.» But given A3's prohibition against joint predication of any essential predicate and its negate, we may conclude

$$5 \quad \sim\Diamond(\exists x)(\exists y)(y=x \ \lor \ y\varepsilon x \ \& \ Fy_E \ \& \ \sim Fy_E)$$

and so

$$6 \quad \sim\Diamond(\exists x)(Fx \ \& \ \sim Fx).$$

Here we may read «Fx» as a general predicative schema accommodating both accidental and essential predication. Thus, if Aristotle implicitly supposes something like 4, then restriction of A3 to essential predications does not show him to regard PNC as a restricted principle. Rather we can read him as offering a proof at the level of fine ontological configurations.(9) Since some such configuration underlies any ordinary predication, it is possible to relate the proof in question to a general defense of PNC.

I must, however, mention two remaining difficulties. First there is the general objection that any reductio proof of PNC uses and so presupposes PNC. While appearing to hold against all of Aristotle's

attempts to prove PNC, the objection may here be waived because our problem is whether, despite appearances, the A argument can be interpreted in defense of a general version of PNC not whether the defense itself is finally acceptable. The second difficulty is this. The possibility of Socrates' simultaneously being white and not being white was explained in 4 by the possibility of an accident particular's being essentially white and essentially not white. But, it may be objected, this could as well be explained by the possibility that the essentially white accident particular jointly exist and not exist. Rather than 4, we would the have

4* $\Diamond(\exists x)(Fx \ \& \ \sim Fx) \rightarrow \Diamond[(\exists x)(\exists y)(x=y \ \lor \ y\epsilon x \ \& \ Fy_E) \ \& \ \sim(\exists x)(\exists y)(x=y \ \lor \ y\epsilon x \ \& \ Fy_E)]$.

While the consequent of 4* is false and so «$\sim\Diamond(\exists x)(Fx \ \& \ \sim Fx)$» true, its falsity is due to straightforward infringement of PNC and not to the truth of A3. Thus, on 4* it is not obvious how the A argument can be brought to bear on a general version of PNC. Nevertheless, it is clear that an interpretation is available which relates Γ, 1006b28-34 to defense of a general PNC. Equally, then, we need not impute to Aristotle the view that PNC is not a general principle.

It would, of course, be desirable to show that 4 is independently preferable to 4* or at least that it would be Aristotle's choice. The latter is made likely by the following considerations. In *Metaphysics*, Γ Aristotle is concerned with PNC as an ontological principle. Probably the weakest, and therefore safest, sense to give this is simply that PNC governs all the things that exist. In this light 4 is a natural choice because existential import is built into its formulation. It also nicely accommodates Aristotle's view in *Metaphysics*, Δ, 7 that what exists καθ αὐτό or in the full sense are items from the various categories. For these are just the items 4 commits us to. Finally, it is worth mentioning a quite nice feature of this interpretation, namely, that it gives a completely plausible and doctrinally faithful account of how *Aristotle* conceived the relation between the ontological and logical [general] versions of PNC.

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FOOTNOTES

(¹) Jan LUKASIEWICZ, «Über den Satz des Widerspruchs bei Aristoteles,» in *Bull. Intern. de l'Academie des Sciences de Cracovie*, Cl. d'histoire et de philosophie, 1910. See my translation «On the Principle of Contradiction in Aristotle,» *Review of Metaphysics*, XXIV (1971), pp. 485-509.

(²) LUKASIEWICZ, p. 502.

(³) G.E.M. ANSCOMBE, «Aristotle» in Anscombe and Geach, *Three Philosophers*, Oxford (1963), p. 40ff especially.

(⁴) Christopher KIRWAN, *Aristotle's Metaphysics, Books* Γ, Δ, E, Oxford (1971), pp. 98-99.

(⁵) Here I follow Kirwan's translation.

(⁶) Each line of the argument is taken to follow from the preceding line. Steps of the argument correlate in each case with the appropriately numbered passages of the text. Kirwan gives virtually the same two version account.

(⁷) Association of the possessive dative with the technical formula for essence, «τί ἦν εἶναι,» is discussed as early as Trendelenburg, «Das τὸ ἑνὶ εἶναι, τὸ ἀγαθῷ εἶναι etc. etc. und das τὸ τί ἦν εἶναι bei Aristoteles,» *Rhein. Mus.* II (1828), 457-83, and has since generated an impressive bibliography.

(⁸) In fact on the traditionally received interpretation of *Categories* 1a20-b10 things which are in but not said of a subject are held to be particulars from the accidental categories. But see G.E.L. OWEN, «Inherence,» *Phronesis*, X (1965), 97-105, for a strongly argued dissenting view.

(⁹) Use of this notion is not without precedent. Moravcsik seems to employ it in «Aristotle on Predication,» *Phil. Rev.*, LXXVI (1967), pp. 80-96.