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THE PERENNIAL TRADITION OF NEOPLATONISM

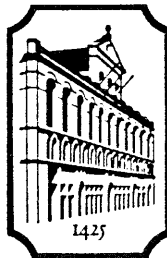
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ON PROCLUS' COMPARISON OF ARISTOTELIAN AND PARMENIDEAN LOGIC

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I. Interpreting Proclus' claim

In his book *The anatomy of Neoplatonism*, a masterly account, as it is, of the conceptual structures underlying the fundamental themes of Neoplatonic philosophy, Professor Lloyd indulged in a particularly harsh judgement on "Proclus' comparison of Aristotelian and Parmenidean logic," by saying that Proclus' "criticism of Aristotelian formal logic is mostly too confused to amount to anything."¹ The following considerations are mainly concerned with countering this judgement and they simply aim to suggest a tentative interpretation of Proclus' claim that the "Eleatic method" (*In Parm.* 1000.35; MD 351) is "much more complete" (1007.16; 357) than the Aristotelian. Accordingly, I shall confine myself to arguing that Proclus' contention is plausible, on both logical and historical grounds, and I shall by no means try to offer a thorough reconstruction of his views, an attempt that would go far beyond the limits of my present work.²

In his book, Professor Lloyd also maintains that Proclus' "mention" of Platonic dialectic "does not make it any easier to make much sense of his claim that categorical syllogistic is heuristically the inferior, less 'neat' for dispensing with hypotheses in the discovery of the 'connections and differences of things'." But really is such a reference to Platonic dialectic altogether irrelevant from a logical point of view? Professor Lloyd himself points out that Proclus stresses "the superiority of Parmenidean dialectic" by saying "that its premisses are reached by division."³ So let us first consider how division stands to the other dialectic methods and to definition in particular.

II. The fourfold division of dialectic and Parmenides' method of hypotheses

The "division of 'dialectic'"⁴ into the "four subordinated procedures of definition, division, demonstration and analysis" (1003.7-9; 353) was a

1. Antony C. Lloyd (1990), pp. 11, 16.

2. Cf., in this respect, John Dillon (1987), pp. 165-175.

3. Lloyd (1990), pp. 12, 16.

4. Lloyd (1990), p. 8.

“commonplace”⁵ in later Neoplatonism. In his *Parmenides* commentary, Proclus says that “definition is a more august and sovereign art than demonstration, and division in turn than definition,” for “division gives to definition its first principles, but not vice versa,” (982.11-15; 336), and again “definition is the beginning of demonstration” (980.33-34; 335). Analysis proceeds from the subjects under investigation “to their first principles,” sometimes “to the causes, sometimes to the accessory causes (*συναίτια*), at other times to both” (1003.21-25; 353), and “it serves as complement (*ἀντίκειται*) to demonstration,” as well as to definition and division.⁶

But how are the four traditional parts of the dialectical method formally related to one another? Proclus himself offers us an appropriate answer by propounding a quite original reappraisal of Parmenides’ method and of its connections with Plato’s dialectic. In his attempt to illustrate Parmenides’ dialectic “Proclus sets out to atone for a millennium of neglect,”⁷ as he argues at length to convince his readers. He wants them “accept the view” that Parmenides’ “method of hypotheses” and the “functions of dialectic” are “the same as each other” (651.10-16; 42). The functions of dialectic he has in mind are its “diaeretic part” and its “definitional aspect,” such as he finds them expounded in the *Sophist* (253d) and mentioned in the *Phaedrus* (266b).⁸ And that is to say, in other words, that Parmenides’ method can be totally “identified” with Platonic dialectic.⁹ A proper examination of Proclus’ “derogatory comparison”¹⁰ of Aristotelian syllogistic with Parmenides’ method requires a closer examination of the articulations of dialectic.

III. A case for ‘ascent’: definition and division

It is worth dwelling a while upon Proclus’ demonstration of the substantial identity of the Eleatic and Platonic methods in order to favour a better understanding of the relation between division and definition in Plato’s dialectic. Division, one of “the two aspects of dialectic mentioned in the *Phaedrus*,” is “to divide the one into many” (650.16-18; 41) and

5. Lloyd (1990), p. 8.

6. *In Parm.* 982.24-28 (MD 336).

7. John Dillon, introduction to *Proclus’ Commentary on Plato’s ‘Parmenides’*, (Princeton: Princeton Univ. Press, 1987), p. 11.

8. *In Parm.* 649-651 (MD 40-42).

9. John Dillon, introduction to bk. 5, in *Proclus’ Commentary*, p. 326.

10. Lloyd (1990), p.11.

definition, the other aspect, is to “collect many into one;” (649.25–26; 41); in exactly the same way, “the Eleatic sage” in the *Sophist* “uses diaeresis to make many out of one and definition for getting one from many” (656.2–4; 45). Division and definition are then to be seen as converse procedures, that are “consonant” with the “four parts” (650.15–16; 41) of the “procedure of dialectic,” as expounded by “the Eleatic wise man” (649.36–650.1; 41) in the *Sophist*:

he who is capable of this perceives distinctly a single idea pervading many, each of them *posited as distinct*, and many ideas different from one another included under one embracing idea, and again a single idea pervading many others but united into one, and many ideas altogether distinct in every way (253d).

According to Proclus, what the wise man is actually saying is that “the dialectician’s task is to make his way through such hypotheses as Parmenides’ method goes through.” (650.10–12; 41) Here, the “two aspects of dialectic mentioned in the *Phaedrus*” (650.16–18; 41), its “diaeretic” and its “definitional” parts (650.35–37; 41), are further subdivided into two. It may be useful to quote in full Proclus’ explanatory remarks, before commenting upon them in our turn. Proclus’ maintains, that

the four parts in the above statement are consonant with the two aspects of dialectic mentioned in the *Phaedrus*. One of them was to divide the one into many; this is the property of diaeresis, to separate a genus into species. [i] The genus is “*the single idea*” spread through many separate things and existing in each of them; for the genus is not an assemblage of species, like a whole of parts, but is present in each of the species as existing before them and participated in both by each of the separate species and by the genus itself. [ii] The species are the many ideas different from one another but comprehended by one single embracing idea, which is the genus; though it is outside them, as transcending the species, yet it contains the causes of species; for to all those who posit Ideas, real genera are thought to be both older and more essential than the species ranged under them; the realities existing prior to species are not identical with the characters that exist in the species by participation. (650.15–34; 41)

Hence division consists in (1) seeing one idea (“the ‘single idea’”) in many things (“spread through many separate things”), “existing in each of them,” “posited as distinct” (e.g. the “genus” present in each of the “species,” or “participated in” by “each of the separate species”); or else,

division consists in (2) seeing *many* ideas (the “species”) “comprehended by *one* single embracing idea, which is the genus” (e.g. the “causes” of the species, contained in the “real” genus, “transcending the species,” “older and more essential than the species” ranged under it). Here the important fact is for us to notice that there is a logical difference between these “two kinds of the diaeretic part of dialectic”: the first one gives rise to first-order statements about participated genera, the second one to second-order statements about real genera transcending the “characters that exist in the species by participation” and containing their causes.¹¹ But let us proceed with Proclus again:

Thus we see that to distinguish between these *two kinds* is the task of the *diaeretic part* of dialectic; the distinction between the *remaining two* belongs to the *definitional aspect*. This art [i] perceives a *single unified idea* pervading many wholes — *collecting* the many ideas, each of which is a whole, into a single definition, weaving them together and from all these *apprehended wholes* bringing about a single idea by *grasping the many as one*; and further [ii] it looks upon *the many ideas* it has collected as *distinct* both *from one another* and *from the whole which arises from them*. This is what we should expect, for how could it make one out of many if it had not previously seen the many as separate from one another? (650.34–651.9; 41–2)

So we see that, conversely, definition consists in (3) “collecting” *many* ideas, each of which is “apprehended” as “a whole,” into *one* “single unified idea;” or else in (4) seeing “the *many* ideas” as distinct both “from one another and from the” *one* “whole which arises from them.” Again, there is a logical difference between the first kind of the “definitional aspect” of dialectic, which gives rise to second-order statements, and its second kind, which brings about first-order statements.¹²

Accordingly, we can distinguish (2) higher-order division (seeing the many in the one) and (3) higher order definition (“grasping the many as one”) from (1) first-order division (seeing the one in the many) and (4) first-order definition (seeing the many as distinct from the one). Higher-order statements posit the one, first-order statements posit the many. We may illustrate the connections between the two aspects of dialectic and their subordinate kinds by means of the following diagram, which shows how the four resulting procedures, currently known as the traditional

11. *In Parm.* 650.2–36 (MD 41).

12. *Ibid.*, 650.34–651.9 (MD 41–42).

methods of division, definition, demonstration and analysis, can be related to each other:

	<i>Diaeretic part</i>	<i>Definitional part</i>
<i>2nd-order statements</i>	Division (2)	Definition (3)
<i>1st-order statements</i>	Analysis (1)	Demonstration (4)

This diagram is somehow reminiscent of a ‘square of opposition’ and what it shows is (i) the complementarity of the contrary procedures, such as definition and division, or demonstration and analysis; and (ii) the complementarity of the different logical levels of assertion, afforded by the corresponding lower and higher orders of predication, which relates definition to demonstration and division to analysis. Referring to it, we can easily understand how “division (2) gives to definition (3) its first principles” (982.13–14; 336) and why “definition (3) is the beginning of demonstration (4).” (980.33–34; 335) And since “the premises from which demonstrations proceed” are “causes of what is demonstrated,” (*In Eud.* 14.18–20; M 12) we can also see that analysis (1) is the contrary (*ἀντίκειται*) of demonstration (4), “inasmuch as it leads us to analyse effects into their causes.” (*In Parm.* 982.24–25; MID 336) Moreover, “inasmuch as it proceeds from the composite to the more simple” and “inasmuch as it proceeds from the particular to the universal,” (982.26–28; 336) analysis can be seen as opposed, at a different level, to definition, which posits the simple containing the complex, and to division, which posits as distinct the parts contained in the whole.

But more to our point, we can realize that there is a logical ‘ascent’ that matches metaphysical “‘ascent’ from the sensible to the intelligible forms.”¹³ Let us recall that according to Proclus “principles do not possess their existence conceptually, but in reality,” (1054.27–28; 412) for “principles are principles through their own authority and not in virtue of our concepts” (1054.31–32; 412). So, if “objects of thought must exist prior to and independently of the thinking of them,” we might put the so-called “principle of Logical Realism” of the later Neoplatonists¹⁴ to better use by making it work heuristically in reverse.

13. Lloyd (1990), p.14.

14. Richard T. Wallis (1972), p.124.

After all, logical insight is what is sought after here, and instead of saying “that logical distinctions imply ontological ones,”¹⁵ we should admit in reverse that it is ontological distinctions that suggest logical ones. Hence ontological structures (whatever they may mean) can be conveniently assumed as a heuristic model for logical form. And that is precisely what Proclus always purports to do. So, considering both kinds of the diaeretic part of dialectic, we should not be surprised, when we find that “an ontological shift tacitly occurs from the paronymous entity (in Aristotle’s sense) to its eponymous ‘quality’.”¹⁶ For we should be more alert to the fact that a *logical* shift as well as an *ontological* one is here at stake.

We may now proceed and try to unravel the far reaching implications of Proclus’ assumption that in demonstration ‘ascent’ is involved, because “there is a necessary correspondence between the development of demonstration and the hierarchy of the realities that are accounted for.”¹⁷

IV. A case for ‘ascent’: demonstration and analysis

Considering the relation between demonstration and analysis, we shall clearly see that logical ‘ascent’ is an essential requirement of dialectic. As already noticed, there is a certain parallelism between definition and division on the one hand and demonstration and analysis on the other. Just as definition and division were seen as converse procedures, in the same way analysis was called “the converse of demonstration,”¹⁸ or “synthesis,” in being its “reverse procedure.” (*In Eucl.* 255.20-21; M 198) And as demonstration is to definition (“in demonstrations and definitions the particular must”, respectively in first- and higher-order assertions, “be subordinate to the universal and the definition”) (*In Parm.* 981.5-7; MD 335), so analysis is to division. They both lead to a “starting-point for demonstration,” (*In Eucl.* 211.25; 166) but division, dealing with higher-order assertions about first principles (*περὶ τὰς ἀρχάς*) (57.21-22), “divides into its natural parts the genus proposed for examination,” (211.24-25; 166) whereas analysis, dealing with first-order assertions about what is consequent to first principles (*περὶ τὰ μετὰ τὰς ἀρχάς*) (57.23), “traces the desired result (*τὸ ζητούμενον*) back to an acknowledged principle.” (211.20-21; 165).

As Professor Lloyd reminds us, “the standard explanation” of analysis, “Peripatetic as well as Platonist,” was that “of going *up*,” which is not

15. Ibid.

16. Walter Cavini (1995), p.131.

17. *Theol. Pl.* I.10, 45.3-5.

18. Elias, *In Isag.* 37.21-22.

only, as we shall see, going “back,” i.e. “from an end to a beginning”, but also implies again the idea of a certain ‘ascent’. The “Imperial logicians were ready to assume,” Professor Lloyd notices, “that when ‘ p and q , therefore r ’ was asserted ‘ r , if p and q ’ could be asserted.”¹⁹ This shows analysis being the converse of demonstration, for demonstration goes from certain premises, p and q , to the conclusion, r , whereas analysis proves that a conclusion, r , holds only granted the premises, p and q , from which it can be derived. But more considerations are required in order to explain how analysis implies logical ‘ascent’.

In purest metaphysical jargon, Proclus goes at length to show, in his *Parmenides* commentary, that “logical proofs depend on” such entities “as forms-in-soul,” which are also “the causes of the principles of demonstration.” Demonstration, then, requires a metaphysical ‘ascent’ to entities that “are prior in nature and not relative to us, and more honourable than what is demonstrated by means of them;” but they are “universal, not particular;” thus, “even those who do not believe in the Forms,” i.e. Aristotle, “pay honour in their writings on Demonstration²⁰ to the universal,” for “it is this that makes logical proofs such as they declare them to be.”²¹ But how are we exactly to describe a corresponding, if ever, *logical* ‘ascent’? The principle, that when ‘ p and q , therefore r ’ are asserted ‘ r , if p and q ’ can be asserted, implies a logical ‘ascent’ because it is a logical metatheorem equivalent to a deduction theorem, as I shall try to show.²² However, before delving deeper into logical matters an historical diversion is here in order.

V. Material vs. formal validity

In this respect, it is worth recalling the kind of arguments that have been thoroughly discussed by Jonathan Barnes in a recent series of lectures.²³ These arguments are the so called Stoic *ἀμεθόδως περαίνοντες λόγοι* and their counterparts discussed by late antiquity logicians. According to Barnes, “we should not suppose that they all have something positive in common;” we should rather content ourselves with saying they are “characterised by a *lack* of something.” More precisely, what they lack for is “some *formal rule* which validates” them. Hence “unmethodically

19. Lloyd (1990), p.10.

20. Cf. *An. Post.* I.11, 77a5ff.

21. *In Parm.* 980.3-29 (MI) 334).

22. See section 7 below.

23. Jonathan Barnes (1990), pp. 7-119.

concluding arguments” are not to be thought of as “formally valid arguments,” but rather as “materially valid arguments.”²⁴ To explain the difference, and quite significantly to our purposes, Barnes refers to the “medieval distinction,” as proposed by Buridan, between “*consequentiae formales* and *consequentiae materiales*.”²⁵ (There is more point in this remark, than we may perceive at first; but we shall come back to it further on.)²⁶ Occasionally, materially valid arguments are conceived as “truncated”²⁷ or incomplete arguments, that can be transformed into complete arguments by adding a general premise or principle, which would render them formally valid. We may cite, by way of illustration, the two examples given by Barnes, which he calls the “Euclidean Argument”:

- (1) Things equal to the same thing are equal to one another,
- (2) CA is equal to AB,
- (3) CB is equal to AB,
- therefore, (4) CA is equal to CB;

and the “Truncated Argument”²⁸:

- (1) CA is equal to AB,
- (3) CB is equal to AB,
- therefore, (4) CA is equal to CB.

But what is the relation between a complete argument and the corresponding truncated argument? The “non-logical” rule of inference *by which* the conclusion is correctly but unmethodically derived” in the unmethodical argument “is just one of the premisses *from which* the same conclusion is both correctly and methodically derived” in the methodical argument. But why “is not” the unmethodical argument to be said “a truncated version” of the corresponding methodical argument?²⁹ The answer turns on the logical status of the proposition that acts in turn as a missing premise and as an asserted one: as we shall see, its logical status is not quite the same in the two cases.

24. *Ibid.*, p. 79.

25. *Ibid.*, p. 16ff.

26. See note 45 below.

27. *Ibid.*, p. 81ff.

28. *Ibid.*, p. 8.

29. Walter Cavini (1993), p. 95.

VI. A modern (and medieval) counterpart

In order to clarify the matter let us proceed further in our digression. The whole story here is strikingly reminiscent of “the theory of the Syllogism propounded” by John Stuart Mill “in the second Book of the Logic.” Mill’s theory grew out of an idea “respecting the use of axioms in ratiocination,” which he came upon “when reading a second or third time the chapters on Reasoning in the second volume of Dugald Stewart.”³⁰ Dugald Stewart had “justly remarked” that “axioms are not the foundations or first principles of geometry, *from* which all the other truths of the science are synthetically deduced,” but “are merely necessary assumptions, self-evident indeed, and the denial of which would annihilate all demonstration, but *from* which, as premises, nothing can be demonstrated.”³¹ So conceived, general propositions are merely “formulae for making” inferences, and

the major premise of a syllogism, consequently, is a formula of this description: and the conclusion is not an inference drawn *from* the formula, but an inference drawn *according to* the formula.³²

The idea of an inference drawn *according to* a formula brings back the flavour of unmethodicals; on the other hand, its close resemblance to contemporary *inference-ticket* or *inference-licence* theories have already been pointed out quite appropriately,³³ and I have stressed elsewhere the importance of the Cambridge tradition, up to Ramsey and Wittgenstein, in conveying Mill’s views to Ryle and Toulmin, who brought them forward anew.³⁴

According to Toulmin, in what he calls “working” as opposed to “idealized logic,” given some “facts” or “*data* (D),” we seek to establish a “*claim* (C)” or “conclusion” by bringing forward “not further data,” but “rules, principles,” or “general, hypothetical statements,” which act as “*warrants*” to license our inference.³⁵ On his own admission³⁶, Toulmin had drawn on Ryle’s distinction between *law-statements* and *statements of fact*. In his *Concept of Mind*, Ryle says:

30. John Stuart Mill (1981), pp. 189–191.

31. John Stuart Mill (1974), pp. 190–191.

32. *Ibid.*, p. 193.

33. Alan Ryan (1970), p. 32ff.

34. Dino Buzzetti (1987), pp. 101–119.

35. Stephen E. Toulmin (1958), pp. 97–99.

36. *Ibid.*, p. 270.

Law-statements are true or false but they do not state truths or falsehoods of the same type as those asserted by the statements of fact to which they apply or are supposed to apply,

and specifies that

a law is used as, so to speak, an inference-ticket (a season ticket) which licenses its possessors to move from asserting factual statements to asserting other factual statements.³⁷

We should notice that both Toulmin and Ryle contrast the *hypothetical* nature of law-statements (they call them respectively “general, hypothetical statements”³⁸ and “open hypothetical statements”³⁹) to the *categorical* nature of factual statements (respectively, again, they mention “categorical statements of fact”⁴⁰ and “singular categorical statements”⁴¹), a fact which reminds us of Proclus’ preference for “hypothetical forms of argument” (*In Parm.* 1007.27; MD 357). But we shall come back later to this point. It has also been observed that “Toulmin’s distinction between premises *from* which one reasons and rules *in accordance with* which inferences are drawn” is “a sound one” and that it is “canonical in modern logical theory”⁴² — but not only *modern* logical theory, we should actually say. In a brief note entitled “The Re-discovery of the Topics: Professor Toulmin’s Inference-Warrants”, Otto Bird has shown that what the medieval logicians called a “Topical Maxim” or a “*maxima propositio*” are the “traditional logic counterparts of Toulmin’s Warrants,” for in the medieval doctrine on the Topics “the Maxim performs the same function as a warrant”⁴³ and it is actually described as “a confirmatory rule that proves a consequence.”⁴⁴ If, as a maxim, we assume a logical law, which is true by necessity, we obtain a *consequentia formalis*; on the other hand, if we assume as a maxim a general proposition, contingently true in virtue of its terms, we obtain a *consequentia materialis*.

37. Gilbert Ryle (1949), pp. 116-117.

38. Toulmin (1958), p. 98.

39. Ryle (1949), p. 118.

40. Toulmin (1958), p. 105.

41. Ryle (1949), p. 118.

42. Ernest Nagel (1954), p. 405.

43. Otto Bird (1961), p. 537.

44. Albert of Saxony, *Penultilis logica* (Venice: 1523), f. 33ra.

VII. A rationale for logical ‘ascent’

Having thus come full circle, are we now in a better position to clarify Proclus’ “confused” criticism of Aristotelian syllogistic? To our purposes, the important fact about the distinction between formal and material consequence is pointed out by the Pseudo-Scot, who maintains that a material consequence “can be reduced to a formal consequence through the assumption of a necessary proposition.”⁴⁵ We can illustrate this point by way of a diagram:

	Inference:	Rule:
<i>Consequentia materialis</i>	$\frac{p}{\text{therefore, } q}$	$p \rightarrow q$
<i>Consequentia formalis</i>	$\frac{p \rightarrow q}{p}$ <p style="text-align: center;">therefore, q</p>	$((p \rightarrow q) \ \& \ p) \rightarrow q$

The implication is that premises and rules can be interchanged. As Ernest Nagel observes, this means that “a rule of inference can in general be replaced by a premise — provided, of course, that some rules are retained; and in the case of material rules of inference this can apparently always be done.” In addition Nagel informs us that “the above manoeuvre” can also be “introduced in reverse,” and

one or more material premises can be eliminated from an argument without destroying its validity, provided that this elimination is compensated by the introduction of appropriate material leading principles which permit the derivation of the original conclusion by the remaining premises.⁴⁶

Mill was playing the very same game with the major premise of the syllogism, as we can see from the following reconstruction:

45. “*Consequentia materialis... est illa, quae potest reduci ad formalem, per assumptionem unius propositionis necessariae.*” Pseudo-Scot, *In librum primum Priorum Analyticorum Aristotelis Quaestiones*, in *Johannis Duns Scoti Opera Omnia*, (Lyon: Durand, 1639; reprint, with a foreword by Tullio Gregory, Hildesheim: G. Olms, 1968), 1: 287b.

46. Nagel (1954), pp. 405–406.

	Inference:	Rule:
<i>Real inference</i>	$\frac{Ua}{\text{therefore, } Ma}$	$(x)(Ux \rightarrow Mx)$
<i>Syllogism</i>	$\frac{\begin{array}{c} (x)(Ux \rightarrow Mx) \\ (Ua \rightarrow Ma) \\ Ua \end{array}}{\text{therefore, } Ma}$	$((x)(Ux \rightarrow Mx) \ \& \ (Ex)(Ux)) \rightarrow (Ex)(Mx)$

He was taking the major premise of the syllogism, a general proposition construed as an implication, as a material rule for what he called a “real” inference. But we should not forget, as Ryle reminds us, that such an “open’ hypothetical statement” and all “law-statements” of this kind “belong to a different and more sophisticated level of discourse from that, or those, to which belong the statements of the facts that satisfy them,” just as “algebraic statements” are “on a different level of discourse from the arithmetical statements which satisfy them.”⁴⁷ What we have here is, in other words, proper *logical* ‘ascent’.

All these facts may be expressed in a more concise and almost formal way by modifying, to comply with both formal and material arguments, a generally accepted “principle about the connection between validity and logical truth” in the following way:

A (formal) argument is valid if and only if the *conditional* statement, whose antecedent is the conjunction of the premises of the argument and whose consequent is the conclusion of the argument, is (logically) true.⁴⁸

The principle stated here is again a modern counterpart of a principle repeatedly invoked by Sextus Empiricus:

They say that an argument is conclusive (*συνακτικόν*) when the conditional which begins from the conjunction of its premises and ends in its conclusion is true.⁴⁹

47. Ryle (1949), p. 118.

48. I quote from Karel Lambert and Bas C. van Fraassen (1972), p.12. I have added, in brackets, the word ‘formal’ and bracketed the word ‘logically’.

49. Sextus Empiricus, *Adv. Math.* VIII 426 (Hülser, 1062). See also VIII 304, 415-18 (Hülser, 1059, 1060, 1065) and *Pyrh. Hypot.* II 137-38 (Hülser, 1058, 1064).

The formal relation between a valid argument and a true conditional was then clearly recognized by “Imperial logicians”: their assumption “that when ‘ p and q , therefore r ’ was asserted ‘ r , if p and q ’ could be asserted” can be confidently ascribed to that recognition. For we can now justify our contention that what they “were ready to assume” is indeed a logical metatheorem.⁵⁰ The following deduction theorem

$$\begin{array}{l} \text{Inference:} \\ \frac{p}{q} \\ \text{therefore, } r \end{array} \quad \text{iff} \quad \begin{array}{l} \text{Rule:} \\ (p \ \& \ q) \rightarrow r \end{array}$$

shows that the conditional ‘ r , if p and q ’ acts as a rule for a material form of inference, such as ‘ p and q , therefore r ’. Accordingly, Professor Lloyd was certainly right in pointing out that “this is why analysis was called ‘the converse of demonstration’;”⁵¹ but this is the case precisely because the conditional ‘ r , if p and q ’ was assumed as a metalogical rule, a move that clearly requires a form of logical ‘ascent’.

VIII. A plausible vindication

Are we now able, in the end, to find some logical significance in Proclus’ claim? We may tentatively answer by observing two facts.

In the first place, by discharging a proposition as a premise and assuming it as a rule we change radically its logical status. As a premise, it acts as an asserted object-language proposition; as a rule, it is either (i) a metalinguistic statement containing metalinguistic variables that stand for the actual premises and conclusion and their terms, or (ii) a corresponding second-order object-language statement about what such terms or actual propositions purport to signify. To say it with Ryle, they “belong to a different and more sophisticated level of discourse.”⁵²

Secondly, we can assume a proposition as a rule if it has a conditional form. Hence, the “non-formal restriction of the conditionals” Professor Lloyd is alluding to, when he observes that

the substitution of what belongs apparently to a propositional logic of the form ‘ $p \rightarrow q$ ’ by what apparently belongs to a logic of terms

50. See section 4 and note 19 above.

51. Lloyd (1990), p. 10.

52. See note 47 above.

of the form ' aAb ' is feasible only when ' p ' and ' q ' happen to be restricted to a form which already belongs to the logic of terms, i.e. when ' $p \rightarrow q$ ' is restricted to 'if anything is f it is g '.⁵³

Such a proposition may indeed afford us only a material or a non-formal rule, but its material nature does not prevent us from assuming it as a sound rule of inference and does not oblige us to countenance the opinion that it is *not* a logical rule; otherwise we would exclude unmethodical arguments, *consequentiae materiales*, or material forms of inference as non-logical facts. In other words, Proclus' use of "hypothetical forms of argument"⁵⁴ may be seen in this light as a sign of logical 'ascent'. Such an 'ascent' seems to be implied in the conditional principle ' r , if p and q ' recalled by Lloyd to show that analysis is the converse of a demonstration such as ' p and q , therefore r '.⁵⁵ So, contrary to Professor Lloyd's opinion that "it makes no logical difference whether we express a universal proposition by using 'all ... are ...' or by using 'if something is ... it is ...'," we can conclude that it is *not* "logically indifferent," as Professor Lloyd has it, whether "we demonstrate a property of a subject by a categorical syllogism" or "by a hypothetical syllogism," granted, of course, that unmethodical or material arguments count as *logical facts*.

In conclusion, if there are grounds for plausibility in our reconstruction of Proclus' position, could it not be generally extended to much of the logical theory of late antiquity and be subservient to a wider reappraisal of its achievements? After Peter Brown's appreciation of an age, neither should late antiquity logicians

surprise us, as we catch strains — as in some unaccustomed overture — of so much that a sensitive European has come to regard as most 'modern' and valuable in his own culture.⁵⁶

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53. Lloyd (1990), p. 14.

54. *In Parm.* 1007.27 (MD 357); see section 6 above.

55. See note 19 above.

56. Peter Brown (1971), p. 7.

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