

MONLORIUS AND THE "EXISTENCE" OF THE MIDDLE TERM*

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Resumen: El contenido de este artículo es doble. Tiene que ver con la silogística de Aristóteles tanto como con uno de sus más sobresalientes comentaristas: J. B. Monlorius, Valencia, ca. 1500. Las secciones 1 y 2 están dedicadas a Monlorius quien, a pesar de haber sido muy alabado por sus contemporáneos, ha permanecido casi desconocido posteriormente. Las secciones 3-5 revisan las características generales de la silogística modal aristotélica. La sección 6 se concentra en un dilema que emerge en relación al *Barbara* que tiene su premisa mayor asertórica y premisa menor contingente, es decir, IaCa. Las proposiciones universales afirmativas pueden ser tomadas como restringidas a un tiempo particular (*ut nunc*) o no (*simpliciter*). Si la mayor de IaCa es tomada *ut nunc*, la conclusión mantenida por Aristóteles no se sigue; si la mayor "a" es tomada como Aristóteles quiere, a saber, *simpliciter*, hay conclusión, pero diferente de la aristotélica, y el silogismo, contrario a lo que Aristóteles mantiene, parece "perfecto". La solución del dilema debería estar relacionado al significado de "perfección": no hay más opciones evidentes. Es propuesto que no solo transitividad sino una condición extra llamada "la existencia del término medio" es necesaria para la "perfección". La sección 7 y final vuelve a Monlorius, quien destaca la "existencia del término medio", aunque la ve meramente como sirviendo al propósito de asegurar la transitividad más que como un requisito independiente de perfección.

Descriptor: Silogística aristotélica · J. B. Monlorius · Silogística modal · Premisas asertóricas · Conclusión perfecta.

Abstract: The content of this paper is twofold. It has to do with Aristotle's syllogistic as well as with one of his most impressive commentators: J. B. Monlorius, Valencia, 1500s. Sections 1 and 2 are for Monlorius who, in spite of having been highly praised by some of his contemporaries, has remained almost unnoticed subsequently. Sections 3–5 review general features of the Aristotelian modal syllogistic. Section 6 focuses on a dilemma that emerges with regard to the *barbara* with major assertoric and minor contingent, briefly IaCa. Universal affirmative sentences can be taken as restricted to a particular time (*ut nunc*) or not (*simpliciter*). If the major of IaCa is taken *ut nunc*, the conclusion claimed by Aristotle does not follow; if the major "a" is taken as Aristotle wants, namely *simpliciter*, there is a conclusion, but different from the Aristotelian one, and the syllogism, contrary to Aristotle's claim, looks "perfect". The solution of the dilemma should be related to what is meant by "perfection": no other options are apparent. It is submitted that not only transitivity but an extra condition called "the existence of the middle term" is needed for

*A first draft of this essay was read at the symposium *La Lógica de Aristóteles: recepción, transformación e influencia*, held at the Faculty of Philosophy, Pontificia Universidad Católica de Chile, Santiago de Chile, November 20-22, 2007.

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“perfection”. The final section 7 returns to Monlorius, who brings into special prominence the “existence of the middle term” but views it as merely serving the purpose of securing transitivity rather than as an independent requisite for perfection.

Keywords: Aristotelian syllogistic · J. B. Monlorius · Modal syllogistic · Assertoric premises · Perfect conclusion

Recibido 14/12/2011 · Aceptado 12/03/2012

I. Some information on Monlorius

Johannes Baptista Monlorius (or Juan Bautista Monllor), from Valencia, 16 th. C., wrote a commentary on Aristotle’s *Prior Analytics*.² Keckermann, a 1500s contemporary of Monlorius, said that trying to write on Aristotelian logic after 1569, when Monlorius’ commentary on the *Prior Analytics* was published, was like attempting to write the *Iliad* after Homer.³ Keckermann would be distressed by the fact that in the past four hundred years many scholars have attempted to write the *Iliad* again, and hardly anyone has bothered to read Monlorius. General information on Monlorius is found in Spanish sources such as Solana (1941) and Díaz Díaz (1980). The following short article is from the Espasa Calpe encyclopedia:

Monllor (Juan Bautista). *Biog.* Sacerdote y escritor español de mediados del siglo xvi, n. en Bocairente (Valencia). Hizo sus estudios en la Universidad de Valencia y obtuvo el grado de doctor en teología, siendo, además, muy versado en latín, griego, hebreo, filosofía y matemáticas. Fue lector de filosofía y canónigo y maestrescuela de Orihuela, y se distinguió por sus sentimientos caritativos. Se le debe: *Oratio in commendationem Dialecticae, habita in Universitate Valentina Kal. Septembris 1567*; *Paraphrasis et scholiorum [scholia?] in duos libros priores analyticorum Aristotelis a graeco sermone in latinum a se conversorum* (Valencia, 1569), *De nomine Entelechia apud Aristotelem. Quaestio unica* (Valencia, 1569); *De universis copiosa disputatio, in qua praecipue docetur, universa in rebus constare sive mentis opera* (Valencia, 1569), y *Oratio de utilitate Analyseos seu ratiocinationis Aristotelae [sic]: et Philosopho veritatem potius esse amplectendam, quam*

² Monlorius, J. B., Valencia 1569. I have transcribed the entire commentary and made it available in my page: <http://www.utexas.edu/cola/depts/philosophy/faculty/iaa4774>. The posted text is only a draft, corrections are welcome..

³ Quo opere omnes veterum et recentium operas in illos Aristotelis ita superavit, ut qui iam post Monlorium in hac parte aliquid aggrediuntur, post Homerum Iliada scribere videantur, quoted by Risse (1964a), p. 326; on Keckermann, cf. Freedman (1997).

personarum delectum habendum (Francfort, 1591). Monllor es un peripatético del grupo alejandrino, helenista ó clásico, según el señor Menéndez y Pelayo.⁴

Aside however from these general and rather national references, the literature on Monlorius is practically non-existent. This situation is not really surprising given that Monlorius is neither ancient nor medieval, nor a standard early modern philosopher. Only the relatively recent expansion of what is meant by "early modern philosophy" has generated references to Monlorius, for example in Risse's *Geschichte I*: "Mit ungewöhnlicher Gründlichkeit sucht endlich Monlorius das durch die oberflächliche Kompendienliteratur wie durch sprachliche Schwierigkeiten daniederliegende Studium der Logik zu intensivieren, indem er die Anal. priora neu übersetzt, paraphrasiert und durch Scholien erläutert"⁵ (p. 325, cf. also Risse's *Bibliographia Logica I* and *Bibliographia Philosophica Vetus*). Specific logical comments are even harder to find; one rare example is included in I. Thomas' article of 1974.

With regard to the availability of Monlorius's writings, to make them accessible online should be a priority by now. The agenda includes comparing the 1593 German edition with the first Valencia one, and determining as exactly as possible what are the other publications or manuscripts. For example, on p. 239, Monlorius refers to a piece anonymously published by him: *ut diximus superius capite.4. et in brevi compendio Syllogismorum, quod fertur sine nomine autoris* ("as I said above in chapter 4 as well as in an anonymous syllogistic compendium"). Much as the Jesuit Saccheri, hundred years later, wants to defend Euclid in his book *Euclides ab omni naevo vindicatus* (*Euclid Freed of Every Fleck*) Monlorius analogously intends to defend Aristotle from, for example, Theophrastus and Eudemus with regard to the validity of the *Barbara* with major necessary and minor assertoric (*ut Aristotelem ab iniuria vindicemus, Scholia in cap. nonum*).

2. The structure of Monlorius' commentary on the Prior Analytics

The first 1569 edition offers, after a Monlorius's letter *ad lectorem* (pp. 1-14), an introduction: *In duos libros de Ratiocinatione vel de priori Analyysi Aristotelis Praefatio*, pp 15-28. The translation and commentary proper begin on p. 29 and stretches through p. 459. Thereafter, the 1569 volume exhibits a *Quaestio de*

⁴ The same encyclopedia reports on another author, dangerously similar with regard to name and works: Monllor (Juan Bautista). Biog. Monje de San Jerónimo de la Murta, autor de las siguiente obras: *Epitome totius compendii dialectices, Institutiones cosmographiae et geographiae, y Scholia in dialecticam Georgii Trapezontii*.

⁵ With uncommon precision Monlorius tries finally to reactivate the study of logic, stopped both by the superficial textbook literature and by the linguistic difficulties, by producing a new translation of the *Analytica Priora*, paraphrased and provided with explanatory scholia.



entelechia, pp.460 -484, and finally an essay on universals (pp. 484-552), with the informative title: *De universis copiosa disputatio, in qua praecipue docetur universa in rebus constare sine mentis opera*. The general pattern, repeated for the treatment of each major or minor part of the *Prior Analytics* is fourfold. First, there is an *argumentum* (brief overview) of the material that follows (can be the whole book, a section, a chapter). Secondly, the Aristotelian text translated by Monlorius. Thirdly, a paraphrase, whose nature is nicely described on p. 30: *Observa studiose lector hanc Paraphrasim sub Aristotelis persona scriptam esse, tanquam si idem Aristoteles, quod olim breviter scripsit, et obscure, nunc copiosius, et apertius eloquatur. Id circo in ea nulli citantur Autores, nec Interpretes* (“the paraphrase is presented as if it had been written by Aristotle, who having first presented the material briefly and obscurely, now speaks more generously and clearly, which is why no authors or translators are cited”). Finally, a *scholium*.

3. The Aristotelian modal syllogistic

After faring rather smoothly through the initial three chapters of the categorical syllogisms, trouble begins when the reader discovers that each of the four types of sentences: AaB, AeB, AiB, AoB (respectively, in the Aristotelian reading: A belongs to all B, A belongs to no B, A belongs to some B, A does not belong to some B, or in modern reading: All B are A, etc.) is somehow incomplete, in the sense that it leaves unspecified whether the reported state of affairs occurs necessarily or contingently. The contingency is not contingent truth, as one might expect. Contingency (*endekhesthai*), for a statement ArB, where *r* is one of: a, e, i, o, means that it is neither necessary nor impossible that ArB be true. This has been called “two-sided possibility”, as opposed to the one-sided or simple possibility: not-impossible. For example, that “all men are running” is contingent, in this technical Aristotelian sense, means that for each human, it is *both* not necessary *and* not impossible to run; it is not said that all men actually run (albeit contingently).

Let necessity and (two-sided) contingency be abbreviated with N and C, so that the a, e, i, o sentences can be specified as Na, Ne, Ni, No, Ca, Ce, Ci, Co, and ArB (with *r* = a, e, i, o) as ANrB or ACrB. Then the move from the categorical to the modal syllogistic consists in finding out what happens to the old assertoric conclusion when at least one premiss XrY is determined either as XNrY or as XCrY. Given for example the first figure assertoric Iaa (*Barbara*) with its conclusion “a”, briefly given Iaa-a, the question is to see what happens to the conclusion “a” in each of the following possible six cases: INaNa, INaa, IaNa, ICaCa, ICaa, IaCa.

4. *The exploratory nature of the modal syllogistic*

The results of this exploratory journey have been a headache for interpreters. The fact that the modal syllogistic reveals tentative moves is of course no shame for its author. He was exploring, and accordingly, trying all possibilities. If the preferred two-sided possibility for the conclusion, say $XCaZ$, is not attainable, then try the one-sided possibility (= not impossible, and compatible with necessary), briefly $XPaZ$ (with "P" for one-sided possibility). If the type of sentence $ACaB$: A belongs contingently to all B, understood as follows: for any x, if x is B, then x can be A but does not have to be A, does not help, try then the variant that results from replacing the assertoric subject subsentence "x is B" by "x can be B" (ch. 14). The reader has the right to pursue the tentative exploration, and ask, for example, especially in view of the modern analysis: Where should the modal functor be applied? Externally? internally?, and if internally, on the subject subsentence?, on the predicate subsentence?, on the composition of both (conjunction or conditional)? Keeping in mind this tentative, flexible nature of the Aristotelian modal syllogistic should mitigate the generalized pessimism about it.

5. *Syllogistic perfection as transitivity*

Perfection appears to be associated, in the categorical syllogistic, with the transitivity of the "belongs to all", or even more perspicuously, with the transitivity of the arrow (horseshoe, etc.) built in the conditional of the modern, Fregean reading of a sentences. For example, Mignucci (1969), p. 316, writes: "Di conseguenza, la (3) non esprime l'immediata transitività della relazione 'a' posta dalla premessa maggiore e quindi non può essere considerata un sillogismo perfetto".⁶ Although not in a historical context of interpreting Aristotle, Paul Hertz (1931), p. 390, affirms: "Als Wurzel des modus barbara erscheint so das Transitivitätsgesetz".⁷ To be sure, neither Mignucci nor Hertz say that transitivity is sufficient for perfection: strictly, the quoted passages only describe it as necessary.

6. *The IaCa dilemma*

Is transitivity sufficient for perfection? A study of the *Analytica* discussion of the modal form $IaCa$, text 34a34–34b18 suggests the possibility of challenging the affirmative answer to this question. First, the text:

⁶ Consequently, (3) does not express the immediate transitivity of the relation 'a' stated by the major premiss, hence cannot be regarded as a perfect syllogism.

⁷ Thus, the law of transitivity appears as the root of the modus barbara.



“Since we have defined these points, let A belong to all B, and B be possible for all C: it is necessary then that should be a possible attribute for all C. Suppose that it is not possible, but assume that B belongs to all C: this is false but not impossible. If then A is not possible for C but B belongs to all C, then A is not possible for all B: for a syllogism is formed in the third degree. But it was assumed that A is a possible attribute for all B. It is necessary then that A is possible for all C. For though the assumption we made is false and not impossible, the conclusion is impossible. It is possible also in the first figure to bring about the impossibility, by assuming that B belongs to C. For if B belongs to all C, and A is possible for all B, then A would be possible for all C. But the assumption was made that A is not possible for all C. We must understand ‘that which belongs to all’ with no limitation in respect of time, e.g. to the present or to a particular period, but simply without qualification. For it is by the help of such premisses that we make syllogisms, since if the premiss is understood with reference to the present moment, there cannot be a syllogism. For nothing perhaps prevents ‘man’ belonging at a particular time to everything that is moving, i.e. if nothing else were moving: but ‘moving’ is possible for every horse; yet ‘man’ is possible for no horse. Further let the major term be ‘animal’, the middle ‘moving’, the minor ‘man’. The premisses then will be as before, but the conclusion necessary, not possible. For man is necessarily animal. It is clear then that the universal must be understood simply, without limitation in respect of time.” (Aristotle, *Prior Analytics*, transl. Jenkinson, emphasis mine).

The set of premisses of IaCa is: {A belongs to all B, B belongs contingently to all C} or in the modern analysis: {For all x, if x is C, then contingently (x is B), For all x, if x is B, then x is A}. The Aristotelian text claims that IaCa is conclusive, although not perfectly so. The conclusion is “A can belong to any C” (for our present purposes, we can leave open whether the “can” expresses a two-sided possibility or a one-sided simple possibility). The conclusion is established indirectly, with two proofs. i) Suppose not (A can belong to all C), then suppose again that the minor contingent becomes assertoric: B belongs to all C. Thus, some C cannot be A, that C however is B, that is some B cannot A, but this contradicts the major premiss of IaCa, which says that all B are A. ii) Keep the major premiss as it is: A belongs to all B, and suppose, as in the preceding indirect proof, that the minor contingent is assertoric: B belongs to all C. This is the paradigmatic categorical *Barbara*, yielding AaC. Having transformed the minor contingent into assertoric is false yet not impossible. Thus, the premisses of our paradigmatic categorical *Barbara* are possible, hence the conclusion is possible, by some nice general principles on how modalities, possibility in this case, are preserved by logical implication.

The second paragraph of the quoted text introduces a distinction between two ways of understanding the universal affirmative sentences: "A belongs to all B", or "All B are A" can be taken with respect to a particular time (or, to use the conveniently short Latin phrase: *ut nunc*), or not so, i.e. *simpliciter*. The distinction is apparently temporal but really amounts to, or at least entails, a *modalization* of universal affirmative categorical sentences (All B are A). The crucial observation, referring to Aristotle's example, is that even at time *t*, when only humans are moving, the fact remains that all horses *can* move. Thus, to take "A belongs to all B", or "All B are A" *simpliciter* entails or amounts to reading it as "A belongs to all those that *can* be B" or "All those that *can* be B are A". This is a modalization of the subject subsentence, which is transformed from assertoric into possible. For the present purposes the simple possibility P (= not impossible) as reading of "can" seems sufficient. Such a modalization of the subject subsentence is not a novelty either for Aristotle or for his commentators. Aristotle explicitly endorses the distinction of subject subsentences as assertoric or contingent in *Prior Analytics* ch. 14, and Alexander of Aphrodisias in his comments on this text endorses the distinction of subject subsentences as assertoric or necessary (Wallies 1883, p. 166, 19-25). The question arises whether the *simpliciter* understanding of universal affirmative categoricals must be enforced always, or is only one option, to be used when needed. The second, "tolerant" view seems better, i.e. more realistic and adjusted to ordinary usage.

Going back to the application of the distinction to the form IaCa, the text tells the reader that unless the major premiss is taken *simpliciter*, the syllogistic argument-form IaCa-Ca (or IaCa-Pa) is not valid: just take A= human, B= moving, C = horse. However, taking the major *simpliciter*, to the extent that this involves the modalization of the subject subsentence (possible instead of assertoric), leads, it seems, to un-Aristotelian results. The premisses IaCa become: "All C can be B and can fail to be B, All those that can be B are A". Contrary to Aristotle's remark that IaCa yields a conclusion but *not perfectly*, the obvious conclusiveness of these two premisses is an instance of sheer perfection: the link between the two premisses could not be more evident: "can be B". Moreover, the conclusion that flows naturally is "All C are A", which is, contrary again to Aristotle's claim, *assertoric*, not contingent (one-or two-sided). Thus, if the major premiss is taken *simpliciter*, as Aristotle wants, the departure from the Aristotelian theory turns out to be twofold. The dilemma regarding IaCa is clear: either the major "a" is taken *ut nunc* or *simpliciter*. If the first, the form is invalid. If the latter, the syllogism seems to be perfect and the conclusion assertoric. The consequents of both horns are contrary to Aristotle's theory.

How to fight this dilemma? Taking the text "as is" (philological surgeries aside), there are in principle four moves: escape between the horns, attack the



left horn (if *ut nunc*, then non-valid), attack the right horn with regard to the assertoric nature of the conclusion, attack the right horn with regard to transitivity being necessary and sufficient for perfection. Only the latter seems viable. In the two premisses “All C can be B and can fail to be B, All those that can be B are A” something interesting can be noticed. The alleged conclusion (“All C are A”) would state that any object that is C (and there is at least one C, of course, by the so-called existential import: every predicate is instantiated) is also A, *without, however, any existential mediation* performed by the middle term B, because the premisses do not assume that the given C is actually B: they only assume that, for any given C, it is neither impossible nor necessary to be B. With hermeneutic enthusiasm,⁸ one may *conjecture that the existential mediation of the middle term is, in addition to transitivity, also a necessary condition for perfection*. The existential mediation, according to this conjecture, is needed *only if the conclusion involves existence*, not for example in the case of the form ICaCa, with conclusion Ca. From the standpoint of the just stated conjecture, the transformation of the minor contingent Ca into its corresponding assertoric (*metálepsis*, Alexander of Aphrodisias, p. 191, 38-39 – Wallies 1883), used by Aristotle in his two proofs of the conclusiveness of IaCa (first part of the above quoted text), is neither fortuitous *nor can be intended to create transitivity* between major and minor premiss, since the latter is already available (because of taking the major premiss *simpliciter*). It amounts to assuming that the fulfillment of the existence of the middle term is, after all, possible. If the premisses of a true implication are possible, the conclusion is possible too, Aristotle explains (*Prior Analytics*, ch. 15).

7. Monlorius' on existence and transitivity

First, a terminological remark. Monlorius does not use the term “transitivity”; instead, he talks of the principle(s) *dictum de omni et nullo*, which is (are) however only a muddled way of saying that predication is transitive (in the classical sense of predication, not in the Fregean one, of course).⁹ Next, it must be observed that Monlorius knows well that the Aristotelian recommendation of taking universal affirmative categoricals not *ut nunc* but *simpliciter* entails or amounts to understanding the subject subsentence as “possible”: *Appellat igitur Aristoteles eam propositionem hoc tempore praefinitam, cuius subiectum pluribus convenire*

⁸ This enthusiasm, expressed in my older paper, has decreased to a minimum but has not vanished, in spite of some critics (e.g. Patterson, p. 275-6).

⁹ To give just one out of many possible, standard references, in Eisler's article "Dictum de omni et nullo" this principle is explained in terms of the rule *nota notae est nota rei*, which amounts to “a predicate of the predicate is a predicate of the subject”, a clear expression of the transitivity of predication (in the pre-Fregean sense).

potest, quam attributum: Aristotle says that the premiss "all B are A" is temporally determined if the subject *can* belong to more things than the predicate (p. 163, emphasis mine). "All moving objects are human" is true now, but not *simpliciter*: the subject "moving" can apply to, for example, horses. Equipped with such a right insight into what it is for an "a" sentence not to be temporally determined, one would expect that Monlorius sees in the form IaCa the same transitivity he easily recognizes in the form ICaCa. But Monlorius, ignoring what he knows, treats IaCa as if it lacked transitivity (in his jargon, as if the *dictum de omni* could not be applied), and then views the *revocare ad existentiam, redigere ad existentia*¹⁰ (replacement of the minor contingent of IaCa by the corresponding assertoric "a") as just serving the purpose of creating transitivity.

Finding Monlorius not as perfect as Keckermann thought should not have a discouraging effect on furthering the study of the former. The 459 pages of Monlorius' *Paraphrasis et scholia in duos libros Priorum Analyticorum Aristotelis*, including his own new translation, with its so different (from the scholastic) Latin logical terminology,¹¹ are, to speak with the poet, "a thing of beauty", and wait for thorough historiographical, conceptual, and editorial work (including an examination of the Frankfurt 1593 edition) from the friends of Aristotle and of logic. An important part of the historiographical task should be the study of the sources of Monlorius (Alexander in the first place, then Burana, Magentinus, Niphus (=Suessanus), Perionius, etc.) in order to determine the originality, if any, of his claims. (To be sure, to the extent that Monlorius is not original, the negative evaluation submitted in this paper carries over to his sources).

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¹⁰ Pp. 145, 146, 150, 162, 163, 157, 152, 153, 150, 148, 146.

¹¹ Mario Mignucci expressed great interest in it (verbal communication).



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