

Pre-Critical Kant on Traditional Logic: What is the *Mistake* in Syllogistic Theory?

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Abstract

Immanuel Kant held nearly two decades before (1762) the beginning of his 'Critical period' (1781) that the traditional tripartite/quadripartite division of the figures in categorical syllogistic remained a 'mistaken subtlety' (*falsche Spitzfindigkeit*), given (i) that the Aristotelian perfect moods were the only 'pure' patterns of reasoning that exemplify the term order – called *the first figure* – prescribed by the general rule of ratiocination per se, and (ii) that every imperfect mood in the same theory could be 'reduced' to one of those four. There really are sheer logical problems, already noted in the literature, in Kant's reading of the standard reductive scheme for categorical syllogistic as a set of instructions for restoring the first figure within the premises of a given imperfect mood. However, the real issue is the way Kant benefits from these points to justify his 'mistaken subtlety thesis' (MST), which translates in turn into the issue of the correct interpretation of the thesis itself. This paper aims to show that, contrary to appearance, MST might fail to make any definite sense; to that end, it first presents and evaluates Kant's own special conception of *judgment* and *reasoning* that centers around the notion of syllogistic mediation, on which basis Kant states MST; then it shows that a tenable reading of MST answering to the Kantian conception and to common facts about inference and deduction cannot be made. The paper concludes by proposing to connect this negative result to Kant's wavering between descriptive and prescriptive perspectives on purely logical matters.

Keywords: Traditional Logic, Syllogistic Figure, Judgment, Reasoning, Mediation, Kant.

Eleştirel Dönem Öncesi Kant'ta Geleneksel Mantık: Tasım Kuramındaki Yanılgı Nedir?

Öz

Immanuel Kant, Eleştirel döneminin (1781'deki) başlangıcından yaklaşık yirmi yıl önce (1762), kategorik tasımlar kuramında geleneksel olarak yapılan üçlü/dörtlü şekil ayrımının 'yanıltıcı bir incelik/karmaşıklık' (*falsche Spitzfindigkeit*) olmakla kaldığını savunmuştur. Kant bu savunuyu, (i) Aristoteles'in mükemmel kiplerinin, en geniş anlamıyla akıl yürütmenin genel kuralı tarafından dayatılan ve *birinci şekil* olarak adlandırılan terimler düzenini örnekleyen yegâne 'saf' kipler olmasına ve (ii) aynı kuramdaki eksik kiplerin her birinin bu dördünden bir tanesine 'indirgenebilir' olmasına dayandırmıştır. Kant'ın, kategorik tasımlar kuramının standart indirgeme planını, verilen eksik kipin öncüllerinde birinci şekli 'yeniden oluşturmaya' yarayacak talimatlar dizisi olarak yorumlamasında gerçekten de düpedüz mantıksal sorunlar bulunmaktadır. Ne var ki asıl sorun, Kant'ın yukarıda anılan iki noktadan, 'yanıltıcı incelik savını' (YİS) haklılaştırmak için yararlanma biçimindedir ki bu sorun da, savın kendisinin uygun/doğru yorumu sorununa dönüşmektedir. Bu çalışma YİS'nin, görünenin aksine, belirli herhangi bir anlam taşıyor olabileceğini göstermeye çalışmaktadır; bunun için de ilk olarak Kant'ın, YİS'nin altında yatan ve tasımsal aracılık fikrini merkez alan kendi özel *yargı* ve *akıl yürütme* anlayışını sunup değerlendirmekte, sonra da YİS'nin, hem Kant'ın anlayışına hem de çıkarım ve dedüksiyon hakkındaki genel olgulara yanıt veren makul bir yorumunun yapılamadığını göstermektedir. Çalışma bu olumsuz neticeyi, Kant'ın salt mantıksal konuları ele alırken betimleyici ve kural koyucu iki bakış açısı arasında gidip gelmesine bağlamayı önererek sonlanmaktadır.

Anahtar Kelimeler: Geleneksel Mantık, Tasım Şekli, Yargı, Akıl Yürütme, Aracılık, Kant.

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Introduction

Kant's short essay from his pre-Critical period, *On the Mistaken Subtlety of the Four Syllogistic Figures*² (*Die falsche Spitzfindigkeit der vier syllogistischen Figuren*, 1762; abbreviated onwards as *FS*) is an important work for at least two reasons: first, it is the only complete work on formal logic authored by Kant himself³; secondly, the essay develops and defends a distinctive negative thesis about the traditional theory of the (categorical) syllogism, bringing under light several aspects of pre-Critical Kant's philosophy of logic, or of syllogistic in particular. In *FS*, Kant essentially deals with the logical architecture of traditional categorical non-modal (assertoric) syllogistic, the core theory of the traditional science of logic, and his main thesis is that the standard grouping of valid patterns of inference formulable in this theory under the three or four term orders called *figures* (*skhêmata*) is utterly *mistaken*, given that (i) all non-primitive patterns – *imperfect syllogisms* in Aristotle's jargon – can be reduced to only four primitive patterns all of which follow the term order of the first syllogistic figure, that is, the *perfect syllogisms*; and, more critically, that (ii) the nature of reasoning *as such* calls for this very order.

Kant clearly states in *FS* §5⁴ that his point does not concern the extravagance or uselessness of the tripartite/quadripartite division of term orders (figures) within the standard reductive scheme for categorical syllogistic. This could be shown simply without being attached to the conception of reasoning mentioned in (ii) above: any imperfect (valid) syllogistic mood, save Baroco in the second and Bocardo in the third figure (see below), can be proved to be valid by means of a few principles of immediate inference plus one of the four (or alternatively two) perfect moods – moods which are *self-evidently* valid⁵. Although these four (two) moods are all in the first term order, which order they are in or what kinds of other forms there are has no bearing on the deductive layout: perfect moods function as *axioms* or *basic principles of inference*, and imperfects as *theorems* or *derivative rules*, that is the end of it.⁶ But Kant's point is not this. He insists on there being a logical *mistake* in the doctrine of figures.

This paper poses the question what this mistake is, and argues that a tenable answer, which Kant seems to lack, is not forthcoming either. Contemporary studies on the issue generally focus on the reductive scheme they take Kant to base his main argument on, and show its purely logical deficiencies (which do exist).⁷ However, what is really interesting, this paper argues, about Kant's position is the confused conception of reasoning

² I prefer to use Abbott's classical translation: Immanuel Kant, *Introduction to Logic-On the Mistaken Subtlety of the Four Syllogistic Figures*, trans. Thomas Kingsmill Abbott. (London: Longsman, Green, & Co, 1885), 79-95. However, a more recent English translation – with the title “The False Subtlety of the Four Syllogistic Figures” – can be found in Immanuel Kant, *Theoretical Philosophy, 1755-1770*, trans. and ed. David Walford. (New York: Cambridge University Press, 1992), 85-106.

³ Alberto Vanzo, “Kant's False Subtlety of the Four Syllogistic Figures in its Intellectual Context” in *The Aftermath of Syllogism: Aristotelian Logical Argument from Avicenna to Hegel*, ed. Luca Gili and Marco Sgarbi (London: Bloomsbury Publishing), 157.

⁴ Kant, *Mistaken Subtlety*, 89.

⁵ For a detailed discussion on the connection between the Aristotelian notion of *perfect syllogism* (*teleios sullogismos*) and the epistemic idea of self-evidence, see Günther Patzig, *Aristotle's Theory of the Syllogism: A Logico-Philological Study of Book A of the Prior Analytics*, trans. Jonathan Barnes. (Dordrecht: D. Reidel Publishing, 1968), 43-87.

⁶ What *type* of deductive system, if any, Aristotle had in mind is a matter of debate. The most famous defense of the *axiomatic* option is Lukasiewicz's classical work: Jan Lukasiewicz, *Aristotle's Syllogistic from the Standpoint of Modern Formal Logic* (London: Oxford University Press, 1957). For a much powerful defense of the *natural deductive* option, see John Corcoran (ed.), *Ancient Logic and its Modern Interpretations: Proceedings of Buffalo Symposium on Modernist Interpretations of Ancient Logic, 21 and 22 April, 1972* (Dordrecht: D. Reidel Publishing, 1974), 85-132.

⁷ Two outstanding instances are Kirk D. Wilson, “The Mistaken Simplicity of Kant's Enthymematic Treatment of the Second and Third Figures,” *Kant-Studien* 66, no: 1-4 (1975): 404-417.; Johan Arnt Myrstad, “Kant's Treatment of the Bocardo and Baroco Syllogisms” in *Law and Peace in Kant's Philosophy/Recht und Frieden in der Philosophie Kants: Proceedings of the 10th Internati-*

that appears to lie behind his thesis about the term orders, namely, that they misrepresent inference *as it is*. The vital point, it will be argued, is Kant's indecision over what this inference as it is should be.

1. The Nature of Reasoning in FS

Kant's justification of his *mistaken subtlety* thesis (MST) employs two main elements: his special conception of reasoning (and judgment), and the standard reductive scheme⁸ for categorical syllogistic. Kant actually appeals to the latter element for one of its consequences, namely, that every (valid) regular pattern of inference in categorical syllogistic is either in the first figure, or could be reduced to some other pattern in that figure. Here, by 'reduce to' one should understand 'prove/demonstrate (its validity) by means of'; so, for instance, the syllogistic mood Cesare (in the second figure) is 'reduced to Celarent (in the first)', for Cesare is shown to be valid (in the standard scheme) by means of Celarent and some rule/pattern of immediate inference:⁹

Cesare:

No C is B.

Every A is B.

Therefore, no A is C.

Celarent:

No B is C.

Every A is B.

Therefore, no A is C.

e-conversion:

No A is B.

Therefore, no B is A.

The reductive proof of Cesare¹⁰:

1. No C is B. [Premise of Cesare]
2. Every A is B. [Premise of Cesare]
3. No B is C. [1, e-conversion]
4. No A is C. [3, 2, Celarent]

onal Kant Congress/Akten des X. Internationalen Kant-Kongresses, ed. Margit Ruffing, Guido A. De Almeida, Ricardo R. Terra & Valerio Rohden (Berlin: Walter de Gruyter, 2008), 163-173.

⁸ I use the expression 'standard reductive scheme' quite loosely to cover both Aristotle's original scheme in *Analytica Priora* A 2-6 and its later traditional variants (even those containing a fourth figure). As will be seen, nothing in my discussion hinges on this matter. For a quick analytic description of the Aristotelian scheme, see Terence Parsons, *Articulating Medieval Logic* (Oxford: Oxford University Press, 2014), 21-43.

⁹ For some meta-logical perspectives on the Aristotelian idea of a reductive (i.e. 'perfecting') proof in syllogistic theory, see Patzig, *Aristotle's Theory of the Syllogism*, 132-183. and articles in Corcoran, *Ancient Logic and Its Modern Interpretations*. I will not dwell on this or related problems, nor on the correct term to name the Aristotelian reductive proofs.

¹⁰ Parsons, *Articulating Medieval Logic*, 32.

Of course, not all (valid) non-first-figure patterns can be proved to be valid in this direct fashion: Bocardo (in the third), for instance, is ‘reduced to’ Barbara indirectly – i.e. by means of *reductio ad absurdum*¹¹ – in the following way:

Bocardo:

Some B is not C.

Every B is A.

Therefore, some A is not C.

Barbara:

Every B is C.

Every A is B.

Therefore, every A is C.

a-conversion (per accidens):

Every A is B.

Therefore, some B is A.

The reductive proof of Bocardo:

1. Every A is C. [Assumption: conclusion of Bocardo negated]
2. Every B is A. [Premise of Bocardo]
3. Every B is C. [1, 2, Barbara]
4. Some B is not C. [Premise of Bocardo]
5. Some A is not C. [1, 3, 4, *reductio*]

With this wide enough range of application, the idea of syllogistic reduction does the job of unveiling the primitives of all categorical syllogistic: the valid (regular) patterns of inference in the first figure, that is, Aristotle’s perfect syllogisms.¹²

However, the key element of Kant’s justification is his conception of reasoning as such. Kant’s conception is (as expected) based on syllogistic theory in particular – even the definition he proposes for reasoning employs the syllogistic notion of a *mediating* unit for two other units of the same kind, namely, the *middle term* (*terminus medius, meson*): reasoning is nothing other than judging by means of a mediator, or in Kant’s terms, an *intermediate mark* (*nota intermedia*).¹³ In an orderly simple categorical syllogism (i.e. a syllogism with only two categorical premises and a categorical conclusion), which is (for Kant and many others) the paradigmatic case of reasoning, the mediating mark of the whole inference is represented/expressed/denoted by the middle

¹¹ Parsons, *Articulating Medieval Logic*, 36. Note in the same place that Aristotle presents *alternative* proofs for some of the moods, and Bocardo is one of them: the mood, believes Aristotle, can also be reduced without recourse to any non-first figure mood, solely by means of *ecthesis* (exposition). But more importantly, in *An. Pr. B*, Aristotle defines a whole alternative scheme which employs the logic of *reductio* as a means of transforming *any* two of the three Aristotelian figures to the other one (for instance, 1 and 3 to 2): Aristotle, *Prior Analytics*, trans. Robin Smith. (Indianapolis: Hackett Publishing, 1989), B 11, 82-84.

¹² Note that the traditional ‘subaltern’ moods in the first figure (i.e. Barbari and Celaront), which are not present in Aristotle’s own system, might fail to be perfect by Aristotle’s criterion/criteria, so one should not take without caution the idea of syllogistic perfection as the abstract idea of *validity in the first figure*.

¹³ Kant, *Mistaken Subtilty*, §1, 79.

term, which comes in the premises into contact with the boundary terms (*oroi*¹⁴), namely, the minor and the major, only to yield a connection between these latter two, stated by the conclusion of the inference.

Now the characteristic feature of Kant's conception of reasoning is that it takes reasoning as some kind – or maybe some limiting case – of judging: judging *mediately*.¹⁵ Judgment itself is defined by Kant as the *comparison* of some thing (*res*) with a mark (*nota*), i.e. with a property/concept/trait/character etc.¹⁶ Here, comparison seems to be thought of as a genus of affirmation and denial¹⁷; again, 'res' is taken to mean the subject of comparison and nothing more, so that even a universal can serve the function of *res* in a judgment, provided that the term denoting that universal is in the subject position within that judgment. That is why judgment can be singular or general (universal/particular) on the one hand, and affirmative or negative on the other.

Kant's point is that when this comparison is made by means of *another* mark, a mark that is compared with *res* in one premise and with the mark of the target comparison in the other premise, what we have is reasoning (ratiocination). If we use the above pattern (Bocardo) as a schematic example, the target comparison is the particular negative predication of C of A, which is made on some comparisons of B, the middle term, with C and A. Here then C is only a *remote* mark of A, for it is compared to A only through the comparison of one of its more *proximate* marks, B, with C. At least in the context of this particular reasoning, B is an *immediate* (i.e. most proximate) mark of A, although in some other syllogism which concludes by comparing A and B it will be a remote mark of A as well. Thus, a mark can be an immediate mark of a *res* in the perfect sense only in an *immediate* proposition (*amesos protasis*), a proposition which cannot in principle be justified further, for there is not any more proximate mark of the *res* to *mediate* it and the mark (hence the label *amesos*).¹⁸

Kant believes that reasoning defined in this way will naturally sit on the first syllogistic figure, the term order in which the mediating mark actually holds the middle position. To *see* this, we could use the original Aristotelian schemata for predicative forms and syllogistic figures:¹⁹ the predicative form/schema 'B belongs-/doesn't belong-to-every/some/no A' is simply represented as *BA*; accordingly, the three Aristotelian figures are represented as *CBA*, *BCA*, and *CAB* respectively, where 'B' always signifies the middle term position, and 'C' and 'A' the major and minor term positions (respectively), and every term is to be predicated of every term that stands to its right, and of them only. The only figure, in this schematization, where the middle term finds its intuitively correct position is the first figure, *CBA*, and this confers the first figure a yet indeterminate priority over the other two.

¹⁴ Actually, Aristotle sometimes employs the expression 'oros' to denote terms in general, but in the primary texts on syllogistic, it specifically denotes the terms that are to be brought together, namely, the subject term and the predicate term of the conclusion. Note that the primary sense of 'sullogismos' is *bringing together* (two terms by means of a third), which is, I believe, at least weakly confirmed by its early translations into Latin as 'collectio' (collection in the sense of bringing together many things). See David Londey and Carmen Johanson, *The Logic of Apuleius—Including a complete Latin text and English translation of the Peri Hermeneias of Apuleius of Madaura* (Leiden: E. J. Brill, 1987), 46.

¹⁵ Kant, *Mistaken Subtilty*, §1, 80.

¹⁶ Kant, *Mistaken Subtilty*, §1, 79. For a detailed philosophical-historical account of the somewhat vague notion of *mark*, see Alain de Libera's entry for 'Merkmal' (*nota*, mark) in Barbara Cassin (ed.), *Dictionary of Untranslatables: A Philosophical Lexicon*, trans. Steven Rendall, Christian Hubert, Jeffrey Mehlman, Nathanael Stein, and Michael Syrotinski. (Princeton: Princeton University Press, 2014), 654-657.

¹⁷ Roughly in line with the Port-Royal conception of *jugement*. See Antoine Arnauld and Pierre Nicole, *La Logique ou l'Art de Penser* (Paris: Gallimard, 1992), 105 (Part II, chapter 5).

¹⁸ For the notion of *immediate proposition/premise* pertaining to Aristotle's logic of science, see Aristotle, *Posterior Analytics*, trans. Jonathan Barnes. (Oxford: Oxford University Press, 1993), 3 (Book A, ch. ii 72a7).

¹⁹ Lynn E. Rose, "Aristotle's Syllogistic and the Fourth Figure," *Mind* 74, no: 295 (1965): *passim*.

Kant happens to take such priority to signify the naturalness and correctness of the first figure, namely, to signify that the first figure corresponds to the order of the terms of reasoning *as it really is* (more on this notion later). Kant rather finds a confirmation of this priority in his universal law couple for all reasoning, *nota notae/repugnans notae*, i.e. the rule or principle that reads “the mark of a mark [of the thing] is a mark of the thing itself, [and] that which opposes [i.e. contradicts with] a mark [of a thing] opposes the thing itself”²⁰, a rule/principle which follows (or maybe better, prescribes) the term order of the first figure: reasoning, in its correct and pure form, is showing that a mark remotely belongs to/opposes a thing on the grounds that this mark belongs to/opposes another mark which belongs to the thing. Schematically:

Mark1 belongs to/opposes Mark2
 Mark2 belongs to Res.
 Therefore, Mark1 belongs to/opposes Res.

Note that this schema not only sits on the first figure, but prescribes the two necessary (but not sufficient) conditions of validity in that figure: namely, that the minor premise be affirmative, and that the quality of the conclusion be the same as that of the major premise²¹.

Kant applies his definition of reasoning to the traditional division of inferences into *immediate* and *mediate*, and concludes justly that immediate inference is not (a kind/species of) reasoning.²² Clearly, an immediate inference contains a single premise, unlike mediate inferences which contain at least two premises; but the point is not essentially the number of the premises of the inference, but whether the terms of its conclusion, i.e. the *oroī* of the inference, are mediated by a third term, which definitely cannot be the case in an immediate inference.

Now the standard traditional scheme of reduction for categorical syllogistic ‘reduces’ every non-first-figure syllogistic pattern to one of the perfect patterns all of which are in the first figure, and posits a rule/principle of (syllogistic) reasoning, namely the so-called *dictum de omni et nullo*, as the ground in turn of the perfect patterns.²³ However, Kant takes it to be an extensional principle (in the modern sense), derivable in some way from his intensional *nota notae-repugnans notae*²⁴, which favors the first figure. In this way, Kant establishes broadly that reasoning as such is reasoning in the first figure.

²⁰ *Nota notae [rei] est etiam nota rei ipsius; repugnans notae repugnat rei ipsi.*

²¹ These two are necessary conditions for both the first and third figures in the proper sense, for they follow logically from the traditional general rules for syllogistic validity, and the terms orders of the figures. This could be shown for the first condition and the first figure in the following way: *Suppose the minor is negative.* Then the conclusion is negative as well (by the rule: *the conclusion always follows the defective premise*), so the major term is distributed in the conclusion (where it necessarily holds the predicate position). But then it should be distributed in the major premise (by the rule: *the extremes must be the same in the conclusion as in the premises*), so the major premise is surely negative. But *from two negative premises nothing follows*, so *the minor is affirmative*. But we began by supposing that the minor is negative: *absurdum*. Therefore, the minor is (necessarily) affirmative. The second condition can be easily shown in a similar way to follow from the traditional rules by recourse to two indirect proofs. Anyway, my point above is that Kant’s *nota notae-rep. notae* rule is just more determinate than needed.

²² Kant, *Mistaken Subtilty*, §3, 82.

²³ Parsons, *Articulating Medieval Logic*, 30. Here we must be reminded that the so-called *dictum* of the medievals goes back to a couple of Aristotelian equivalences concerning quantifier negation each of which might actually contain only *two*, not three, terms, which makes it an unlikely ground of syllogistic validity.

²⁴ Kant, *Mistaken Subtilty*, §2, 82-83.

And this is where Kant makes his critical move forward. He presents two non-overlapping divisions for syllogistic reasoning: *simple-compound* on the one hand, and *pure-mixed* on the other.²⁵ A simple reasoning is one which harbors only a single mediate inference, whereas in a compound reasoning there are more than one. But reasoning can also be pure or mixed: if it contains *only* mediate inferences it is pure, otherwise it is mixed (or hybrid). The first two options in the resulting 2*2 matrix are historically exemplified: perfect moods (*simple* and *pure*) and polysyllogisms/sorites (*compound* and *pure*). Now what Kant has in mind when he thinks of *simple* and *mixed* reasoning is *the reductive proof of some imperfect pattern in the traditional (and his own) scheme*. Any such proof will consist of several steps, at least one of which employs a (perfect) pattern of mediate inference, and some other which employs a pattern of immediate inference. In such a proof, the conclusion of the target syllogistic pattern is shown to follow from the original premises only through the relevant perfect pattern *plus the required immediate inference* (some conversion principle) which is used to obtain the premises of the relevant perfect pattern, killing the purity of the inference. For instance,

1. No C is B. [Premise of Cesare]
2. Every A is B. [Premise of Cesare]
3. But then no B is C. [1, e-conversion]
4. Therefore, no A is C. [3, 2, Celarent]

is a mixed reasoning, for the premises of Cesare themselves are not sufficient to obtain the required conclusion – Step 3 is needed to obtain the couple of premises (3 and 2, in the major-minor order) that can ‘purely’ entail it.²⁶

Before proceeding further, let me pause to note that Kant’s classification, and the resulting picture of an imperfect syllogistic pattern, fail to apply to the two traditional imperfect moods, Baroco and Bocardo, without certain additions to or modifications of the deductive apparatus employed in the standard reductive scheme. The problem is clear enough: Baroco and Bocardo cannot be reduced to the first figure in a *deictic* fashion (i.e. directly), since in each pattern the only *convertible* premise is an *a*-proposition, and the only thing to be obtained from such a conversion is yet another particular premise; but from a couple of particular premises nothing follows (*nil sequitur geminis ex particularibus unquam*). Johan A. Myrstad argues²⁷ forcefully – and optimistically – that Baroco and Bocardo in Kant’s (Critical) system could be marking the limits of *formal* logic proper, in the sense that their direct reductions to the first figure require a *synthetically* grounded kind of immediate inference – *obversion* – so that these two moods are valid without being *formally* so. Much earlier, Kirk D. Wilson – whom Myrstad heavily criticizes – rather pessimistically tries to show that Kant’s (pre-Critical and Critical) restrictive approach to syllogistic reduction could be made to work only by allowing certain logical-syntactical operations – such as quantification into terms – which cannot cohere with Kant’s overall conception of formal logic²⁸ (or, probably, his ‘semantics’), rendering Kantian logic defective.

²⁵ Kant, *Mistaken Subtily*, §3, 82-83.

²⁶ I am not sure if the last option, *compound* and *mixed*, can actually be exemplified ever, given Kant’s approach to imperfect patterns (see below).

²⁷ Myrstad, “Kant’s Treatment of the Bocardo and Baroco Syllogisms,” *passim*.

²⁸ Wilson, “The Mistaken Simplicity of Kant’s Enthymematic Treatment,” *passim*.

However, there is another kind of problem – which I believe to be the main one – in *FS*, a problem that would remain as it is even if the reductive scheme were brought to logical perfection: since Cesare’s validity, for instance, is *demonstrated* by means of the above four-step reasoning, one can rightfully say that Cesare’s premises *entail* its conclusion. They do, admits Kant²⁹, but only by means of an interpolated immediate inference, the e-conversion in Step 3, and another mediate inference, Celarent in Step 4. But these steps are steps of a reasoning which is some *proof* of Cesare, not Cesare itself. So Cesare itself should be no less pure than (say) Celarent, for it too is a valid pattern which consists of two and no more categorical premises harboring a middle term and two extremes, and a categorical conclusion harboring only those extremes. Then in what sense Cesare, or any other imperfect (valid) pattern, should be mixed? The following section argues that Kant might not have a satisfactory answer to this question.

2. MST and the Problem of Its Interpretation

2.1 The Thesis

So what is Kant’s main thesis concerning traditional categorical syllogistic? Actually, the title of the fifth section of *FS* gives a quick answer: “The logical division of the Four Figures is a Mistaken Subtilty.”³⁰ And before concluding the essay, Kant summarizes his position in this way:

We learn then...that it is impossible to draw simple and unmixed inferences in more than one figure, since the *vis consequentiæ* is still only in the first figure, which by the help of covert inferences lies hidden in a ratiocination, and the altered position of the terms only makes it necessary to proceed by a more or less roundabout way in order to see the consequence; and thus we see that the division of the figures, if they are intended to contain pure inferences unmixed with interpolated judgments, is mistaken and impossible.³¹

First of all, Kant does not deny validity (in the usual, logical sense) of the traditional non-first-figure categorical syllogistic moods: “It cannot be denied that we can draw conclusions *legitimately* in all these figures.”³² Kant believes, however, that the conclusion of a non-first-figure (valid) mood could be attained by an alternative couple of premises which nevertheless harbor the same middle term as the one in the original couple, but which take the shape of the first figure, the figure that guarantees purity and simplicity (non-complexity) for ratiocination: “...the very same conclusion would follow from the same middle term in the first figure by pure and unmixed reasoning.”³³

Up to this point, what Kant seems to be justifying is the relatively weak thesis that once the logical purity (and hence priority) of the first figure in syllogistic reasoning and the traditional scheme of reduction which favors the first figure are admitted, the remaining figures become ‘useless’ in logical theory. This might be a valuable reminder in itself, given certain vivid historical instances of syllogistic theorization which present and employ the doctrine of figures even though they obviously do not need it at all. One such instance is Arnauld & Nicole’s *Port-Royal Logic*, where a traditional decision procedure, based on the general laws for syllogistic

²⁹ Kant, *Mistaken Subtilty*, §5, 89.

³⁰ Kant, *Mistaken Subtilty*, §5, 89.

³¹ Kant, *Mistaken Subtilty*, §6, 91.

³² Kant, *Mistaken Subtilty*, §5, 89, italics mine.

³³ Kant, *Mistaken Subtilty*, §5, 89.

reasoning, is employed instead of the traditional scheme of reduction.³⁴ In this procedure, a given syllogistic inference – and not even the corresponding inferential schema – is put to a test consisting of few laws none of which it should violate in order to be counted as valid. However, Arnauld & Nicole not only present the traditional quadripartite division of figures, but they apply the general rules to the four figures to obtain a local set of inferential rules for each figure which could be employed as shortcuts in those cases where the figure of the syllogism being tested is known.³⁵

But Kant pushes further and insists on the presence of a mistake/falsity (instead of an extravagance) in the employment of syllogistic figures in logical theory: “It might then be thought that the other three figures were at worst useless, but not false. But when we consider the purpose for which they were invented, for which they are still expounded, we shall come to a different conclusion”.³⁶ What is the ‘mistake/falsity’ here according to Kant? I believe that the answer to this question reveals pre-Critical Kant’s curious approach to the nature of reasoning, more particularly to its relation to deduction. In answering this question, Kant implies that non-first-figure moods fail to give “the clearest representation of an argument”, simply because it is not the case that they are “simple, unmixed and without concealed by-inferences”.³⁷ In clearer words, the representation of a non-first-figure pattern of syllogistic inference as a *primary unit* fails to correspond to what actually happens in ‘cognitive reality’, in the sense that when one is to reason in the so-called second figure (e.g. in Cesare), what one actually is performing is a hybrid, mixed reasoning which contains an immediate inference (i.e. the e-conversion) and a pure mediate one from a couple of premises in the first figure (i.e. Celarent).

2.2 Representing Inference as It Is?

So there are (at least) two different ways to represent a non-first-figure syllogistic inference: the one in which it remains pure (i.e. free from the interpolation of any immediate inferences) and sits on a non-first figure, and the one in which it is mixture of a pure mediate inference in the first figure and some immediate inferences. For instance, for a syllogism which we would normally take to sit on the pattern Darapti, the two different representations are:

Rep 1

Every B is C.

Every B is A.

Therefore, some A is C.

Rep 2

Every B is C.

Every B is A.

But then some A is B.

Therefore, some A is C.

³⁴ Arnauld and Nicole, *Logique*, Ch. 3, 171-176.

³⁵ Arnauld and Nicole, *Logique*, Chs. 5-8, 179-189. Kant does the same – except for the fourth figure – but only to enhance his argument in favor of the first figure. See Kant, *Mistaken Subtilty*, 84-86.

³⁶ Kant, *Mistaken Subtilty*, §5, 89.

³⁷ Kant, *Mistaken Subtilty*, §5, 89.

To repeat, Kant holds that Rep 1, as a representation, is false/mistaken – in a word, it is a misrepresentation. The most natural sense in which a representation should be false (or mistaken or incorrect etc.) is that it fails to remain true at least in certain respects to what it is a representation of. And the question here is what exactly the second term of this relation of *representing* is: is it the inference as it is actually performed in a mind or some/all minds? Or else is it the inference in itself, irrespective of its actual or possible implementations in particular minds, residing as it is in some Platonic heaven? Neither type of answer provides a tenable position for Kant, for the following reasons.

The first answer clearly opens the way to a psychologistic conception of logical relations. Tenable in itself or not, this sort of psychologism – or psychologism about this problem – turns MST into an ordinary scientific hypothesis: the traditional treatment of the theory of syllogism is false, for it fails to capture what is really happening in the minds. Whenever one (with a mind) attempts, for instance, to draw a conclusion from premises of the form “Every B is C” and “Every B is A”, one first infers a third premise of the form “Some A is B” from the second one, then applies the general law/rule of ratiocination – which ‘exemplifies’ itself as *Darii* in this case – to the first premise and the novel third one to arrive at “Some A is B”. Unlike Rep 1, Rep 2 remains true to this cognitive psychological *fact*, hence is true/correct/etc.

If Kant’s point were this (which definitely is not, see below), the whole argument to that effect would become irrelevant, for the argument falls back on *logical*, not cognitive psychological ‘facts’ about the use of syllogistic forms/patterns of inference. (If logical reasons determined cognitive psychological facts, then erroneous reasoning, let alone impure reasoning, should be impossible – but it is not.) Kant’s ground rule of ratiocination, which (according to him) necessarily follows the term order of the first syllogistic figure, should have nothing to do with the cognitive psychological ground (if any) employed in actual courses of syllogistic reasoning in actual minds: it is not that every mind does, but *ought* to employ the ground rule in reasoning that makes it the ground rule of a *logical* theory (i.e. the theory of the syllogism).³⁸ Thus, even if Kant admitted that MST were nothing other than a hypothesis concerning the cognitive, MST would only make a weak one at that, given that the backing logical argument could make no significant contribution to its verisimilitude.

As for the second answer, it disastrously replaces an imperfect mood (as it is conceived in the tradition) with its reductive proof in a given deductive system, and by doing so, it makes the perfecting proof (or demonstration, or reduction) of the mood completely pointless. Now since Rep 2 above does what Rep 1 fails to do, namely, represent the inference (or inferential schema) as it really is, but since what is represented is nothing other than its standard reductive proof within the chosen deductive system, then the inference (or the inferential schema) must be identical with that proof. The first problem following this identification is an instance of the one-many problem: even if we disregard the fact that alternative deductive systems can be proposed for traditional categorical syllogistic, alternative reductive proofs can be given at least for some syllogistic inferences/inference schemata within one and the same system. Aristotle himself, for instance, notes in *An. Pr. A 7* that *Darii* and *Ferio* could be reduced through the second figure to *Barbara* and *Celarent*, modifying his original

³⁸ Assuming that what we call ‘logical relations’ are actually prescriptions or directions of sorts. More on the supposed normativity of logic below.

scheme without changing anything in his original ‘deductive system’.³⁹ The question is obvious: which one of the alternative reductive proofs will the inference (or schema) be equated with?

Suppose Kant justifies in some way the absence of alternative deductive systems, and even of alternative deductive schemes, and is content with the idea of equating a syllogistic inference pattern with its one and only reductive proof in the relevant scheme (for instance, Darapti with Rep 2). In this way, he could spare himself the above question. But then is not the whole point of proving something in a deductive system to become able to use that thing in stating further facts and/or giving proofs of further propositions/schemata/etc.? Once Darapti, for instance, is equated with Rep 2 (which is its one and only reductive proof according to our supposition), there remains no function to be served for Darapti as it is represented by Rep 1; but then Rep 2 does no work at all, since there is no non-primitive pattern of inference (such as the one represented by Rep 1) proven by it – it seems that the only thing, if any, that could be proved by Rep 2 is itself! (Or is it so?)

If we generalize this conclusion, Kant seems to disregard the conceptual distinction between *demonstratio* and *demonstrandum* in the case of imperfect moods, probably because he makes no such distinction between an inferential schema and a/the demonstrative proof of an inferential schema. Even if we admit that any non-first-figure syllogism is actually identical with a reductive proof, we cannot take that proof to prove itself – it must be the proof of something else.⁴⁰ And that something else is nothing other than the non-first-figure syllogism taken as an inference from two premises to a conclusion, namely, as it appears in the traditional representation of non-first-figure syllogisms. So Rep 2 above is the/a reductive proof of Rep 1 (on the basis of the chosen deductive system and the chosen deductive scheme); but Rep 1, for Kant, is a misrepresentation, which means that it corresponds to nothing logically or cognitively real; therefore, Rep 2 is the/a proof of *nothing*, not even of itself.

Conclusion

In the final section of *FS*, Kant gives definitions for some notions, which direct our attention to the *acts* and *powers* of the mind; he even derives the conclusion that Understanding and Reason are one and the same *faculty*, as “[b]oth possess the power of judging; but when we judge mediately we reason.”⁴¹ Kant continues with an analytic *description* of the difference between “rational and irrational animals”, then with general formulae – declaring rules with a *prescriptive* air – for judging and reasoning affirmatively and negatively.⁴² Here, the fact to be taken note of is his insistence, as it were, on preserving the constant vacillation between descriptive and prescriptive (normative) points of view on logical matters. A philosopher could of course choose to view

³⁹ Aristotle, *Prior Analytics*, 35. By ‘his original deductive system’, I mean the set of axioms/basic rules of inference, and methods of proof that Aristotle employs in chs. 2-6, and nothing more. See footnote 7 above.

⁴⁰ John Corcoran, “Conceptual Structure of Classical Logic,” *Philosophy and Phenomenological Research* 33, no: 1 (1972): 25-47. is most useful for the justification of the above and relevant conceptual distinctions, although the range of application of Corcoran’s investigation is to be classical (i.e. modern elementary), and not traditional, logic.

⁴¹ Kant, *Mistaken Subtily*, §6, 93.

⁴² It is somewhat customary to attribute to the pre-Critical Kant a Leibniz-Wolf-induced intensionalism and analyticism about terms and propositions, and the idioms of the final section of *FS*, where Kant defines (categorical) truth in terms of *identity* and *contradiction*, seem to confirm this attribution. The same is true of his *nota notae/reugnans notae* principle for syllogistic ratiocination. See, however, R. Lanier Anderson, *The Poverty of Conceptual Truth: Kant’s Analytic/Synthetic Distinction and the Limits of Metaphysics* (Oxford: Oxford University Press, 2015), ch. 2, 44-74 for the Wolffian ground, and chs. 7-8, 179-231, for how Kant is to define his own distinctive position through the notion of *syntheticity*. See also Charles Nussbaum, “Critical and Pre-Critical Phases in Kant’s Philosophy of Logic,” *Kant-Studien* 83, no: 3 (1992): 280-293.

logical matters from a strictly descriptive – even an empirical psychological – perspective; but then s/he will be expected to lose the chance to employ normative elements, elements effective only within the boundaries of a *deductive* system of choice, in her/his justification of that perspective.

Actually, there is some evidence⁴³ that Kant (in his Critical period) denies any psychologistic approach to the relation between thinking on the one hand, and the laws (rules, principles) of logic *qua laws of thinking* on the other. What is not clear, however, is whether Kant views this relation alternatively as an instance of normativity. Clinton Tolley, for instance, argues⁴⁴ (with strong textual evidence) that Kant's Critical justification of the necessity of the laws of logic for Understanding (or thinking) is based on their *constitutive* status with respect to – in a word, on their essentiality to – Understanding. They are not norms for thinking, because they are not rules that thinking *can violate* without thereby ceasing to be thinking (i.e. without losing its identity as a capacity), or rules that are *imposed* on it *from without*. (According to Tolley's Kant, an immoral act is still an act, but 'illogical thinking' is not thinking at all.) Tolley shows that some coherent non-normative sense can be given to Kant's view of the 'bindingness' of the logical laws within his whole system, basically by means of its *own* philosophical and meta-philosophical conceptual repertoire.⁴⁵ All in all, there still seems to be room for discussions⁴⁶ about and novel interpretations of Kant's Critical position concerning the sense in which logical laws *describe* what they describe, if they describe anything at all. The analysis given in this paper of the problem of interpreting MST could provide some (pre-Critical) clues for such discussions and interpretations.

References

- Anderson, R. L. *The Poverty of Conceptual Truth: Kant's Analytic/Synthetic Distinction and the Limits of Metaphysics*. Oxford: Oxford University Press, 2015.
- Aristotle. *Posterior Analytics*. Translated with a commentary by Jonathan Barnes, Oxford: Oxford University Press, 1993.
- Aristotle. *Prior Analytics*. Translated with introduction, notes and commentary by Robin Smith, Indianapolis: Hackett Publishing, 1989.
- Arnauld, Antoine and Pierre Nicole. *La Logique ou l'Art de Penser*. Paris: Gallimard, 1992.
- Cassin, Barbara (ed.). *Dictionary of Untranslatables: A Philosophical Lexicon*. Translated by Steven Rendall, Christian Hubert, Jeffrey Mehlman, Nathanael Stein, and Michael Syrotinski, Princeton: Princeton University Press, 2014.
- Corcoran, John (ed.). *Ancient Logic and its Modern Interpretations: Proceedings of Buffalo Symposium on Modernist Interpretations of Ancient Logic, 21 and 22 April, 1972*. Dordrecht: D. Reidel Publishing, 1974.
- Corcoran, John. "Conceptual Structure of Classical Logic," *Philosophy and Phenomenological Research* 33, no: 1 (Sep. 1972): 25-47.
- Kant, Immanuel. *Introduction to Logic – The Mistaken Subtilty of the Four Syllogistic Figures*. Translated by Thomas Kingsmill Abbott, with a few notes by Coleridge, London: Longsman, Green, & Co, 1885.
- Kant, Immanuel. *Theoretical Philosophy, 1755-1770*. Translated and edited by David Walford, in collaboration with Ralf Meerbote, New York: Cambridge University Press, 1992.
- Londey, David and Carmen Johanson. *The Logic of Apuleius (Including a complete Latin text and English translation of the Peri Hermeneias of Apuleius of Madaura)*. Leiden: E. J. Brill, 1987.
- Lu-Adler, H. "Kant and the Normativity of Logic," *European Journal of Philosophy* 25, no: 2 (2017): 207-230.

⁴³ Clinton Tolley, "Kant on the Nature of Logical Laws," *Philosophical Topics* 34, no: 1 & 2 (2006): 371-401, 372.

⁴⁴ Tolley, "Kant on the Nature of Logical Laws," *passim*.

⁴⁵ Tolley, "Kant on the Nature of Logical Laws," *passim*., but especially 386-389.

⁴⁶ As exemplified by Huaping Lu-Adler, "Kant and the Normativity of Logic," *European Journal of Philosophy* 25, no: 2 (2017): 207-230.

- Lukasiewicz, Jan. *Aristotle's Syllogistic from the Standpoint of Modern Formal Logic*. London: Oxford University Press, 1957.
- Myrstad, Johan Arnt. "Kant's Treatment of the Bocardo and Baroco Syllogisms", in *Law and Peace in Kant's Philosophy/Recht und Frieden in der Philosophie Kants: Proceedings of the 10th International Kant Congress/Akten des X. Internationalen Kant-Kongresses*, Edited by Margit Ruffing, Guido A. De Almeida, Ricardo R. Terra & Valerio Rohden, 163-173. Berlin: Walter de Gruyter, 2008.
- Nussbaum, Charles. "Critical and Pre-Critical Phases in Kant's Philosophy of Logic", *Kant-Studien* 83, no: 3 (1992): 280-293.
- Parsons, Terence. *Articulating Medieval Logic*. Oxford: Oxford University Press, 2014.
- Patzig, Günther. *Aristotle's Theory of the Syllogism: A Logico-Philological Study of Book A of the Prior Analytics*. Translated by Jonathan Barnes, Dordrecht: D. Reidel Publishing, 1968.
- Rose, Lynn E. "Aristotle's Syllogistic and the Fourth Figure," *Mind* 74, (1965): 382-389.
- Tolley, Clinton. "Kant on the Nature of Logical Laws", *Philosophical Topics* 34, no: 1 & 2 (2006): 371-407.
- Vanzo, Alberto. "Kant's False Subtlety of the Four Syllogistic Figures in its Intellectual Context" in *The Aftermath of Syllogism: Aristotelian Logical Argument from Avicenna to Hegel*, Edited by Luca Gili and Marco Sgarbi, 157-190. London: Bloomsbury Publishing, 2018.
- Wilson, Kirk D. "The Mistaken Simplicity of Kant's Enthymematic Treatment of the Second and Third Figures," *Kant-Studien* 66, no: 1-4 (1975): 404-417.