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IS KRIPKE'S METER SENTENCE *A PRIORI*?

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SUMMARY: Marco Ruffino has proposed that Kripke's meter sentence is *a priori* because the fact it describes is created in a performative declarative speech act by the stipulator. I criticize the idea that the fact described is created by the stipulator, and go on to criticize also Kripke's view in unpublished work, that even if his original meter sentence is not *a priori*, a suitable conditional variation is.

KEYWORDS: contingent truth, rigid designators, speech acts, stipulations, units of measurement

RESUMEN: Marco Ruffino ha propuesto que la oración del metro de Kripke es *a priori* porque el hecho que describe es creado por el estipulador en un acto de habla declarativo performativo. Ofrezco una crítica de la idea de que el hecho descrito es creado por el estipulador, y también una crítica adicional de una idea no publicada de Kripke, según la cual, incluso si su oración del metro original no es *a priori*, una variante condicional lo es.

PALABRAS CLAVE: verdades contingentes, designadores rígidos, actos de habla, estipulaciones, unidades de medida

Kripke's and other "new theory of reference" authors' arguments for the existence of contingent *a priori* truths are typically viewed as secondary, and in some cases possibly mistaken or confused, aspects of that philosophical school of thought. Marco Ruffino's recent book (2022) is an important attempt to convince us that this typical view is wrong. According to him, the view is at best based on an incorrect conception of the phenomena at work in the generation of at least some of the paradigmatic examples of the contingent *a priori*. If we focus on the right conception, Ruffino tells us, we will see that these examples not only are genuine cases of the contingent *a priori*, but also that they are highly significant philosophically. In particular, in virtue of their apriority, the likes of Kripke's famous meter sentence "play a fundamental role in the constitution of a framework in which scientific identities may be discovered. Hence, they are far from being

a mere artificial curiosity. Moreover, they evince a particular kind of power of language in creating the basis of science by means of stipulations” (Ruffino 2022, p. xi).

It is impossible to discuss more than a tiny part of what Ruffino says in the space I have, or even to do this without abstracting from many nuances and caveats. I will offer a broad-brush discussion of one of his main proposals, the idea that at least Kripke’s meter sentence stands for a fact brought about by a performative speech act of the stipulator who initially utters it, a fact that makes the sentence true and that can be known *a priori* by the stipulator precisely because the stipulator intentionally brings it about. I will first criticize this idea, and then I will go on to criticize briefly another, unrelated idea designed to evade some well-known criticisms of Kripke’s original apriority claims about the meter sentence: Kripke’s own view in unpublished work, that even if his original meter sentence is not *a priori*, a suitable conditional variation is.

We can take the meter sentence to be

(**M**) One meter is the length of stick *S* in conditions *C*.

Ruffino (2022, ch. 10, sec. 2) proposes that, even if “one meter” had been introduced directly via an utterance of (**M**) by a stipulator, it could only make sense if we view it as at least implicitly introduced by a performative utterance of

(**M***) I stipulate (define, declare, etc.) that [“One meter” refers to the length of stick *S* in conditions *C*.].

The performative utterance of (**M***) in turn commits the utterer to an at least implicit performative utterance of

(**M****) I stipulate (define, declare, etc.) that [One meter is the length of stick *S* in conditions *C*.].

And this last utterance is in turn responsible for creating an “institutional fact” that makes (**M**) true. In order for the whole procedure to work, some “preparatory conditions” must take place, in particular that (C1) there is such a thing as the length of *S* in conditions *C*; and that (C2) the stipulator is somehow socially endowed with the authority to create institutional facts of the relevant sort. According to Ruffino, although such conditions are *a posteriori* and their knowledge is necessary for eventual knowledge of (**M**) on the part

of the stipulator to obtain, they are comparable to pieces of *a posteriori* knowledge that are mere prerequisites for the *understanding* of paradigmatic *a priori* truths. (For example, knowing *a priori* that $2+2=4$ has understanding “2” as a mere prerequisite, even though *a posteriori* knowledge is surely involved in satisfying it for beings like us.) When this whole setting is in place, the stipulator can be said to have created an institutional fact underlying (M), and to know the corresponding truth *a priori*, insofar as the stipulator has intentionally created that fact.

The claim that the fact described by (M) is an institutional fact strikes me as incorrect. To give a sense of why, we should consider Ruffino's claims about one of the other original examples of the contingent *a priori* in Kripke 1972, the Neptune sentence, which for our purposes we can take to be

(N) Neptune is the planet causing the perturbations in the orbit of Uranus.

We can imagine (N) as uttered by Le Verrier and this utterance as surrounded by an analogous story involving utterances of the corresponding (N*) and (N**) (by analogy with (M*) and (M**)). But in this case Ruffino (2022, ch. 10, sec. 4) doubts that an utterance of (N*) commits Le Verrier to (N**), and also that, even if it does, (N**) could be successful in creating an institutional fact underlying (N). The latter doubt is especially intuitive, for it seems fairly obvious that, given the intuitive content of (N), no actual human being could create the fact described by (N) in any way: no actual human could make it the case that Neptune causes the perturbations in the orbit of Uranus.

But the natural view is that the truth about (M) is not relevantly different. Undoubtedly, as things are, humans can at least in principle modify the length of any given middle-size stick, so in a sense it's true that some actual human could make it the case that one meter is the length of *S* in conditions *C*. But the relevant question is whether we can imagine a situation in which the stipulator has at no point modified the length of *S*, and whether in this situation the stipulator, by making performative utterances of any kind, including of (M**), can make it the case that one meter is the length of *S* in conditions *C*. The natural view, just as in the Neptune case, is that the stipulator has done no such thing: *S* has the length it has, one meter, independently of the stipulator's actions, and no act of the stipulator makes it to have that or any other length. I suspect that Ruffino's opposite

intuition derives from the fact that the stipulator's performative acts, given the obtaining of the preparatory conditions Ruffino identifies, do plausibly create certain related institutional facts. They plausibly create the fact that the expression "one meter" will refer to the length of *S* in conditions *C*, and they plausibly create the fact that one meter will serve as the basic unit of measurement of length. The likes of these are indeed stipulatory facts that plausibly play a key role in the institution of measurement practices fundamental in science and ordinary life, but they are not ordinary facts about what the length of any object is.

The other examples of contingent *a priori* truths proposed by Kripke (1972) arise from more run-of-the-mill baptisms of people, planets, etc. And in these cases, the natural view is again that the relevant analogs of (M) and (N) are not made true by facts created by the baptizer. If Aristotle's father Nicomachus utters

(A) Aristotle is my son born yesterday,

in an appropriate setting involving (implicit) utterances of the corresponding (A*) and (A**), Nicomachus has not created the fact that Aristotle is his son born the day before. If Kripke's "mythical agent", in the suitable setting, utters

(H) Hesperus is the heavenly body in yonder position in the sky,

the agent has not thereby created the fact that Hesperus is the heavenly body in yonder position in the sky. And so on. There is no reason why the fact described by (M) should have been exceptionally created by the stipulator while the facts described by (N), (A), and (H) are not, because there is no relevant semantic difference between "one meter" and "Neptune", "Aristotle" or "Hesperus". There are of course many differences between these different cases. One that sets (M) apart from the others is that (M) is involved in the institution of an in some ways more complex practice than the other, "barer" naming practices—the practice of using a certain length as a basic unit for length measurements. But this is irrelevant to the intuitive content and to the nature of the fact described by (M), which is not relevantly different from the facts described by (N), (A), and (H).

One further way of arguing for this is as follows. Suppose memory is completely lost that the stipulations surrounding (M) were once made. Then a new stipulator, Jones, socially invested with the appropriate authority, comes across *S* and utters

(**R**) One retem is the length of stick *S* in conditions *C*.

We may also suppose that Jones utters performatively the corresponding (**R***) and (**R****). (In fact, we can also imagine that Jones, by utter chance, makes instead new utterances of (**M**), (**M***) and (**M****), memory having been lost of the word “meter”.) The natural idea is then that (**R**) and (**M**) describe the same fact, namely that a certain length, one meter (or one retem), is the length of *S* in conditions *C*. But since any fact created or instituted by the first stipulator must be numerically different from any fact created by Jones, on Ruffino's view (**M**) and (**R**) cannot have the same content. This strikes me as deeply counterintuitive.

If the fact described by (**M**) is not created by the stipulator, Ruffino loses his motivation for thinking that (**M**) is an *a priori* truth for the stipulator, which is that a fact intentionally created by the stipulator can be known *a priori* by him or her. As he amply documents in his book, a considerable majority of authors writing on the topic have found it difficult or impossible to believe that ordinary empirical facts such as those I'm taking (**M**), (**N**), (**A**), (**H**) and (**R**) to describe can be known *a priori*. And Ruffino seems to share this skepticism, and to have seen in it a motivation for his proposal that (**M**) does not describe an ordinary empirical fact. But if he is wrong about this, his defense of the idea that (**M**) is *a priori* (for the stipulator) must be wrong as well.

Can the stipulator be said to know *a priori*, in virtue of Ruffino's mechanism, at least the truths that the expression “one meter” will refer to the length of *S* in conditions *C*, and that one meter will serve as the basic unit of measurement of length (which plausibly describe facts in some sense created by the stipulator)? Whether this is so or not depends in part on whether his further claims about the role of preparatory conditions are correct or not. I think there is at least one strong reason to think that these claims are not correct either. In order for the claims to be correct, there must be a relevant substantial kinship between knowledge of preparatory conditions such as (C1) and (C2) and the understanding of words. For otherwise Ruffino could be faulted for arbitrarily throwing whatever conditions suit his purposes into the bag of alleged preparatory conditions whose aposteriority doesn't affect the apriority of the truths in question. Now, I do think that knowledge of an existence condition such as (C1) can, not implausibly, be thought of as appropriately analogous to knowledge of a condition required for something like understanding of certain claims, as opposed to knowledge of their truth. Presumably

knowledge of (C1) can reasonably be taken as necessary on the part of the stipulator if he or she is to be said to have knowledge that “one meter” has come to mean something, as opposed to knowledge of some proposition about one meter; and hence, at least something close to understanding of the truth that one meter will serve as the basic unit of measurement of length will have as a prerequisite, in the stipulator, knowledge of the existence of such a thing as the length of *S* in conditions *C*. (On the other hand, it is very dubious that knowledge of the existence of the length of *S* in conditions *C* is required for understanding the claim that the expression “one meter” will refer to the length of *S* in conditions *C*.)

However, it seems mistaken to think that knowledge of (C2) is a mere prerequisite for something closely related to understanding of, or linguistic competence with, the expression “one meter” on the part of the stipulator—as opposed to knowledge of some proposition about one meter. Intuitively, anyone, including the stipulator, can understand the claims that the expression “one meter” will refer to the length of *S* in conditions *C*, and that one meter will serve as the basic unit of measurement of length, independently of knowledge of (C2). Knowledge of *those claims* certainly requires (*a posteriori*) knowledge that the stipulator has the required authority, but is intuitively not required to understand the claims. The situation here is not different from the situation with someone who declares a certain couple united in matrimony. The declarer may understand perfectly well the meaning of the claim that the couple are united in matrimony, independently of whether she knows that she is really endowed with the social authority to unite them. In fact, she may be under the misimpression that she is so endowed, but this will not preclude her from understanding the claim that the couple are united in matrimony. The declarer doesn’t know that the couple are (or aren’t) really united in matrimony, and this is surely because she doesn’t know that she doesn’t have the required authority, but this is no obstacle to her understanding the matrimony claim. Similarly, the meter stipulator may be under a misimpression that he or she has the relevant authority, but this will not preclude him or her from understanding the claims that the expression “one meter” will refer to the length of *S* in conditions *C*, and that one meter will serve as the basic unit of measurement of length. This suggests that we have no genuine motivation for taking (C2) as a mere prerequisite for something like understanding of these claims, as opposed to a part of the empirical evidence required to know them. (On the other hand, the claim that the stipulator is (personally, at the time he or she

is making the stipulation) referring with the expression “one meter” to the length of S in conditions C , may perhaps be more plausibly thought to be *a priori* for the stipulator. But this doesn't seem to be the sort of claim that can be the foundation of the institution of measurement practices.)

Ruffino places a lot of argumentative weight on some purported close analogies between definitions in mathematics and the kind of performative declarations that play the key role in his account. In particular, he appears to take it as obvious that a mathematical definition stands for a fact that is created by the definer (and that the proposition expressed by the definition is thus not true before the definition is made); and he argues that here again several *a posteriori* preparatory conditions are required for the definition to be successful but don't enter into the epistemic grounds for the definition itself, including the conditions “that the terms occurring in the *definiens* are either primitive or have been previously defined in the theory, and that the definition has come out according to the mathematician's intentions [...] (instead of being gabbled or a spoonerism, etc.)” (Ruffino 2022, pp. 185, 187). These preparatory conditions Ruffino identifies are indeed plausibly not to be seen as required for knowledge of the proposition expressed by a definition, but as broadly linguistic prerequisites for knowledge that the definition as such is fine. And he says, correctly, that no socially conferred authority is required on the part of the stipulator for a mathematical definition to work out. However, I would again object to the claim that the fact described by a successful definition is created by the act of defining, and hence to the claim that its *a priori* grounds are (even partly) provided by the intentions underlying the definer's act.

Suppose our definition is the set-theoretical definition of ω ,

(O) ω is the set of all finite ordinals,

or, equivalently in set theory,

(O') For all x , x belongs to ω just in case x is a finite ordinal.

Here again I propose that the natural (Platonist, realist) view is that (O) and (O') describe facts that obtain independently of any act of the mathematician. Their *a priori* grounds are whatever set-theoretical grounds we have for thinking that ω contains exactly the finite ordinals (including grounds for thinking they form a unique set), but cannot consist (even partly) in intentions or stipulations of a definer.

As before, if two thinkers independently reach the same definition (O) or (O') when thinking about sets, the content of their utterances of it will intuitively be the same, even though this cannot be so according to Ruffino's theory. (On the other hand, the claim that the stipulator is referring with the expression " \square " to the set of all finite ordinals may more plausibly be thought to be in some way created by the stipulator, and *a priori* for him or her in virtue of the stipulation. As definitions in mathematics are normally given, this metalinguistic fact will not be stated explicitly by the stipulator, and will instead be implicitly made and conveyed via the non-metalinguistic claim (O) or (O').)

Faced with the objection above, that ordinary empirical facts, such as those intuitively described by (M), (N), (A), (H) and (R), cannot plausibly be known *a priori*, Kripke adopted a rescue strategy very different from Ruffino's. Kripke's first idea is that some conditional variations still describe ordinary, not stipulatory facts, and are plausibly *a priori*: "if I wish to express *a priori* truths, I must say 'if there is a stick before me as I see it, then [...]' (In the Neptune case I must say 'if some planet causes the perturbations in Uranus in the appropriate way, then [...]')" (2011, p. 305).

The unrevised transcript (Kripke 1986), of which Ruffino offers an exposition in chapter 5 of his book, goes in more detail into this conditional strategy, and states a second, motivational idea that, in Ruffino's presumably inexact rendering, "if we do not know *a priori* that *S* is one meter long, we cannot know its length *a posteriori* either and, more broadly speaking, we could not know the length of *anything a posteriori*" (2022, p. 85), an idea with which Ruffino agrees. I say that the rendering must be inexact because Kripke seems ready to concede that (M) is not *a priori* after all, and thus could not work as the right *a priori* foundation of the practice of measurement: some conditional variant like (MC) below must do so instead. Unfortunately, in the transcript Kripke says virtually nothing in defense of the idea; and in his book, Ruffino says very little in defense of his rendering of the idea, as what he does say seems to reduce to the claims that "there is no such thing as measuring in abstract without a standard of measurement. But in fixing the standard of measurement say, by stipulating that stick *S* is one meter long, one thereby knows *a priori* that stick *S* is one meter long (2022, p. 86).

As said above, I don't think the second claim has been successfully defended by Ruffino (or Kripke). And I fail to see in Ruffino any

argument for the claim that “if we do not know *a priori* that *S* is one meter long, we could not know the length of anything *a posteriori*”. In particular, it is left unclear why the practice of measuring, and ensuing knowledge of the lengths of particular objects, including *S*, cannot be grounded simply in *a posteriori* knowledge of the stipulatory facts that the expression “one meter” will refer to the length of *S* in conditions *C*, and that one meter will serve as the basic unit of measurement of length. From knowledge of these, *a posteriori* knowledge of the fact that *S* is one meter long will ensue. Of course, it is presumably required of a successfully instituted measuring practice that the *a posteriori* knowable stipulations that sustain it are widely and strongly adopted. And other requirements will include the obtaining of *a posteriori* truths concerning, for example, in the case of the (idealized) story of “one meter” and stick *S*, the stability of the length of *S* when conditions *C* take place. But a case that *a priori* knowledge that *S* is one meter long must be at the foundation of the practice has not been made by Ruffino.

There are also difficulties with Kripke's presumable idea that a conditional like

(MC) If there is such a thing as the length of stick *S* in conditions *C*, then one meter is the length of stick *S* in conditions *C*.

is *a priori* and can work as the foundation of a measuring practice. First of all, there is a strange sound to the idea that a practice as pervasive and important as the practice of measuring could be ultimately based on something essentially taken to be a mere supposition about the existence of the length of a certain object in certain conditions. But, in any case, it is hard not to think that there is something wrong or inappropriately weak with the claim that (MC) is *a priori* (for the stipulator). Evidently Kripke accepts this claim because he thinks (MC) can be argued *a priori* to be true both when its antecedent is true and when its antecedent is false. The (1986) transcript suggests that Kripke's idea is, first, that the truth of the antecedent is the only (*a posteriori*) requirement for the truth of the consequent given the stipulation that “one meter” is to refer to the length of stick *S* in conditions *C*; and second, that the falsehood of the antecedent suffices for the truth of (MC), given that it's taken as a material conditional. But even if we concede the first point, the second is suspicious. For if, for whatever reason, there is no such thing as the length of stick *S* in conditions *C*, “one meter” cannot refer to the length of stick *S* in conditions *C*, or presumably to

anything else. And if “one meter” doesn’t refer to anything, it is unclear whether we should take the consequent of (MC) to have a truth value. And if its consequent doesn’t have a truth value, it is unclear that (MC) itself should have a truth value, and in particular that it will be true. Under some conceptions of meaning and truth conditions it will, but under others it won’t. The upshot is that there seems to be something wrong or inadequately weak even with the unpublished Kripkean thought about how a stipulator can know *a priori* a sentence stating an ordinary fact about the length of a certain object.

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