Organon F 29 (1) 2022: 165–172
https://doi.org/10.31577/orgf.2022.29107
ISSN 2585-7150 (online)
ISSN 1335-0668 (print)

BOOK REVIEW

Jared Warren: *Shadows of Syntax: Revitalizing Logical and Mathematical Conventionalism*
Oxford: Oxford University Press, 2020, xx+385 pages

Jaroslav Peregrin*

I must start this review non-traditionally, with an apology. As the author of the book remarks (p. 120. footnote 47), "Peregrin (2017) ... cites my (2015), but seems to indicate that I reject unrestricted inferentialism, despite the paper actually being an extensive defense of unrestricted inferentialism." This, unfortunately, is true. The relevant note in my text was mutilated during my revision of the text based on the proofreading of a native speaker. *Mea culpa, mea maxima culpa*. However, what Warren now writes in his book makes me think that we might perhaps call it quits. Warren, despite knowing about my work, including my *Inferentialism* book (which he refers to in his book), does not shy away from claiming that he is the only current defender of unrestricted inferentialism.

Part I of the book has two chapters. In the first, Warren distinguishes his version of conventionalism from some other versions, reaching the twin characterizations:

> **Logical conventionalism**: Facts about logical truth, logical falsity, logical necessity and logical validity in any language are fully explained by the linguistic conventions of that language.
>
> **Mathematical conventionalism**: Facts about mathematical truth and falsity in any language are fully explained by the linguistic conventions of that language.

Warren rejects that logical claims either survey how we *de facto* use logical words and the sentences containing them, or directly spell out how they are

* Institute of Philosophy of the Czech Academy of Sciences
Institute of Philosophy of the Czech Academy of Sciences, Jilska 1, 110 00 Prague 1, Czech Republic
peregrin@flu.cas.cz

used *de jure*—viz. linguistic rules. This chapter also interconnects Warren's version of conventionalism with naturalism.

In the following chapter the author explains the conceptual framework within which he intends to operate. One crucial thing he points out is that conventions, as he understands them, are *not* explicit stipulations. This is important to keep in mind, for I suspect that many readers may tend to assume that a prototypical convention has to be an explicit agreement. Also, it is not easy to see what "implicit conventions", which thus move to the center of attention, actually amount to. (And Warren is not ideally clear on this score.)

Further on in the chapter, Warren summarizes his understanding of the concept of inference. First, he claims that the inferential characterization of logical constants necessitates rules of greater complexity than the simple ones consisting of n premises and a conclusion; and he indicates that his approach will make use of bilateralism, based on the primitive attitudes of acceptance and rejection. Then he characterizes inference as a psychological process: acceptance and rejection being the most basic "mental states", with inferring being a process that has to do with upgrading the particular cases of these attitudes; and atop of this is inferential rule-following, which amounts to already a very complicated psychological-cum-behavioral pattern.

In particular, a subject S, according to Warren, follows an inferential rule R iff "S is disposed not to violate R, to enforce R in two directions, to comply with R when having the disposition to form attitudes towards all of R's component sentences and to infer according to R when given the chance of having the disposition to continue to accept the premises." Note that here inferring is explained as a process which exists independently of rules; and the following of the rules of inference is its specific version. Hence, from this viewpoint the rules of inference are regulative rather than constitutive—they come to regulate a pre-existing practice.

Chapter 3 is perhaps the most important in the book; here Warren lays out, clearly and explicitly, the fundamentals of his "unrestricted" inferentialism. His two most basic principles are the following (pp. 56, 58):

> **Logical inferentialism (LI)**:[1] In any language, the meaning of a logical expression is fully determined by (some of) the inference rules according to which the expression is used.

[1] This shortcut is not in the original.

> **Meaning Validity Connection (MVC)**: In any language L, the meaning determining inference rules for a logical expression are automatically valid in L.

These characterize Warren's standpoint in general.[2] But he insists that his inferentialism is *unrestricted* (which makes it, in Warren's own eyes, unique), and this is embodied in the following principle (p. 64):

> **Meanings are Cheap (MAC)**: Any collection of inference rules that can be used for an expression can (in principle) be meaning determining for the expression.

In Chapter 4, Warren explains how his unrestricted inferentialism leads to logical conventionalism. At a general level, this is quite straightforward: if meaning is brought into being by nothing but an inferential pattern, and if any such pattern is capable of creating meaning, then conventionalism is forthcoming.

But then, of course, we are led to the question of plurality of logic, which Warren deals with in Chapter 5. It may seem that according to unrestricted inferentialism, it is not only that meaning is cheap, but also that logics are cheap—perhaps all too cheap. What prevents us from establishing a convention by which we make "The moon is made of cheese" or "Saul Kripke was born before Plato" into logical truths? (We can, for example, add the infamous **tonk** of Prior (1960) to current English and we are done, for then any sentence follows from "1+1=2" by means of pure logic). But here Warren makes a crucially important point: we need not block such a possibility, for it does not exist. His point is that though the sentence "Saul Kripke was born before Plato" will be,

[2] Another principle he poses is **Totality**: "In any language L, if a logical inference involving a logical expression is valid in L, then its validity is fully determined by the automatic validity of the meaning-constituting rules for the expression." But this principle seems to me to be superfluous—despite Warren's arguments to the contrary. (In addition, this principle, as it stands, does not seem to be correct. A rule such as *disjunctive syllogism* involves $\vee$, but its validity is obviously *not* fully determined by the automatic validity of the meaning-constituting rules for $\vee$. Plural is required.) It seems that it follows from (LI) plus two other principles, which seem to me to be a matter of course: 1. An inference (rule) is logical if it involves only logical words essentially (if it is presented as a schematic inference, then it contains only logical expressions). 2. The validity of an inference rule is fully determined by the meaning of those expressions that the corresponding schema contains essentially.

in "Tonglish" (English+**tonk**), a logical truth, there is no reason to think that it will mean the same as the homophonic sentence in English.[3]

In Chapter 6, various topics concerning the epistemology of logic are discussed, and Chapter 7 then deals with a traditional objection to basing logic on conventions, Quine (1936)'s argument against Carnapian conventionalism. This concludes the second part of the book, devoted to logical conventionalism. In the third part, Warren turns his attention to mathematical conventionalism.

In Chapter 8, he considers the possibilities and hindrances of extending logical conventionalism, as scrutinized so far, to mathematics. He cites two specific hurdles to be overcome: the first concerns the existence of mathematical objects (for mathematics is replete with existence claims which appear to be hard-won, while conventionalism appears to be able to make such claims true by fiat), and the second concerns the determinacy of mathematical truth (for we know from Gödelian incompleteness that no inference rules can fix this).

The first of these challenges is picked up in Chapter 9. Warren admits that, indeed, on the conventionalist's construal, bringing objects into existence is easy: the existence of an F is secured once our theory entails $\exists xF(x)$. But contrary to appearances, this does not have to compromise conventionalism. We cannot secure the existence of God by accepting $\exists x\mathbf{God}(x)$. Why? It is the same problem as with adding **tonk** to English to make "Kripke was born before Plato" into a logical truth: we can indeed accept $\exists x\mathbf{God}(x)$, but it will claim that what exists is the kind of entity denoted by **God**, not necessarily God.

The other conundrum of mathematical conventionalism, the determinacy of mathematical truth, is handled in the next chapter. To avoid misunderstanding, it is important to stress that determinacy is *not* supposed to contradict mathematical pluralism. We can have alternative and incompatible mathematical theories (as an inevitable consequence of conventionalism). As the author puts it: "Pluralism concerns alternative linguistic practices, determinacy concerns truth in *our* practice" (p. 241). Given this, the problem here is how to overcome Gödelian incompleteness. And to make a long story short, a mathematical conventionalist, according to Warren, can overcome this by taking two measures: by accepting infinitary inference rules (especially the ω-rule, which makes Peano arithmetic complete) and by accepting the open-endedness of rules (i.e. their

[3] I would say that it will not mean the same; however, as Warren does not tell us what he thinks the meanings of empirical sentences are, I am not sure he can put it like this.

persistence throughout expansions of language, for this makes arithmetic categorical).

The remaining two chapters of the book's third part then deal with a lot of possible objections to mathematical conventionalism. The last, fourth, part of the book consists of two chapters devoted to the historical issues regarding conventionalism and to various further philosophical issues related to the author's standpoint.

Before opening the critical part of my review, I should stress—to avoid misunderstanding—that I find the book deeply interesting, stimulating, and original. Warren clarifies many of the issues surrounding inferentialism and conventionalism, and shows that his unrestricted inferentialism is viable, as well as the kind of conventionalism to which it leads. Some of the solutions to traditional puzzles Warren presents are technically brilliant and philosophically revealing. But despite all this, it seems to me that some questions remain unanswered.

I should explain that I myself adopted a standpoint very close to what Warren calls unrestricted inferentialism many years ago, and have long been wrestling with fine-tuning the conceptual framework which is its natural home. With this background, I think that we must make some crucial conceptual distinctions, not all of which are observed by Warren. Let me mention, very briefly, at least three of them. My explanations why they are crucial will be only cursory; discussing them at length is a matter for another occasion.

1. Non-existence vs. uselessness

Warren, we saw, insists that any kind of inferential pattern institutes a meaning. Thus even the infamous pattern governing **tonk**, pace Prior, furnishes the operator with a meaning. I agree that there is no boundary separating meaning-conferring and meaning-non-conferring patterns. On the other hand, it is clear that not all patterns are alike. Some of them, like the one governing **tonk**, are vicious—they wreck any language of which they become a part. And if we agree that something is a language only if it can serve some non-trivial purposes concerning human communication, then nothing containing **tonk** is a language, and hence there is a legitimate question whether **tonk** should be called a meaningful expression.[4] (MAC) states that meanings are cheap; but granting the status of meaning is also cheap—if nothing substantial follows from it.

[4] The situation is reminiscent of that with the analytic/synthetic boundary: there is no boundary separating analytic and synthetic sentences; yet as a matter of fact

Also there is one more boundary that (MAC) does not mention at all: the boundary between patterns that constitute *logical* constants and those that do not (perhaps they constitute something else, like constants of mathematics). (MAC) says that any collection of inference rules furnishes an expression with a meaning, but does it make it into a *logical* constant? This is hardly possible, for then there would be no room, e.g., for *mathematical* conventionalism. So could it not be the case that **tonk** is meaningful, but not a logical constant?

2. Non-epistemic vs. epistemic construal of truth

What Warren writes about the relationship between inference rules and truth is confusing. After stating the principle (MVC) he continues: "Validity requires necessary truth-preservation in the strongest possible sense." How should we interpret the "require"?

One possibility would be that truth is independent of inference (it is correspondence with reality or something tantamount to this), and then inference could be truth-preserving only if it managed to mimic the relation of truth-preservation, which is independent of it. But this, obviously, would contradict the unrestricted inferentialism Warren cherishes.

There remains another possibility: that truth is derived from inference (perhaps it is correct assertability as Sellars, 1968, has it). Then we can say that inference is truth-preserving in a trivial sense, because truth, by definition, is what is preserved by inference. As far as I can see, this is the only possibility compatible with unrestricted inferentialism. But it is strange that Warren tells us nothing whatsoever about this.

3. Natural vs. artificial languages

There are two kinds of languages, natural ones and artificial ones. From the viewpoint of conventionalism, the two kinds are essentially different: while the former are inevitably based on "implicit" conventions, the latter are typically created in terms of explicit stipulations.

Warren starts the book by formulating the inferential rules he talks about for English, like (e.g. p. 45)

---

we will hardly ever give up sentences like "Bachelors are not married" or "1+1=2", so they do have a status that is specific, though only in the pragmatic sense.

$$\frac{\phi}{\phi \text{ or } \psi}$$

Later he writes

$$\frac{\phi}{\phi \vee \psi,}$$

still calling it "or"-introduction (p. 115). This, of course, is ok. Often, when talking about natural language we allow the logical vocabulary of natural language to be represented by its well-known logical regimentations. However, it is at this point that it becomes extremely important (as I have argued at length elsewhere—see Peregrin, 2020) to distinguish between talking about natural language via the artificial proxies of its expressions and when talking of an artificial language composed of the proxies.

Now Warren, after talking about the way in which inferentialism leads to conventionalism, presents a section "The role of semantic completeness" where we can read, e.g. the following passage (p. 107):

> More formally: If we assume that logical truth is extensionally characterized in a language L, semantically, by $\models$, then the conventionalist account requires a proof relation in L, $\vdash$, spelled out in terms of proofs, using the rules of language, that suffices for capturing everything captured by $\models$. If completeness fails, there will be some set of sentences Γ and a sentence ϕ such that $\Gamma \models \phi$, but $\Gamma \nvdash \phi$. This requirement immediately raises a number of serious concerns about incomplete extensions and incomplete alternatives to classical logic.

This is utterly confusing. What is $\models$? Of course, this symbol is standardly used for the model-theoretically defined relation of logical consequence, but could it be that Warren abruptly switches, without warning, from natural to artificial languages? Or does he think that also natural languages have their "model theories"?

So from my (perhaps nit-picking) viewpoint, Warren still has to face some problems he has not addressed in his book. Despite this, I am grateful to him for tabling so many interesting concerns related to inferentialism, and proposing solutions to most of them.

References

Peregrin, J. 2014. *Inferentialism: Why Rules Matter*. Basingstoke: Palgrave. https://doi.org/10.1057/9781137452962

Peregrin, J. 2017. "Is Inferentialism Circular?" *Analysis* 78 (3): 450–454. https://doi.org/10.1093/analys/anx130

Peregrin, J. 2020. *Philosophy of Logical Systems*. New York: Routledge. https://doi.org/10.4324/9780367808631

Prior, A. N. 1960. "The Runabout Inference-Ticket." *Analysis* 21 (2): 38–39. https://doi.org/10.1093/analys/21.2.38

Quine, W. V. O. 1936. "Truth by Convention." In *Philosophical Essays for A. N. Whitehead*, edited by O. H. Lee, 90–124. New York: Longmans. https://doi.org/10.1017/CBO9781139171519.018

Sellars, W. 1968. *Science and Metaphysics*. London: Routledge. https://doi.org/10.1017/S0031819100009645

Warren, J. 2015. "Talking with Tonkers." *Philosophers' Imprint* 15 (24). http://hdl.handle.net/2027/spo.3521354.0015.024