

2024

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Recommended Citation

Ramirez, Jordan (2024) "Semantic Correctness and the Normativity of Logic," *McNair Research Journal SJSU*: Vol. 20 , Article 9.

<https://scholarworks.sjsu.edu/mcnair/vol20/iss1/9>

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*Semantic Correctness and the
Normativity of Logic*

Biography

Jordan Ramirez is a philosophy student interested in the philosophy of language, philosophy of logic, and philosophical logic. Some topics that are of great interest to him are: epistemic logic, monotonicity (as it pertains to logical consequence), the normativity of logic, theories of meaning, and the normativity of meaning. In his free time, alongside reading, he enjoys going for walks, playing video games, and visiting museums.

Semantic Correctness and the Logic Normativity of Logic

Abstract

Some philosophers believe that logic is a descriptive discipline, aiming at describing the semantic features of natural languages of preexisting arguments. The semantics of logic breathes life into its syntax by stipulating the truth-conditions for its logical constants: for example, the negation operator ‘ \neg ’ is assigned the value ‘True’ if the proposition to which it is attached is false. Ultimately, its syntax and semantics alone determine the logical consequence relation, thus what sorts of arguments are deemed valid or invalid. In the descriptive view, the logic might be taken to have no normative consequences on its own—meaning that its theories alone tell us nothing about how we *ought* to reason or what arguments are *good* or *bad*. They merely describe truth-preservation on truth-bearers, like propositions, and any normative consequences that logical theories have are only in virtue of normative background assumptions held by agents as they reason using said theories, such as the norm that governs belief in true propositions and not in false ones. In this paper, I argue that such non-normative conceptions of logic mistakenly rely on an assumed distinction between semantic *correctness* and what one semantically *ought* or *ought not do*. I consider a potential defense of the distinction and object it.

Introduction

Is logic normative? If so, in what sense is it normative, and *for what* is it normative? Logic can be “tied up” in normativity explicitly or implicitly. According to the stances in the former “Reasoning” camp, logic is explicitly normative without any appeal to its theory’s consequences. These understandings take it that logic tells us how we ought to reason. The latter category of stances—the “Consequences” camp—on the normativity of logic can be cut right in two: In the first, logic is implicitly normative in virtue of facts about logical theories themselves, and in the second it is implicitly normative in virtue of broader normative assumptions that are not contained in the theory or theories themselves. In the second view, logic can be a descriptive field of study (Russell, 2017; Russell & Blake-Turner, 2018).

One descriptive account of logic is given by Gillian Russell and Christopher Blake-Turner, in which logic is only normative insofar as we possess normative assumptions in the background, including that we ought to believe true statements and not false ones. The goal of logical theories is to capture truth-preservation on truth-bearers, like sentences. The use of ‘capture’ here implies that the relevant, semantic features of sentences and arguments are “out there already,” and it is the goal of logical theories to adequately describe these features (Russell, 2017 p. 383). Truth is to logic as numbers and their properties are to arithmetic (Russell, 2017). Both are descriptive disciplines, even if we ought to believe the conclusion of a valid argument if we believe its premises, or if we believe that we have 50 boxes of clothing on order if we purchased two shipments of 25 boxes from a vendor.

In this paper, I will argue against the view held by Russell and Blake-Turner. First, I will summarize their descriptive view of logic in more detail. Next, I will argue that to claim of descriptive adequacy that it is what tells us when one semantics is correct rather than another is to answer a *metasemantic* question about that in virtue of which a semantics—and ultimately a model theory—correctly or incorrectly ascribes semantic values to logical expressions. Russell’s and Blake-Turner’s view can be described as a sort of *non-dispositional* view in which there is a semantic standard of correctness that is not semantically ought-entailing and is explained by the normative attitudes of agents (Kaplan, 2020 p. 3). Finally,

I'll argue that to claim 'can correctly' means something different than 'ought to' in utterances such as, "One can correctly state that a proposition is true if either it or its negation is true and its negation is false," is to make an unfounded claim, leaving open the question of whether or not logic is normative. I'll go further to argue that logic is normative on the grounds that *rules for the use of expressions* are what constitute the semantics of a logic, and because the distinction between what is correct and what we ought to do with respect to logic is unfounded, logic is normative (Peregrin, 2010).

Non-dispositionalism and the normativity of logic

According to Russell and Blake-Turner, logic is "entangled with the normative" in a very weak sense, as mentioned previously. Logic is the study of truth-preservation on truth-bearers (Russell, 2017). The right logical consequence relation is chosen in virtue of purely descriptive facts about the semantic features of some pre-existing argument, natural language, etc. (Russell, 2017). If the semantics and, consequently, the model theory of a logic capture all of the relevant semantic features—that is, if the model theory doesn't allow for a counterexample to the argument deemed valid—then the semantics is *descriptively adequate*. Russell built a simple language to illustrate this point (Russell, 2017). Her language had a signature consisting of a set of sentence letters (A_1, A_2, \dots, A_n) and logical constants (\neg, \wedge). Well-formed formulae were defined inductively: if ' A_1 ' and ' A_2 ' are both well-formed formulas, then so are ' $(A_1 \wedge A_2)$ ' and ' $\neg A_1$.' Moving from the syntax to the semantics of the language, she then defined an interpretation function I from the set of sentence letters to the set containing two possible truth values {true, false}, a valuation function I' which is an extension of the interpretation function and assigns a truth value to every formula in the language, such that for every sentence letter Φ , $I'(\Phi) = I(\Phi)$, $I'(\neg\Phi)$ is false if $I'(\Phi)$ is true, etc. That is, she provides a recursive definition of truth for sentences in the language (Russell, 2017 pp. 384-385). She then provides a definition of logical consequence: $\Gamma \models \Psi$ iff for every interpretation I , if $I'(\Gamma)$ is true then $I'(\Psi)$ is true (Russell, 2017 p. 385). That is, a set of sentences (premises) Γ semantically entails a conclusion

sentence Ψ if and only if any interpretation under which the premises are true is also an interpretation under which the conclusion is true.

Importantly, once she fixed the syntax and semantics of the language, she argued that the logical consequence relation was determined entirely by these properties of the language (Russell, 2017). So, if some semantics does not deem invalid an argument that should be deemed valid or vice versa, then the logical consequence relation will be the right one. A good semantics, which is determined by purely descriptive facts, is that in virtue of which a logical consequence relation is right or wrong (Russell & Blake-Turner, 2019).

Metasemantics

Views on the normativity of meaning can be split into three categories:

(i) *Unsophisticated anti-normativism*: The use of linguistic expressions is never correct or incorrect. So, there is no standard of correctness for the usage of expressions inherent to meaning, even if the use of a word might be morally permissible or impermissible. Akeel Bilgrami holds this position (Bilgrami, 1993).

(ii) *Sophisticated anti-normativism*: There is a standard of semantic correctness for the use of expressions, but it does not entail that an agent semantically ought to be correct. This view is one in which meaning is tied up in normativity in such a weak sense that meaning cannot be said to be normative, and the normative component can be explained in terms of agents' behavior and her dispositions to behave a certain way (Kaplan, 2020).

(iii) *Normativism*: There is a standard of semantic correctness for the use of expressions, and it entails that an agent semantically ought to use expressions in a certain way. Meaning, thus, can be said to be *fully* normative—however we wish to interpret that qualifier (Kaplan, 2020). (iv) *Non-dispositional naturalistic normativism*: Again, a standard for semantic correctness for the use of expressions exists, but it does not entail that an agent semantically ought to use expressions in a certain way for similar reasons as (ii). In this view, however, the normative component is explained in terms of the normative attitudes of agents as

opposed to their dispositions (Kaplan, 2020).

Gillian Russell's and Christopher Blake-Turner's view on the normativity of logic is identical to (iv). Widespread normative attitudes, like that we ought to believe in true sentences and not in false ones, explain how logic is tied up in normativity while not being normative in itself: it has a semantic correctness condition that isn't ought-entailing. A logic either adequately or inadequately describes the semantic features of a given argument, and if it doesn't—that is, if its model theory admits a counterexample to one of the arguments it deems valid—than an agent would be incorrect to make an argument in that form. Such does not entail that the agent semantically *ought not* use that rule of inference. She would just be wrong to use it.

The views that logic is inherently normative and that logic has normative consequences in virtue of nothing but logical theories themselves fall under (iii). The former view might take semantic correctness to be an inherently normative notion, while the latter might take semantic correctness to be at least partially normative and thus entail normative consequences (Russell, 2017). An example of the former view is the position that validity is a “thick” concept (Arbeiter, 2023). Taking validity as thick has some intuitive motivations, as do many views on the normativity of logic. If we take validity to be the same sort of concept as justice, then it has both an evaluative and non-evaluative component. We can *describe* arguments as valid or invalid while still providing an evaluation of them, just as we can describe policies as just or unjust while inherently providing an evaluation of them by deeming the policies as such (Arbeiter, 2023).

One position that takes logic to be normative in virtue of the normative consequences of logical theories that are explained entirely by the theories themselves is the view that normativity is one among other necessary conditions for a theory to be a logic (Russell, 2017). These conditions might include that a theory is formal and necessary alongside the normativity constraint (Russell, 2017).

The three kinds of views on the normativity of logic presented previously by Gillian Russell can be accounted for, along with a fourth kind of position—that being the view that logic isn't normative because there exists no semantic correctness condition for the use of logical expressions

(Bilgrami, 1993). Presumably, one can hold a position on the normativity of logic in which logic is not normative because there isn't even a standard of semantic correctness for agents to adopt. So, agents can't be right or wrong about the inferences that they make. Some inferences might be morally permissible or impermissible, but none are semantically right or wrong (Bilgrami, 1993). I cannot think of anyone who believes this to be true, and I believe that I have said all that needs to be discussed about such a position.

From what has been said, it follows that to ask about that in virtue of which a semantics is adequate or inadequate, and consequently to ask about that in virtue of which a logical consequence relation is right or wrong, is to ask a *metasemantic* question about that in virtue of which semantic values are correctly assigned to logical expressions. The debate over the normativity of logic can thus be informed by a similar debate in the philosophy of language about the normativity of meaning in language more broadly.

Ought-entailing? Not ought-entailing?

As was implied by my dismissal of (i), I am comfortable conceding that logic has a semantic correctness condition. Expressions can be said to either be true or false, and the agent who assigns these values to expressions can be correct or incorrect in her assignment. But is this correctness condition ought-entailing? *Ought* agents assign values correctly? I believe that the answer to this question is yes.

Recall the construction of a simple language with two connectives by Gillian Russell (Russell, 2017). The semantics of this language fixed the truth of every expression in the language. Importantly, how it fixed the truth of all expressions was by providing *rules* for their use. The two logical constants defined in the language were negation and conjunction (Russell, 2017). I believe that semantic values are assigned to expressions according to rules for the use of these constants. We learn the meaning of the conjunction connective by learning how we can use it. One can conjoin two sentences if both sentences are true. We learn the meaning of the negation operator in a similar fashion. One can negate a sentence if it is false. Through the valuation function, rules are set that *permit or do not permit* certain uses of an expression. Rules of inference constitute a logical theory's

semantics, and inferences of type govern which token inferences are valid (Peregrin, 2010). Inventing the semantics of a logic is like setting the rules of a game, with logical constants as the players' game pieces. A logical expression gets the truth-value that it does in virtue of normative facts about how the expression is used correctly or which rules govern its use (Peregrin, 2010 p. 96).

Proponents of (iv) might agree with the view presented above and still disagree about the normativity of logic. Even if a semantics is entirely constituted by rules for its use, all that follows from this is that there is a standard of semantic correctness. Nothing about semantic correctness entails any kind of semantic normative claim. However, I question this distinction between the meaning of 'correct' and the meaning of 'ought to' here for the same reason that Jaroslav Pelegrin questioned it in his defense of inferentialism (Peregrin, 2010). No reason for why the two mean different things has been given by those who think that logic isn't normative.

What sorts of things are ought-entailing? If a community accepts a norm, then acting out of accord with the norm is grounds for exclusion from the community. In the case of a game, if one does not abide by the rules of the game, then she is excluded from the community of those who play the game (Peregrin, 2010). Similarly, if an agent does not abide by the rules of a logical theory set by its semantics, then she is no longer included in the community of people who use the theory. It seems like semantic correctness fits nicely as an ought-entailing standard under this picture.

An explanation of why 'correct' and 'ought to' mean different things is needed to establish the truth of (iv). Appeals to intuition will not be helpful here, as an intuitive picture of how the standard of semantic correctness is ought-entailing was provided by one normativist proponent as well, in the form of the analogy to games (Peregrin, 2010). What makes one intuition about these matters closer to the truth than another?

Moreover, the burden is *not* on the normativist to argue against the view that semantic correctness is not ought-entailing (Peregrin, 2010). If the normativist does not provide an argument, then the question of whether or not correctness is ought-entailing is left open until an argument is provided by believers of (iv). Until then, on what grounds can we say that logic is not normative? At best, we are left with the decision to suspend judgment on

the matter.

Moving Forward

As I see it, this particular debate in the normativity of logic can proceed in one of a few ways. Perhaps those who believe (iv) is true, such as Gillian Russell and Christopher Blake-Turner, will provide an argument for why we should believe that ‘ought to’ and ‘correct’ are not semantically equivalent and do not extend over the same things, and why views like inferentialism are false by appealing to the concept of logical consequence being about more than just inference, for example, in which case the normativity of logic will no longer be an open question if their argument is sound (Peregrin, 2010). But from there, believers of (iii) can evaluate and respond to the argument, objecting to its soundness if they see a problem with it.

Note that I asked a question about what logic is normative *for* at the beginning of the paper, to which I have not provided a definitive answer. I did this deliberately. The answer to this question will vary even amongst those within certain camps in this debate. Some might take logic to be a theory of right reasoning. Believers of (iv) who take logic to be descriptive will, of course, disagree. An inferentialist, though, might take it to be misleading to say that the laws of logic are rules of reasoning that tell us what beliefs we should keep or which we should let go—nevertheless, they preside in the (iii) camp. (Peregrin, 2016). On pain of spreading myself thin, I suspend judgment on his matter.

Conclusion

In this paper, I argued against the view that logic isn’t normative, held by Gillian Russell and Christopher Blake-Turner. Their descriptive account of logic takes the discipline to only be normative insofar as one holds normative assumptions in the background, such as those pertaining to belief in true statements and not in false ones (Russell & Blake-Turner, 2019). Logic, thus, is only tied up in normativity in a weak sense, and it is not normativity that determines whether a semantics of a logic is good or not. Instead, its *descriptive adequacy* is that in virtue of which the right logical consequence relation is decided (Russell, 2017).

I argued that to answer the question, “In virtue of what does a

semantics correctly assign semantic values to logical expressions?” is a metasemantic question. Thus, the issues that Russell and Blake-Turner contend with are at their core metasemantic. I then attempted to frame these issues for the purpose of clarification: namely, by honing in the debate on semantic correctness and if it is ought-entailing. I believe that those who hold to (iv) must argue that ‘correctness’ and ‘oughtness’ do not possess the same meaning or concede that logic is either normative or that its normative status cannot be determined.

Finally, I argued that logic is normative because its laws are constitutive norms that tell us what sorts of inferences are *permitted*. The laws of logic are akin to the rules of a game (Peregrin, 2010). They do not tell us how to reason *well*, but instead are offered as tools that provide us with ways to make inferences permissibly by stipulating what sorts of moves are allowed for each of the logical constants, which act as “game pieces” (Peregrin, 2014). If nothing else is achieved from this paper, I only hope that it has shed some light on the debates mentioned in the philosophy of logic and the philosophy of language.

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