

## V—SAVING LOGIC FROM A METAPHYSICAL LIMBO: SUSANNE LANGER ON LOGICAL ASSERTION

GIULIA FELAPPI 

Can a logic free from psychological considerations be free from metaphysical ones? The topic of this paper is Susanne Langer's discussions of the notion of logical assertion, which aim at addressing this question. We will see both that Langer's remarks are of historical interest and that they can help us understand better what logic should be taken to be concerned with, and what logical assertion should be taken to be.

### I

*Introduction.* Suppose we think that logic should not contain or rely on psychological notions. If we think this, then we probably think that logic should be a pure discipline that should not contain or rely on any metaphysical notions either. But can a logic free from psychological considerations really be free from metaphysical ones? Susanne Langer's discussion of the notion of logical assertion aims at addressing this question. Such discussion will be the topic of this paper.

Our starting point will be Langer's own starting point of her discussion, that is, Russell's notion of logical assertion in the *Principles of Mathematics* (1903) and the account of the assertion-sign in *Principia Mathematica* (*PM*) (Whitehead and Russell 1910, 1927),<sup>1</sup> which are characterized, albeit tentatively, in terms of the notion of truth (§II). We will then see Langer's considerations, as they appear

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<sup>1</sup> Whitehead was at Harvard when Langer was, and briefly discussed her dissertation with her (Chaplin 2020, p. 100), but she did not study *PM* with him. As Weiss reported, 'You would never know from being in his class that he was an author of *Principia Mathematica*. He never referred to it' (Weiss and Ford 1980, p. 48). Moreover, there is room to doubt that Whitehead endorsed all of *PM*'s claims (Chaplin 2020, ch. 6) and there is no reason to think that the claims concerning logical assertions would be an exception. I will thus phrase things in terms of the points made by Russell, or in *PM*.

in her doctoral dissertation for Radcliffe College, ‘A Logical Analysis of Meaning’ (1926) and in her paper ‘A Logical Study of Verbs’, published in the *Journal of Philosophy* in 1927. While there is some overlap between the two pieces, in each Langer discussed the matter in significantly different ways. We will start with the dissertation and see that in it Langer put forward a proposal that is usually considered to have first been advanced by Wittgenstein twenty years later (§III). We will then move on to her 1927 paper, and her suggestion of departing from Russell’s notion and hence separating the notion of assertion from the notion of truth. We will see how Langer’s work, as Floyd maintains, ‘forms a bridge between the American idealist tradition in which the status of logic, intentionality, and the categories are central (Royce, Peirce, Sheffer, and C. I. Lewis) [and] the British tradition of Russell and Whitehead’ (Floyd 2009, p. 199). For Langer suggests that we depart from the understanding of what logic is concerned with that is common to both Russell and Wittgenstein, and embrace instead Royce’s stance on what the material of logic is. By embracing Royce’s stance, Langer could put forward an original suggestion about what logical assertion is, in which neither psychology nor metaphysics intrudes (§IV). The most famous critic of the assertion-sign and the notion of logical assertion is Wittgenstein. We will then look at how she replies and would reply to those of Wittgenstein’s objections that aim at aspects of the notion of logical assertion and of the assertion-sign she explicitly deals with or endorses in her 1927 paper (§V). We will conclude that both of Langer’s neglected discussions concerning the notion of logical assertion truly allow logic to be independent from both psychology and metaphysics, and that Langer has shown us how the widespread claim that logic deals only with propositions and propositional forms can be profitably called into question.

## II

*Langer’s Starting Point.* Langer’s starting point in both pieces where she discusses logical assertion are five claims within Russell’s discussion of the notion of *logical assertion* in the *Principles* (1903, §§5, 38, 52, 477–8) and the related discussion of the assertion-sign in *PM* (Whitehead and Russell 1910, Introduction, \*1, \*4; 1927, Introduction to the second edition). These claims will also be our starting point.

First, Russell thought that there is a logical difference that needs to be accounted for in logic, a difference not accountable in terms of

concepts or grammatical forms. This is the difference in the logical import of the proposition  $p$  as it occurs in isolation, that is, as ‘contained between full stops’ (*PM*, Introduction) when written ‘in ordinary written language’ (*PM*, Introduction), and as it occurs in more complex propositions, such as one of the form *If  $p$  then  $q$* : ‘The  $p$  and the  $q$  which enter into [the proposition “ $p$  implies  $q$ ”] are not strictly the same as the  $p$  or the  $q$  which are separate propositions, at least, if they are true’ (Russell 1903, §38). The very same logical difference is present in ‘the verb in the form which it has as verb (the various inflexions of this form may be left out of account), and ... the verbal noun, indicated by the infinitive or (in English) the present participle’ (1903, §52), and Russell stresses that this difference cannot be taken to ‘depend upon grammatical form; for if I say “*Caesar died* is a proposition”, I do not assert that Caesar did die, and an element which is present in “*Caesar died*” has disappeared’ (1903, §52).

Langer completely agrees with this, and elaborates further. In the *Principles*, Russell does not speak about inverted commas, and inverted commas and ‘that’-constructions are touched upon only very briefly in *PM*: ‘In language, we indicate when a proposition is merely considered by “*if so-and-so*” or “*that so-and-so*” or merely by inverted commas’ (*PM*, \*1). Langer, however, does explain things in further detail:

In common speech ... inverted commas ... mark an unasserted proposition in common discourse. The inverted commas have a function similar to that of the symbol ‘ $\natural$ ’ of musical notation. They cancel a previously accepted function of the term they modify. ... If we say ““*Caesar died*” is true,’ we are cancelling the truth-value of ‘*Caesar died*,’ and assert the same proposition as ‘It is true that *Caesar died*,’ where ‘*Caesar died*’ becomes a subordinate construct in grammatical form as well as in meaning. (Langer 1927, p. 128; see also 1926, pp. 66–7)

Now, surely her (and *PM*’s) point about inverted commas is a bit quick. It seems that the function of inverted commas and the effect they produce is quite different in different cases, so that *quotation* might well be an umbrella term for what are quite different phenomena. It is then not obvious that there is anything like *the* function of inverted commas. A fortiori, it is not clear that such a function common to all cases of inverted commas is to mark an unasserted proposition. For example, in cases of mixed quotations, such as ‘As Langer said, “there is some uncanny property of verbs”’, it is not clear that there is no assertion of the quoted material. Still, it seems difficult

to dispute that in cases such as “‘There is some uncanny property of verbs’ is false’, it is not asserted that there is some uncanny property of verbs and, moreover, that this lack of assertion is not merely psychologically, but also logically relevant. In not disputing this, Langer then agrees with Russell and the *PM*’s claim that there are some logical differences that need to be logically accounted for.

So, how to account for these differences? This is the second of Russell’s claims with which Langer agrees: to account for these differences, Russell claimed, we need to introduce in logic Frege’s (1879; [1893–1903] 2013) judgement stroke ‘⊢’ as a ‘special symbol to denote assertion’ (Russell 1903, §38; see also *PM*, \*1). In this way we can indeed distinguish, as we should, between *p* as it occurs in isolation and in *If p then q* or *It is false that p*, and between *p* and the corresponding propositional noun, which cannot on its own be combined with the assertion-sign, exactly as, in ordinary written language, it cannot be put between full stops.

The judgement stroke allowed Frege to distinguish judgement from the mere entertaining of a proposition. We can surely merely entertain a proposition: there is ‘a mere combination of ideas, of which the writer does not state whether he acknowledges it to be true or not’ (Frege 1879, §2). Or we can instead make a judgement, in which the author of the judgement acknowledges the proposition to be true. Alongside Frege, Russell distinguishes assertions from mere cases of assumptions, propositions ‘merely thought of’ (1903, §478), but—and this is the third of Russell’s claims that is relevant for our discussion of Langer—he does not think that logic should include Frege’s notion of assertion: ‘There is great difficulty in avoiding psychological elements here, and it would seem that Frege has allowed them to intrude in describing judgment as the recognition of truth’ (Russell 1903, §478).<sup>2</sup> Langer agrees with Russell on this too: for her, logic neither can nor should rely on a psychological notion of assertion:

The *psychological* element of assertion ... will not be caught in any calculus; but this is not due to the shortcomings of formalism, but to the fact that these are interpretational elements, which cannot be rendered *in abstracto*, any more than the sound of ‘one-lined C#’ or the feel of velvet. (Langer 1926, p. 67)

<sup>2</sup> See Ricketts (1986, 1996), Kremer (2000), Pedriali (2017), van der Schaar (2018) and references there for discussion of whether Frege’s notion is genuinely incompatible with his anti-psychologism.

That verbs have a psychological force is evident from their indispensability in judgment. Idealists, pragmatists, and laymen proverbially confound propositions with judgments, just as they fail to distinguish between concepts and ideas. But logicians, especially of the mathematical sort, are not supposed to fall into such confusion. (Langer 1927, p. 121)

What can be done to avoid the intrusion of psychology into logic, while at the same time being able to account for the logical differences that need to be accounted for? The fourth of Russell's claims that we need to look at is that there is a 'genuinely logical' (1903, §38), 'ultimate notion' (1903, §52) of assertion:

[T]here is a psychological sense of assertion, which ... does not run parallel with the logical sense. ... In  $p$  implies  $q$ , either or both of the propositions  $p$ ,  $q$  may be true, yet each, in this proposition, is unasserted in a logical, and not merely in a psychological, sense. Thus assertion has a definite place among logical notions. (Russell 1903, §38; see also §478)

How is this genuinely logical, ultimate notion of logical assertion to be characterized? This is the fifth and final claim by Russell that is important for our purposes. Russell admits that the notion of logical assertion is 'very difficult to bring clearly before the mind' (1903, §52). Still, he maintains that the notion is 'yet quite undeniable' (1903, §52), and both in the *Principles* and in *PM* logical assertion is at least partially characterized in terms of truth.

First, in *PM* the meaning of the assertion-sign is provided in terms of truth—'if " $\vdash (p \supset p)$ " occurs, it is to be taken as a complete assertion convicting the authors of error unless the proposition " $p \supset p$ " is true (as it is)' (*PM*, Introduction); 'the assertion-sign is to mean that what follows has the value 1' (*PM*, \*4)<sup>3</sup>—even though it is also stated that while the assertion-sign 'may be read "it is true that"' (*PM*, \*1), 'philosophically this is not exactly what it means' (*PM*, \*1). Moreover, in the *Principles*, Russell suggests, albeit only tentatively, that only true propositions can be logically asserted. Whereas '[p]sychologically, any proposition, whether true or false, may be merely thought of, or may be actually asserted' (1903, §478), as shown by the case of a mistaken friend who psychologically asserts that  $2 + 2 = 5$ ,

<sup>3</sup> It is arguably difficult to square the 'convicting the authors' in the quote above with a non-psychological characterization of logical assertion. Thanks to Maria van der Schaar for raising this point with me. The second quote seems immune to this issue.

there is another sense of assertion, ... in which only true propositions are asserted. True and false propositions alike are in some sense entities, and are in some sense capable of being logical subjects; but when a proposition happens to be true, it has a further quality, over and above that which it shares with false propositions, and it is this further quality which is what I mean by assertion in a logical as opposed to a psychological sense. (Russell 1903, §52)

To ‘divorce assertion from truth’, Russell stresses, ‘seems only possible by taking assertion in a psychological sense’ (1903, §478).

As we shall see in the rest of the paper, Langer’s views on logical assertion evolved, and in her dissertation she disagreed on the fourth claim above, arguing that we do not need a *notion* of logical assertion. In her 1927 paper, she maintained instead that we do need it, but that it cannot and should not be characterized in terms of truth.

### III

*Langer’s Dissertation: The Assertion-Sign as an Item of Punctuation.* Assertion is touched upon only briefly by Langer in her dissertation. Nonetheless, for how brief her remarks are, they are still of interest. For, after having urged that ‘Assertion is related to belief, despite Mr. Russell’s somewhat vague allegation that there is a non-psychological sense of assertion’ (1926, p. 67), she states that, ‘in this “non-psychological sense,” “ $\vdash = p$ ” simply means that  $p$  has some place in the system, and the assertion-sign is an item of punctuation’ (1926, p. 67). Langer does not provide any consideration in support of this remark, and she will never go back to it. But she still claims that the assertion-sign is a sign of punctuation.

As seen above, Russell himself claimed that ‘[i]n ordinary written language a sentence contained between full stops denotes an asserted proposition’ (PM, Introduction), but for the assertion-sign in logic he thought that we need a genuinely logical, ultimate notion to define it. Langer instead suggests that, alongside the full stops of ordinary written languages, the assertion-sign in logic too is to be taken as a sign of punctuation.

This claim of Langer’s is usually considered to have first been put forward by Wittgenstein in his *Philosophical Investigations*, where he says, ‘Frege’s assertion sign marks the beginning of the sentence. Thus its function is like that of the full-stop. It distinguishes the whole period from a clause within the period’ (1953, §22). Wittgenstein put the point forward twenty years after Langer submitted her dissertation, so in fact *she* was the first to advance the point.

Besides the historical interest of this point of hers, her remark is interesting also for another reason. For treating the sign ‘ $\vdash$ ’ as a sign of punctuation allows us to obtain a logic in which, differently from what happens in *PM*, we do not need, in order to account for ‘ $\vdash$ ’, to provide a *notion* of assertion, precisely as introducing the full stop in a language does not force us to introduce a notion that would provide its meaning. So the proposal in Langer’s dissertation does allow us to claim that we surely do not need to traffic with any metaphysics to be able to use the assertion-sign in logic, and hence to distinguish things that should indeed be distinguished within logic.

#### IV

*Langer’s 1927 Paper: Saving the Notion of Logical Assertion from a Metaphysical Limbo.* In the 1927 paper, the dissertation’s suggestion that the assertion-sign is an item of punctuation is completely absent, and Langer instead quotes the *Principles* and agrees with Russell that there is ‘assertion in a logical as opposed to a psychological sense’ (1927, p. 120 n.1); there is indeed Russell’s “‘purely logical sense of assertion’” (1927, p. 120 n.1). What she disagrees with Russell on is how such a notion is to be characterized.

We saw above Russell’s claim that logical assertion is to be characterized in terms of truth. In her 1927 paper, Langer’s disagreement with Russell starts from urging that it is part of the claims of *PM* themselves that truth should be outside logic: Russell’s correct remark, seen above, that asserted and unasserted propositions do not differ in concepts or grammatical form,

puts the question of truth-value, and the closely related problems of meaning and assertion, definitely outside the scope of *Principia Mathematica*; for the material of logic, according to that inimitable classic, is the general forms of proposition and the relations which obtain between these forms ... the study of *propositional* structures. (Langer 1927, pp. 122–3)

Langer refers to the introduction to the second edition of *PM* as a whole, and we can see her point by considering a particular claim there:

Constants do not occur in logic, that is to say, the *a*, *b*, *c* which we have been supposing constant are to be regarded as obtained by an extra-logical assignment of values to variables. (Whitehead and Russell 1927, Introduction to the second edition)

Langer is claiming that if constants are extra-logical, so is truth, as the truth-value of at least some of the propositions enjoying the various propositional forms and structures depends on what they should be taken to refer to and mean. So, for Langer, *PM* aims at correctly distinguishing, first, the logical import of  $p$  as it occurs in isolation and in propositions of the form *If  $p$  then  $q$*  or *It is false that  $p$* ; and, second,  $p$  and the corresponding verbal noun. Langer urges, though, that *PM* cannot genuinely fulfil its aim, as those distinctions cannot be accounted for in terms of forms, and cannot be accounted for in terms of truth either, as truth is extraneous to logical forms and propositional structures. So, Langer (1927, p. 124) continues, in confining ourselves to propositional structures, as in *PM* and also in Wittgenstein's *Tractatus Logico-Philosophicus* (*TLP*) ([1921] 1974), logical assertion can only be defined by going beyond the scope of logic, in terms of 'correspondence' (1927, p. 123), in terms of 'something in common' (1927, p. 124, quoting Russell's Introduction to *TLP*) with reality, 'a relation to' (1927, p. 125, again quoting Russell's Introduction) reality, which is not material of such a restricted notion of logic. In confining ourselves to propositional structures, assertion 'live[s] in the underworld (or superworld?) of Mysticism' (1927, p. 124).

Wittgenstein's mysticism, Langer continues, 'has ever been the graveyard for logical doctrines' (1927, p. 124), and the central question for Langer is then what can be done to obtain a truly logical characterization of logical assertion. Of course, one could simply reject that logic is concerned exclusively with the general forms of propositions, and accept instead, for example, that logic is also about the relationship between propositions and reality, and then accept the notion of truth as a logical notion. But this is not what Langer suggests. For Langer thinks that the notion of truth is a metaphysical notion, and hence an unwelcome stranger in the realm of logic:

Bertrand Russell in *The Principles of Mathematics* maintains that there is 'assertion in a logical as opposed to a psychological sense'; but his definition of it is in terms of truth, which is a metaphysical and not a logical notion. ... [T]o characterize a certain type of proposition—which we may call the 'genuine proposition'—by its possession of truth-value is, of course, to drag in a metaphysical notion which must be an unwelcome stranger in the logical field. ... Truth and falsity are, after all, metaphysical gods, not to be worshipped openly in the realm of logic. (1927, pp. 120–7)

Sheffer, her teacher, to whom she explicitly acknowledged her debt in her dissertation (Langer 1926, p. iii), maintained:

We must keep the study of formal structures ... entirely distinct from the investigation of the 'loci' or interpretations of a structure-complex. For, in the one case, given certain configurations of printers' ink on paper, or of chalk-marks on the board, we ask how certain 'forms' are related to other 'forms'; in the other case, we ask what there is in 'Reality' that may function as a 'locus' for these 'forms'. (Langer 1926, p. 228)

Langer similarly thinks that it should not be the case that, in order to define a logical notion, we should first ask what there is in 'Reality'; logic should be kept free from questions of this kind.

One can surely disagree with this, but there is another way of phrasing Langer's point that seems less disputable. Langer seems to think that if we characterize the notion of logical assertion as applicable only to true propositions, we need to know what propositions are true. This might be taken as a non-metaphysical affair if we are in the 1910s and only concerned with the principles of *mathematics*. But, as also stated in *PM*, logic 'applies to ... any proposition' (*PM*, \*1), and considering which propositions beyond those of mathematics are true surely renders logic hostage to metaphysics.

Hence, in order for us to be able to 'dispense with' (1927, p. 127) the metaphysical gods, Langer suggests, we should tackle the claim that logic is *the study of propositional structures* another way. We should not reject that logic is the study of *structures*. Rather, Langer maintains, '[t]he whole difficulty seems ... to lie in this limitation of logic to the study of *propositional structures*' (1927, p. 123). She then urges that we should reject the claim that logic is exclusively concerned with *propositional structures*.

So, what is logic if it is not the study of *propositional structures*? The way in which Langer addresses this question shows, as Floyd (2009, p. 199) maintains, how her work forms a bridge between the American idealist tradition and the Russellian tradition, among others. For Langer here suggests following Royce:

Josiah Royce defined logic as *the study of types of order*. This is essentially the point of view I wish to advocate, that *logic is the study of forms as such*, regardless of content ('forms' is a somewhat less restricted term than 'order').

'Orderliness and system,' says Royce in his *Principles of Logic*, 'are much the same in their general characters, whether they appear in a Platonic dialogue, or in a modern textbook of botany, or in the commercial conduct of a business firm, or in the arrangement and discipline of an army, or in a

legal code, or in a work of art, or even in a dance or in the planning of a dinner. Order is order. System is system. Amidst all the variations of systems and of orders, certain general types and characteristic relations can be traced.’ (Langer 1927, p. 123)

This is not an idea that Langer puts forward only in her 1927 paper. Already in her Ph.D. dissertation, in chapter 5, the chapter where assertion is discussed, she aims at combatting the then ‘well-established view that the study of propositions and of the relations which obtain between propositions is the only legitimate claimant to the title of “logistic,” and is, in fact, formal logic itself. Prof. Lewis has called this the “orthodox” view of logistic’ (Langer 1926, p. 57).<sup>4</sup> But it is only with the 1927 paper that these considerations are explicitly brought to bear on the notion of assertion, in the following way.

First, Langer maintains that if we keep the point ‘stated by Mr. Wittgenstein and elucidated for us by Mr. Russell’ that logic is about the ‘common element of formal structure’ (1927, p. 124), but ‘we allow our logical interest to cover forms of every sort’ (1927, p. 123), we can then detect relations among these structures:

[W]e shall find that there are innumerable systems, or patterns, in the world, of which the propositional system is merely a special one; that these patterns may be compared, and the systems which exemplify them may be brought into relation with one another, and the traditional ‘alogical’ notions may be brought into the scope of logic as we include not only the relations of elements within one system, but the relations of certain systems to each other (relations such as similarity, analogy, etc.). ... Every thing, situation, idea, or what not, has a logical pattern ... there are certain things whose forms correspond in large degree ... such as the series of points in space and of moments in time. ... An air-plane view of a place and a topographic map (Langer 1927, pp. 123–4)

<sup>4</sup> As McDaniel (2017, p. 287) stresses, ‘during Langer’s early period, the focus is on the analysis of meaning that can be expressed in language’ and only later on in her career did she focus on forms ‘expressible only non-linguistically’, for example, via the medium of art. Still, this does not mean that Langer only wrote about language in her early period. An appendix to her dissertation in logic is titled “‘Meaning” in art’ (Langer 1926, pp. 164–71). The idea moreover remained long after the 1927 paper. For example, in *An Introduction to Symbolic Logic*, published in 1937, logic is still ‘the tracing of types and relations among abstracted forms’ (Langer 1937, p. 39), the study of ‘order, internal connection ... *structure*’ (1937, p. 24), where again the forms are not only propositional forms but ‘all the various meanings of form—from geometric form to the form of ritual or etiquette’ (1937, p. 24).

Second, Langer claims that these relations among structures are the means to obtaining a truly logical notion of logical assertion:

I think we shall have no need of any particular doctrines about truth, or resort to the psychological phenomenon of belief, to find perfectly definite relations between propositional structures and other structures ... take *a.R.b* to stand for ... ‘Socrates’ loving Plato’; if we would signify that *a.R.b* is to be related to some other complex, e.g., a complex of fact, we must add a symbol for this relation, such as the ‘assertion-sign,’ and write:  $\vdash a.R.b$ . ... It relates *a.R.b* to a complex whose existence is understood when we use the sign  $\vdash$ . (Langer 1927, pp. 123–6)

Langer is maintaining here that we can logically assert that Socrates loves Plato if the unasserted proposition ‘Socrates’ loving Plato’ is ‘related to some other complex, e.g. a complex of fact’ (1927, p. 126). The key in this passage, given our purposes, is the ‘e.g.’. We can logically assert truths, as the structure of reality is one of the structures. But while reality will be one of the structures, when considered merely in terms of its pattern, this does not mean that logic needs to traffic with metaphysics. From the logical point of view, the structure of reality is just one of the structures, on a par with any other, and logic does not need to detect which of the structures is the real one. So truths are not all that could be asserted logically:

[T]hat the structure referred to by true propositions happens to be the order of existence, is interesting for metaphysics, but irrelevant in logic. Propositions do usually refer to matters of fact, but not necessarily so—and even if this reference were universal, all that need concern us as logicians is that they refer to some structure other than themselves. This may be the structure of reality, as in assertions of fact, or of an imagined world as in the case of ‘poetic truth,’ or of carefully constructed beliefs as in hypothesis. ... [W]hen I say ‘Hamlet loved Ophelia,’ the symbol refers ... to a structure which exists *in a definite consistent order*, and this order is Shakespeare’s *Hamlet*. This further reference to a whole order of constructs is what is implied by ... *logical assertion* of a proposition. We can certainly assert in a logical as well as a psychological sense that Hamlet loved Ophelia. (Langer 1927, pp. 127–8)

While Langer thinks that Wittgenstein and Russell are right in thinking that logic is about the ‘common element of formal structure’, they did not realize that such a thought ‘really presupposes the less restricted view of logic’ (Langer 1927, p. 124), in which logical

assertion, alongside other crucial notions, can be defined within logic, in terms of relations between structures. So, Langer maintains,

The alogical factors of meaning, truth, assertion, etc., which early beset Mr. Russell and recently drove Mr. Wittgenstein to Mysticism, appear to me to have sprung from the error of treating logic as essentially a study of *propositional* forms. But the logic which concerns itself with all sorts of forms allows for an analysis of structures *including* propositional forms, and promises to save some important logical relations from their present metaphysical limbo ... (Langer 1927, p. 129)

... and we can then avoid mysticism and Russell's 'metaphysical hoodoos'. (Langer 1927, p. 127)

Langer's account is arguably a bit sketchy. For example, she does not tell us what she means by 'to refer' or how a reference to a whole order of constructs could be implied by logical assertion of a proposition. But we can nonetheless see what her main points can be taken to be. Logical assertion of an unasserted proposition is a matter of relating the unasserted proposition to a particular structure, where the relation is made possible by the 'common element of formal structure' shared by the structure of (a portion of) the language the unasserted proposition belongs to and (a portion of) the other structure. This other structure can be reality, but is not always reality. Only if we are more generous when it comes to what structures logic deals with are we able to have a genuinely logical notion of assertion; that is, a notion of logical assertion that allows reality to be part of logic, so to speak, thanks to its structure being one of the structures logic is about, without having logic depend on metaphysics, as reality's structure is only one structure among others.

For Langer, the ability to detect, within logic, relations among structures allows us to account for logical assertion, but also for meaning and for a notion of truth that is not a metaphysically loaded one. To use Sheffer's phrase in the quote above, in allowing forms of every sort into logic, we can avoid asking 'what there is in "Reality" that may function as a "locus"', as the interpretation of an unasserted proposition. For we can consider all structures, and those having certain structural properties can be taken, within logic, as providing possible interpretations and meanings, leading to *assertion-with-respect-to* each of them and *truth-with-respect-to* each of them.

Hence, in Langer's account, sketchy as it might be, we have, remarkably, a notion of assertion for fiction. As logic does not traffic with metaphysics, fiction and reality are, for logic, on a par, and this allows us to assert logically, as well as psychologically, that Hamlet loved Ophelia, by relating 'Hamlet's loving Ophelia' to Shakespeare's *Hamlet*.

Moreover, and this is even more remarkable, one might see in Langer's proposal the very idea at the core of model theory. Both in Langer and in model theory, logic is indeed concerned with the relationships among structures, so that some structures, thanks to their structural properties, can provide meanings for the elements of other structures, and we can then have *truth-with-respect-to* a structure. It is sometimes said that the history of model theory started with Tarski. This is arguably too quick a reconstruction, as one can make that history start much earlier, for example, by maintaining, with Hintikka, that Hilbert's *Foundations of Geometry* ([1899] 1971) 'was one of the main gateways of model-theoretical thinking into twentieth-century logic and philosophy' (Hintikka 1988, p. 6; see Eder and Schiemer 2018 for discussion). Be that as it may, Langer might well need to be included in that history, and as an early figure in it.

## V

### *Langer's Proposal through the Lens of Wittgenstein's Objections.*

The most famous critic of Frege's and Russell's notions of assertion and of Frege's and *PM*'s '⊢' is Wittgenstein. While some of his objections appear in *TLP*, and Langer explicitly refers to the *TLP* in her 1927 paper, as well as in other publications, she does not refer explicitly to the relevant portions of *TLP*. Still, we can see better what Langer's (1927) proposal amounts to by looking at how she replies and would reply to a way of understanding those of Wittgenstein's objections that aim at aspects of the notion of logical assertion and of the assertion-sign that Langer explicitly deals with or endorses in her 1927 paper.<sup>5</sup>

The first of Wittgenstein's points relevant to our discussion is already present in the *Notes* (1957, p. 234) and goes as follows in *TLP*: "'⊢'" belongs ... to propositions no more than does the number of the proposition' (*TLP* 4.442) As Proops maintains, a way to

<sup>5</sup> For thorough discussions of Wittgenstein's objections to logical assertion and the assertion-sign, see Proops (1997), Potter (2009, §10), Johnston (2011), and references there.

understand the point within the context of Wittgenstein's objections is the following:

[W]e should read Wittgenstein as denying a precondition of any view that would try to make sense of a notion of distinctively logical assertion. The thought is that any such notion must combine two fundamentally incompatible ideas. On the one hand, in order to be a feature of propositions, logical assertion would need to govern the entire proposition. On the other, in order to be more than merely psychological, the feature of being asserted would have to be an intrinsic part of the proposition. The first thought steers us toward regarding 'logical assertion' as something lying outside the proposition, for example, some merely psychological attitude one may hold toward it; while the second makes us think of it as an element of the proposition and, as such, capable of governing only its remaining parts. (Proops 1997, p. 139)

If we read the objection in this way, we can see that Langer directly addresses it. Langer rejects the view of assertion as an intrinsic part of the proposition. For her, logical assertion is not an *element* of the asserted proposition; we do not obtain an asserted proposition by adding an element to the unasserted proposition:

Here we have not altered the internal structure of the system. Now the sign  $\vdash$  stands in no relation whatever to  $a$ , to  $R$ , or to  $b$ —nor even to  $a.R.b$ . It does not belong to the structure of the proposition. (Langer 1927, p. 126)

Russell also maintained that 'assertion does not seem to be a constituent of an asserted proposition ... assertion is not a constituent in  $p$  asserted' (1903, §478). But in this context Langer does not refer to him, but to Frege, whose work, 'because she was fluent in German, Langer was able to access' (Floyd 2009, p. 199) directly. Langer urges that the fact '[t]hat the assertion sign is not one of the symbols of the proposition was noted by Frege' (1927, p. 126 n. 10), and quotes the passage of Frege's *Grundgesetze* where he claims: 'I reckon the judgement-stroke to belong neither with the *names* nor with the *markers*; it is a sign of its own kind' (Frege [1893–1903] 2013, p. 44). But even though Langer rejects the view of assertion as an intrinsic part of the proposition, this for her does not lead to assertion being merely psychological. For if we follow Royce concerning what the material of logic is, and then abandon the idea that logic only deals with propositional forms, we can have as logical the relation that relates the entire unasserted proposition to a whole order of constructs, and 'this is the meaning of the "purely logical sense of assertion" ... This sort of assertion has, indeed, nothing to do with psychology, being a purely formal relation' (Langer 1927, p. 126).

The second point by Wittgenstein that allows us to see Langer's proposal better appears in the *Notes* soon after the one we just saw:

Assertion is merely psychological. There are only unasserted propositions. Judgment, command, and question all stand on the same level; but all have in common the propositional form, and that alone interests us. What interests logic are only the unasserted propositions. (Wittgenstein 1957, p. 234)

Langer did not see this, but it is clear what she would reply. She would urge that asserted propositions are of interest to logic, because logic should not be interested in propositional form alone. For Langer, 'As long as we limit our logic to the study of propositional structures, this relation [of logical assertion] will, of course, never appear' (1927, p. 126). Hence Langer agrees with Wittgenstein on the following conditional: if propositional forms alone are the material of logic, then there will be in logic only unasserted propositions. But the antecedent, asserted by Wittgenstein in the quotation above, is instead false for Langer, since for her logic should go beyond propositional forms.

## VI

*Conclusion.* As Verhaegh (2022, n.13) maintains, Langer's dissertation 'is generally viewed as one of the best Harvard theses in logic from that period'. Moreover, her 1927 paper appeared in the *Journal of Philosophy*, not an 'obscure venue either then or now', as Ostertag stresses (2019, p. 569). Still, while some of Langer's reflections did receive and still do receive attention, Langer's discussion of logical assertion did not. In this paper, we have seen some reasons as to why this is unfortunate. Besides being of historical interest, both of Langer's neglected discussions concerning the notion of logical assertion are also interesting because they allow us to account for the logical differences we started from in this paper, while truly keeping logic free from both psychological and metaphysical notions.<sup>6</sup>

*Department of Philosophy  
University of Southampton*

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Room 1002, Avenue Campus  
 Highfield Rd  
 Southampton SO17 1bf  
 UK  
[g.felappi@soton.ac.uk](mailto:g.felappi@soton.ac.uk)

## REFERENCES

- Chaplin, Adrienne Dengerink 2020: *The Philosophy of Susanne Langer*. London: Bloomsbury.
- Eder, Günther, and Georg Schiemer 2018: 'Hilbert, Duality, and the Geometrical Roots of Model Theory'. *Review of Symbolic Logic*, 11(1), pp. 48–86.
- Floyd, Juliet 2009: 'Recent Themes in the History of Early Analytic Philosophy'. *Journal of the History of Philosophy*, 47(2), pp. 157–200.
- Frege, Gottlob 1879: 'Concept Script, A Formal Language of Pure Thought Modelled upon that of Arithmetic'. Translated by Stefan Bauer-Mengelberg in Jean van Heijenoort (ed.), *From Frege to Gödel: A Source Book in Mathematical Logic, 1879–1931*, pp. 1–82. Cambridge, ma: Harvard University Press, 1967.
- [1893–1903] 2013: *Basic Laws of Arithmetic: Derived Using Concept-Script*. Edited and translated by Philip A. Ebert and Marcus Rossberg, with Crispin Wright. Oxford: Oxford University Press.
- Hilbert, David [1899] 1971: *Foundations of Geometry*. Translated by Leo Unger. Le Salle, il: Open Court.
- Hintikka, Jaakko 1988: 'On the Development of the Model-Theoretic Viewpoint in Logical Theory'. *Synthese*, 77(1), pp. 1–36.
- Johnston, Colin 2011: 'Assertion, Saying, and Propositional Complexity in Wittgenstein's *Tractatus*'. In Oskari Kuusela and Marie McGinn (eds.), *The Oxford Handbook of Wittgenstein*, pp. 60–78. Oxford: Oxford University Press.
- Kremer, Michael 2000: 'Judgment and Truth in Frege'. *Journal of the History of Philosophy*, 38(4), pp. 549–81.
- Langer, Susanne Katherina 1926: 'A Logical Analysis of Meaning'. Ph.D. dissertation, Radcliffe College.
- 1927: 'A Logical Study of Verbs'. *Journal of Philosophy*, 24(5), pp. 120–9.
- 1937: *An Introduction to Symbolic Logic*. New York: Dover Publications.
- McDaniel, Kris 2017: 'Ontology and Philosophical Methodology in the Early Susanne Langer'. In Sandra Lapointe and Christopher Pincock (eds.),

- Innovations in the History of Analytical Philosophy*, pp. 265–98. London: Palgrave Macmillan.
- Ostertag, Gary 2019: ‘The Analytic Tradition in Philosophy’. *Analysis*, 79(3), pp. 560–71.
- Pedriali, Walter 2017: ‘The Logical Significance of Assertion: Frege on the Essence of Logic’. *Journal of the History of Analytic Philosophy*, 5(8), pp. 1–23.
- Potter, Michael 2009: *Wittgenstein’s Notes on Logic*. Oxford: Oxford University Press.
- Proops, Ian 1997: ‘The Early Wittgenstein on Logical Assertion’. *Philosophical Topics*, 25(2), pp. 121–44.
- Ricketts, Thomas 1986: ‘Objectivity and Objecthood: Frege’s Metaphysics of Judgment’. In Leila Haaparanta and Jaakko Hintikka (eds.), *Frege Synthesized*, pp. 65–95. Dordrecht: Springer.
- 1996: ‘Logic and Truth in Frege’. *Proceedings of the Aristotelian Society Supplementary Volume* 70, pp. 121–40.
- Russell, Bertrand 1903: *The Principles of Mathematics*. Cambridge: Cambridge University Press.
- Sheffer, H. M. 1926: ‘Principia Mathematica. Whitehead, Alfred North, Russell, Bertrand’. *Isis*, 8(1), pp. 226–31.
- van der Schaar, Maria 2018: ‘Frege on Judgement and the Judging Agent’. *Mind*, 127(505), pp. 225–50.
- Verhaegh, Sander 2022: ‘Susanne Langer and the American Development of Analytic Philosophy’. In Jeanne Peijnenburg and Sander Verhaegh (eds.), *Women in the History of Analytic Philosophy*, pp. 219–44. Cham: Springer.
- Weiss, Paul, and Lewis S. Ford 1980: ‘Recollections of Alfred North Whitehead’. *Process Studies*, 10(1/2), pp. 44–56.
- Whitehead, A. N., and Bertrand Russell 1910: *Principia Mathematica*, vol. I, 1st edn. Cambridge: Cambridge University Press. Cited as *PM*.
- 1927: *Principia Mathematica*, vol. I, 2nd edn. Cambridge: Cambridge University Press.
- Wittgenstein, Ludwig [1921] 1974: *Tractatus Logico-Philosophicus*. Translated by David Pears and Brian McGuinness. London: Routledge and Kegan Paul. Cited as *TLP*.
- 1953: *Philosophical Investigations*. Translated by G. E. M. Anscombe, edited by G. E. M. Anscombe and Rush Rhees. New York: Macmillan.
- 1957: ‘Notes on Logic’, edited by Harry T. Costello. *Journal of Philosophy*, 54(9), pp. 230–45.