

# Truth-Functional Logic and the Form of a Tractarian Proposition

Oliver Thomas Spinney  
Royal Holloway, London

**Abstract.** In this paper I argue against Michael Morris' claim, that the *Tractatus* view involves holding that the possibility of truth-functional combination is prior to the possibility for sentential constituents to combine with one another. I provide an alternative interpretation in which I deny the presence of any distinction in the *Tractatus* between these two possibilities. I then turn to Adrian Moore's 'disjunctivist' account of sententehood, itself inspired by the *Tractatus* view. I argue that Moore's account need not involve a commitment to the kind of priority Morris describes, and that it need not involve a commitment to transcendental idealism.

**Key words:** Wittgenstein, *Tractatus*, truth-functional logic, propositions, sentences.

Adrian Moore's (2019, 57-70) disjunctivist account of sententehood may be briefly stated: a sentence is an item which is either capable of being the base of a truth-operation or appears to be capable of being the base of a truth-operation. Michael Morris claims that the capacity for a sentence to feature in truth-functional combinations constitutes its 'external form'. Morris contrasts the notion of external form with internal form, and asks how the former determines the latter. Of particular interest to Morris is the question of how the syntactic categories of sub-sentential elements are determined, where the sentences they occur in are truth-valueless. Here I shall briefly argue that there is no such distinction between external and internal form at work in the *Tractatus*. I conclude that Morris reads into Moore a conception of priority which Moore need not accept. Moreover, Moore's view may be interpreted as neutral with respect to the issue of realism.

Morris claims that the external form of a sentence is its capacity to combine with others truth-functionally; moreover, it is external, rather than internal form, which remark 6 of the *Tractatus* describes, and which Moore's disjunctivist view characterises sententehood in terms of. The internal form of a sentence, by contrast, is the capacity for its elements to combine with one another. Morris claims that the notion of external form is explanatorily prior to that of internal form. It is my claim, though, that this distinction collapses on Wittgenstein's position. To see why, we must first examine what, according to Wittgenstein, truth-functional combination consists in. Wittgenstein writes

A proposition is an expression of agreement and disagreement with truth-possibilities of elementary propositions. (1963, 4.4)

Our truth-functionally combining some propositions consists in circumscribing, from a range of truth-value assignments, which combinations we wish to assert. In his *Notes on Logic* Wittgenstein says

What corresponds in reality to compound propositions must not be more than what corresponds to their several atomic propositions. Molecular propositions contain nothing beyond what is contained in their atoms; they add no material information above that contained in their atoms. (1961, 100)

The familiar truth-functional connectives are merely shorthand devices corresponding to the assertion of truth-possibilities (5.101). The molecular proposition "p v q" does not assert the existence of a fact composed of the fact that p, the fact that q, and the logical object named "v".<sup>1</sup> Rather, "p v q" is true just in case what "p" represents and what "q" represents do not both fail to obtain. This is a deflationary approach to truth-functionality. Consequently, for a sentence to be capable of truth-functionally combining with another is *nothing more* than for it to be capable of possessing the truth-values which the truth-tabular distribution requires. The "external form" of a sentence is its capacity for truth and capacity for falsehood, tautologies and contradictions notwithstanding.

Internal form is, according to Morris, a "matter of the way things *within* an item can be combined with each other" (7). Wittgenstein describes the relationship between form and the capacity for the constituents of a proposition to combine in the following way:

The fact that the elements of a picture are related to one another in a determinate way represents that things are related to one another in the same way. Let us call this connexion of its elements the structure of the picture, and let us call the possibility of this structure the pictorial form of the picture. (1963, 2.15)

That the elements of a picture are capable of combining in the same way the objects for which they deputize are so capable constitutes the pictorial form of that picture. Possession of a pictorial form, of elements capable of combining in a certain way, is precisely what makes depiction possible:

What a picture must have in common with reality, in order to be able to depict it – correctly or incorrectly – in the way that it does, is its pictorial form. (1963, 2.17)

That a picture is capable of being true and capable of being false constitutes its capacity for truth-functional combination. That a picture is capable of being true and capable of being false, I submit, *just is* the fact that its elements possess the capacity to combine with one another in the same way the objects for which they deputize are capable of combining. There is, therefore, nothing more to an item's being capable of truth-functional combination than that its names be capable of combining with one another in the relevant way. In other words, the possibility that some names are capable of combining with one another as the objects for which they stand are so capable *is* the possibility of truth and falsehood. The possibility of a proposition's being capable of truth and capable of falsehood is the possibility of its being truth-functionally combined with another proposition. To put the matter differently, the capacity for a proposition to

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[1] See Wittgenstein (1963, 5.4).

truth-functionally combine with another *is* the capacity for some names to combine so as to represent a state of affairs. Consequently, the external form of a sentence and its internal form are one and the same. Anscombe, in a different context, writes

Indeed, we should not regard Wittgenstein's theory of the proposition as a *synthesis* of a picture theory and the theory of truth-functions; his picture theory and theory of truth-functions are one and the same. (1959, 81, emphasis original)

The view I am here presenting, on which the distinction between external and internal form of a proposition collapses, concords with Anscombe's position<sup>2</sup>. The "picture theory" describes the possibility of truth-aptness through a lens whose focal point fixes on the behaviour of propositional elements. The picture theory appears, therefore, to be a theory concerning the "internal form" of propositions. Vitaly, though, the picture theory of propositions is also a theory of what truth-functional combination consists in because the picture theory gives an account of what something's being capable of truth and capable of falsehood consists in, and truth-functional combination, on Wittgenstein's view, requires nothing more than that the items to be combined be capable of truth and capable of falsehood. Wittgenstein does not, in the *Tractatus*, give a description of how the behaviour of propositional elements contributes to the possibility of truth-aptness, and only *subsequently* show how propositions come to truth-functionally combine with one another. Rather, an explanation of truth-aptness which appeals to the combinatorial capacity of propositional elements *is* an explanation of truth-functional combination. Relatedly, Wittgenstein does not show how propositions come to be capable of truth-functional combination, and then apply this explanation to the question of how internal form is determined.

Morris, having argued that Moore's position involves commitment to the priority of external form over internal form, asks how the former *determines* the latter<sup>3</sup>. This question of determination must be answered, according to Morris, if Moore's view is to give the explanatory essence of sentencehood. What is strikingly characteristic of sentences is, in Morris' view, their possession of a syntax. Moore's view must show how syntactic categories are determined by external form, if Moore's view is to give a definition of sentencehood while simultaneously illuminating what is clearly characteristic of sentences by means of that definition. Morris argues that a realist explanation of why sub-sentential components exhibit the syntactic features which they do is unavailable to Moore. The syntactic category

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2] See also Winch, who remarks that "the structure of elementary propositions invades the field of truth-functional logic" (1969: 8). Winch describes the relationship holding between the structure of an elementary proposition and those truth-functional combinations in which the proposition is capable of occurring. It is on the basis of this relationship that the structure of an elementary proposition counts as a *logical* structure, according to Winch.

3] Of particular interest to Morris are cases involving nonsensical sentences. Morris asks how it is determined that "identical" occurs adjectivally in the sentence "Socrates is identical". It is important to note here though that "Socrates is identical" is a sentence, in Moore's view, because it satisfies the condition of *appearing* to be a sentence. Correspondingly, the sign "identical" is adjectival in the sense that it appears to be an adjective. What determines the adjectivity of 'identical' is, therefore, a matter of psychology, rather than logic.

of a given sub-sentential item cannot be explained through appeal to a form which is borrowed from an extra-linguistic item, for then the striking characteristic of sentences which is their syntax would not be explained by Moore's definition, but by an alternative realism. Morris concludes therefore that Moore's interpretation is in tension with a realist explanation of why items exhibit the particular syntactic features which they do.

If I am correct that the notions of internal and external form collapse for Wittgenstein, then it should be clear the question of how one determines the other is not applicable to the *Tractatus* view. We need not, therefore, read into Moore's disjunctivist account a commitment to the priority of external over internal form. Relatedly, Moore's approach may be read as neutral with respect to the issue of realism once the distinction between external and internal form has been dissolved. Moore claims that something's counting as a sentence consists in its being capable of being the base of a truth-operation, or appearing to be capable of being the base of a truth-operation. I have argued that what it is for something to be capable of being the base of a truth-operation is for its constituent names to be capable of combining in a certain way. In other words, what it is for something to be capable of being the base of a truth-operation is for it to possess a pictorial form. The potential for truth-operability is the potential for constituent-combination of a particular kind. In turn, what it is for some constituents to be capable of combining in a certain way may, pending textual justification, be characterised in realist terms. That some constituents possess certain combinatorial capabilities may well involve appeal to the objects those constituents name. In other words, and crucially for present purposes, the first disjunct of Moore's definition might involve a conception of truth-operability on which realism is *bound up* with that conception. To say that something is capable of being the base of a truth-operation is to say that it possesses a pictorial form. What it is to possess pictorial form may itself admit of a realist elaboration. In other words, the notion of truth-operability may be fleshed out via realist means. To invoke realism here would not be to place the explanatory power of our account of sentencehood outside of Moore's definition, but only to claim that Moore's definition is capable of including a realist commitment. Whether or not the disjunctivist view Moore describes does involve a realist commitment is an open question, but that it could involve such a commitment is not ruled out by anything Moore himself says. Accordingly, the Kantian picture Morris suggests that the disjunctivist view leads to is not an inevitability, though it remains, as with realism, a possibility.

Morris focuses his attention on the lead disjunct of Moore's view, and interprets that disjunct as less flexible than I have claimed it to be. Accordingly, Morris draws certain conclusions from Moore's view which I have argued need not follow; the lead disjunct of Moore's definition may be viewed as more schematic than Morris allows. Moore's position is, if my understanding is correct, equally compatible with realism, idealism, or transcendental idealism.

REFERENCES

- Anscombe, G. E. M., 1959. *An Introduction to Wittgenstein's Tractatus*. London: Hutchinson.
- Moore, A. W., 2019. *Language, World and Limits: Essays in the Philosophy of Language and Metaphysics*. Oxford: Oxford University Press.
- Winch, Peter, 1969. 'Introduction: The Unity of Wittgenstein's Philosophy', in *Studies in the Philosophy of Wittgenstein*, edited by P. Winch, pp. 1–19. Oxford: Routledge.
- Wittgenstein, Ludwig, 1963. *Tractatus Logico-Philosophicus*. Trans. D. F. Pears and B. F. McGuinness, London: Routledge and Kegan Paul.