ORIGINAL RESEARCH

A forgotten logical expressivist: Strawson's philosophy of logic and its challenges

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Abstract
P.F. Strawson contributed to many philosophical domains, including the philosophy of language, the history of philosophy, metaphysics, moral philosophy and philosophical methodology. Most of his contributions in these areas have influenced contemporary debates, either because his views are still defended or because they are still considered worthy of detailed responses. His views on the philosophy of logic have been only rarely discussed, however. My aim in this paper is threefold. First, I provide a systematic account of Strawson's philosophy of logic. I argue that Strawson is an important predecessor of logical expressivism, a contemporary position in the philosophy of logic most notably defended by Robert Brandom. My main focus is on Strawson's largely-neglected 1982 paper 'Logical Form and Logical Constants', which contains his most mature ideas on the topic. Second, while Strawson's position is of historical and independent philosophical interest, I argue that he leaves many points unclear. Finally, I propose several clarifications of Strawson's position.

Keywords Strawson · Logical expressivism · Philosophy of logic · History of philosophy · Brandom

1 Introduction

P.F. Strawson contributed to many philosophical domains, including the philosophy of language, the history of philosophy, metaphysics, moral philosophy and philosophical methodology. Most of his contributions in these areas have influenced contemporary debates, either because his views are still defended or because they are still considered worthy of detailed responses. His views on the philosophy of logic have been only rarely discussed, however. In this paper, I outline and evaluate Strawson's philosophy of logic.

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The aim of this paper is twofold. First, I argue that Strawson is a clear predecessor of logical expressivism, a contemporary position in the philosophy of logic. This view has been defended most notably by Robert Brandom, and has been further extended by Jaroslav Peregrin and Ulf Hlobil. This is the historical aim of the paper. Secondly, I aim to improve our understanding of what exactly logical expressivism is. I argue that some of the main theoretical commitments of Strawson and other logical expressivists are in need of further clarification. The two aims are related. In one direction, Strawson's views inform our knowledge of logical expressivism from a new angle. Conversely, the explication of the central commitments of logical expressivism sheds retrospective light on the content and character of Strawson's views.

I proceed as follows. Section 2 summarises the main tenets of logical expressivism. In Section 3, I argue that Strawson was a logical expressivist *avant la lettre*. Section 4 proposes a distinction between the *meaning* and the *function* of logical vocabulary. I argue that the logical expressivist's emphasis on the *expressive role* of logical vocabulary is an answer to the question of the *function* rather than the *meaning* of logical vocabulary. Section 5 discusses the relation between semantic inferentialism and logical expressivism. I argue that although these two positions fit together naturally, one can be a logical expressivist without being a semantic inferentialist.

2 Logical expressivism

A standard approach to logic characterises it as the study of logical consequence.[1] Following one traditional (semantic) view, logical consequence is a relation between premises and conclusion which is necessarily truth-preserving: if Φ is a logical consequence of Γ, it is impossible for members of Γ to be true and Φ false. A further constraint traditionally applied is that for Φ to be a logical consequence of Γ, Φ should follow from Γ in virtue of the *form* of the truth-bearers involved. On this approach, logical consequence is a necessarily truth-preserving relation between truth-bearers in virtue of their form.

On one traditional account, Φ is a formal consequence of Γ whenever each substitutional instance generates a truth-preserving relation between premises and conclusion. A substitutional instance refers to the substitution of non-logical expressions for other non-logical expressions of the same type. It is clear, however, that such a schematic or substitutional notion of formality *presupposes* a prior distinction between logical and non-logical expressions rather than providing an *account* of the distinction.[2] This account of formality cannot by itself give a fully satisfying answer to the *Demarcation*

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[1] As Etchemendy (1988, p. 74) observes, this is not how it has always been. According to the conception of logic initiated by Russell and Frege, the primary subject matter is not so much logical consequence but logical *truth*. See Asmus & Restall (2012) for a historical overview of different theories regarding logical consequence.

[2] This point is made by Tarski (1936/2002, p. 188) and is the reason why MacFarlane (2000, pp. 36–41) calls this substitutional or schematic notion a 'decoy'. To claim that the schematic or substitutional notion cannot by itself answer the *Demarcation Problem*, however, is not to deny the notion's venerable tradition. Dutilh Novaes (2011, p. 307) argues that this schematic notion of formality is the oldest in the history of philosophy and that it can be traced to the writing of Alexander of Aphrodisias (late second century and early third century AD).

Problem, in other words. The *Demarcation Problem* refers to precisely this challenge of providing a satisfactory account of the distinction between logical and non-logical vocabulary.

Logical expressivism aims at answering the *Demarcation Problem*. It has been most notably defended by Robert Brandom (1994, 2008, 2018), and has been further developed by Jaroslav Peregrin (2014) and Ulf Hlobil (2016). Two claims are central to the logical expressivist's proposal. The first claim is that logical vocabulary is a vocabulary which can be *fully elaborated* from what is implicit in propositional content as such. The second claim is that logical vocabulary is *explicative of* what is implicit in propositional content. In Brandom's terminology, logical vocabulary is a 'universal LX vocabulary'. It is *elaborated* from ('L') and *explicative* of ('X') what is necessary for deploying *any* vocabulary ('universal') at all.

In order to unpack these two theoretical commitments, we must undertake a couple of preliminary clarifications. To begin with, the relevant notion of propositional content must be clarified. Moreover, what it means to be 'elaborated from' and what it is to be 'explicative of' propositional content must equally be elucidated. Note that the discussion in this section is intended to give a preliminary (rather than the definitive) description of logical expressivism. As I subsequently argue, a number of the logical expressivists' theoretical commitments stand in need of further clarification. I return to some of the key notions introduced, discussing them in greater depth, in these later sections.

Both Brandom (1994) and Peregrin (2014) explicate the notion of propositional content in terms of their preferred semantic primitives: material consequence and incompatibility. Whereas it is true that

(i)   Odysseus is on the island to the northeast from Kefalonia

is not a *formal* consequence of

(ii)   Odysseus is in Ithaca,

(i) can be said to be a *material* consequence of (ii). The consequence relation here is a *material* and not a formal one because the validity of the inference from (i) to (ii) depends on the essential appearance of the non-logical expressions 'Ithaca' and 'the island to the northeast from Kefalonia' in (i) and (ii). There are different ways to formulate this. Carnap, for instance, distinguishes between logical L-rules and extra-logical P-rules of inference. He argues that the validity of extra-logical P-valid inferences depends on the occurrence of a set of descriptive terms. Appropriating some useful Quinean terminology, this could be reformulated in the sense that descriptive terms occur only *vacuously* in formally valid inferences but *essentially* in materially valid inferences.[3] Similarly, two propositions , such as

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[3] The distinction between 'material' and 'formal' consequence dates back at least to medieval logic, and can be traced to the work of William of Ockham and John Buridan. See Read (2012) for a historical discussion. A pertinent question to ask is what flavours of modality are reflected by material inferences. The *locus classicus* for this is the work of Wilfrid Sellars (1953), who argues that logically necessary statements convey *formal* rules of inference, and that physically (or causally) necessary statements convey *material* rules of inference (which Sellars sometimes calls 'extra-logical' rules of inference). Note that Sellars' view does not exclude the possibility that material rules of inference might reflect other kinds of modality as

(ii)   Odysseus is in Ithaca

and

(iii)   Odysseus is in Troy,

are *materially* incompatible given that their incompatibility essentially depends on the occurrence of non-logical expressions ('Odysseus', 'Ithaca' and 'Troy') in the two propositions.

The central semantic idea is thus to represent propositional content in terms of the material consequence and incompatibility relations in which propositions stand. This type of inferentialist ('incompatibility') semantics was elaborated by Brandom (1994) and can be traced back to Sellars' work in the philosophy of language. What is important for our present purposes is that this explication of propositional content allows for a reformulation of the logical expressivist's two central claims as stating that logical vocabulary (1) can be fully elaborated from and (2) is explicative of the material consequence and incompatibility relations that are constitutive of propositional content.

What is it for logical vocabulary to be 'fully elaborated' from these relations? Brandom's most detailed discussion of logical vocabulary is couched in pragmatic terms: his discussion makes use of the notion of an 'algorithmic elaboration' of primitive *abilities* into more complex ones. An example of the latter is the elaboration of the primitive ability of adding into the more complex ability of multiplying numbers. Another example would be the elaboration of the tripartite ability to (1) swap two rows of a matrix, (2) multiply rows of a matrix by a nonzero number, and (3) add a multiple of one row to another, into the more complex ability to solve any system of linear equations (observing the Gaussian elimination method). If one masters (1), (2), and (3), one is able, in principle, to do the latter. As any mathematics student is able to confirm, and as Brandom emphasizes, there is always a degree of idealization involved in algorithmic elaboration (hence the qualification, 'in principle').

Applying this to logical vocabulary, the idea is that the ability to use logical vocabulary can be fully elaborated from the ability to treat claims as (materially) incompatible and inferentially linked. For example, Brandom (2008, pp. 44–47) argues that the ability to use a *conditional* can be elaborated from (1) the ability to treat, in practice, a proposition q as inferentially following from another proposition p (an ability which is necessary for grasping propositional content), and (2) the ability to assert propositions by producing tokenings of these propositions. All that is needed is to connect tokenings of a new form 'if p, then q' to cases in which it is appropriate to treat, in practice, one proposition as inferentially following from another. Similarly, Brandom (2008, pp. 47–48) argues that the ability to use *negation* can be elaborated from our abilities to treat propositions as materially incompatible and our ability to produce tokenings of these propositions.

Brandom both talks about how logical vocabulary is elaborated from the *relations* of material consequence and incompatibility , and how the *ability* to use logical vocab-

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Footnote 3 continued

well. To wit, a modal expressivist might argue that conceptual or metaphysical necessities convey *material* rules of inference. An expressivist account of metaphysical necessities in this vein, according to which metaphysically necessary statements convey such rules of inference, is defended by Thomasson (2020).

ulary can be elaborated from certain basic *abilities* necessary for understanding and articulating propositional content. For Brandom, the incompatibility and inferential relations that constitute propositional content are instituted by our social practices of actually treating claims as incompatible and inferentially linked with one another. This is a normative construal: to treat two claims *p* and *q* as incompatible is to treat *commitment* to *p* as precluding *entitlement* to *q* (and conversely); moreover, to treat *p* as following from *q* is to treat commitment (or entitlement) to *q* as committing (or entitling commitment) to *p*. Commitment and entitlement are normative statuses. For Brandom, a normative pragmatics underlies the incompatibility and inferential relations that articulate propositional content on the semantic level. It is because Brandom regards inferentialist (incompatibility) semantics and normative pragmatics as essentially linked that he talks about both the elaboration of the ability to use logical vocabulary from more basic abilities, and the elaboration of logical vocabulary from the semantic relations of material consequence and incompatibility. However, it is entirely possible for a logical expressivist to characterize logical vocabulary without resorting to the notion of pragmatic abilities. For example, Hlobil states that 'logical vocabulary can be introduced into any language with a well-behaved material consequence relation and incoherence property solely in terms of this consequence relation and incoherence property' (Hlobil, 2016, p. 88). As we shall see, Strawson himself discusses the elaboration of logical vocabulary from incompatibility relations, and not the practical abilities that underpin these relations.[4]

What is it for logical vocabulary to be 'explicative of' the material consequence and incompatibility relations that constitute propositional content? As Brun (2019) has convincingly argued, logical expressivists have failed to elucidate the notion of 'being explicative of' with the necessary clarity, in failing to distinguish it from similar notions, such as Carnap's notion of explication. However, it is possible to reconstruct the bare bones of the logical expressivist account of the explicative role without undue obscurity (see Sect. 4 for further discussion). According to the logical expressivist, logical vocabulary allows one to *explicitly say* something about the relations that articulate propositional content which are *implicitly understood* whenever one is capable of grasping propositional content at all. Given that propositional content is articulated in terms of inferential and incompatibility relations, in order to grasp such content one must be able to treat, in practice, certain inferences as correct, and certain facts as incompatible. The acquisition of logical vocabulary allows one to explicitly talk about what one is doing in treating propositions in the above manner. For example, *negation* allows one to explicitly talk about what one is doing in treating propositions as incompatible; and a *conditional* allows one to talk explicitly about what one is doing when treating one proposition as inferentially linked to another proposition. Owing to his characterization of propositional content in terms of incompatibility and inferential relations, it is unsurprising that Brandom himself takes negation and the conditional to be the two paradigmatic examples of logical vocabulary.

Technical advances have recently been made to develop formal systems that take logical expressivism seriously. Brandom and Aker have developed a formal system in which logical vocabulary is introduced in terms of material incompatibility relations

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[4] One should not take it thereby that Strawson is *opposed* to a characterization in terms of practical abilities.

between sets of atomic sentences (Brandom, 2008, pp. 141–175). One constraint of this system is that its incompatibility relation satisfied the axiom of persistence. This axiom specifies that the incompatibility relation is *monotonic*, which means that adding further claims cannot remove or repair an incompatibility. However, if a logical system is to fulfil the logical expressivist demand for expressing *material* consequence and incompatibility, which are often *nonmonotonic*, it should not build in monotonicity as a constraint on the consequence relation from the outset. Nor should it build in the axiom of persistence as a constraint on the incompatibility relation. Brandom (2018) has argued that the expressive target of logic should not be limited to codifying *mathematical* reasoning but should also encompass more mundane and defeasible reasoning patterns. Hlobil (2016) has recently developed a nonmonotonic substructural logic that takes material consequence and incompatibility as its starting point (see Brandom, 2018 for a discussion of some of these results as well as some further extensions).

What is especially attractive about logical expressivism is that it provides a way 'to avoid a view of logical vocabulary as serving to map the layout of a special domain of facts whose bearing on discursive practice remains mysterious' (Shapiro, 2018, p. 179). The logical expressivist's proposal is exciting because it offers the prospect of a demystifying account of logical vocabulary as something elaborated from more primitive relations or abilities, rather than as a kind of vocabulary which tracks a realm of special facts. This is especially appealing for philosophers who are suspicious of stronger metaphysical proposals.

3 Strawson's philosophy of logic

I now argue that Strawson is a logical expressivist in exactly the sense elaborated above. Like other logical expressivists, Strawson thinks that logical expressions are those expressions which (1) can be fully *elaborated from* what is implicit in propositional content as such, and (2) are *explicative of* what is implicit in propositional content. If I am right, then Strawson represents an important predecessor of contemporary logical expressivism who is completely overlooked in the literature. The historical aim of this paper is to remedy this neglect.

The two central texts that most clearly spell out Strawson's philosophy of logic are his *Introduction to Logical Theory* (1952) (hereafter ILT) and his 1982 article 'Logical Form and Logical Constants' (hereafter LFLC).[5] ILT contains extended philosophical clarifications of the central concepts of logic and how they interconnect. These concepts include logical necessity, entailment and logical form, among others. ILT furthermore contains detailed criticism of philosophical views such as Russell's Theory of Descriptions, a careful analysis of the differences between the meaning of the truth-functional connectives and their ordinary counterparts such as 'and', 'or' and 'if … then' [see also Strawson (1986)] and a defence of traditional syllogistic logic.

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[5] Strawson (2011, p. 242) writes in his 'Intellectual Autobiography' that he had written LFLC 'long before' 1982 but had only used it 'in lectures or seminars'.

Quine's review of the text described this defence as 'the best way of defending the traditional syllogistic' (Quine, 1953, p. 439).

Compared to ILT, LFLC did not receive any notable responses. This is unfortunate because Strawson's discussion of the notion of logical form and logical constants contains much substantive material that does not appear in ILT. LFLC is indispensable to a full understanding of Strawson's philosophy of logic. It provides a clear account of his claim that logical vocabulary can be fully *elaborated* from what is implicit in the nature of a proposition as such. The second defining claim of logical expressivism is that logical vocabulary is *explicative* of propositional content. This claim is also present in LFLC, but appears first in ILT.

At the beginning of LFLC, Strawson briefly considers two characterisations of logical form and logical constants which he takes to be unsatisfactory. The first account he rejects seeks to characterise logical form and logical constants by their *topic-neutrality* (a term traditionally attributed to Ryle). Strawson argues that this characterisation is too vague and that it does not specify a sufficient condition for some expression to count as a logical constant. There 'are many prepositions (to, for, with, by, at), conjunctions (for, since, as, although), adverbs (very, much, rather) which possess topic-neutrality if anything does but which we should certainly not wish to count as logical particles' (Strawson, 1982, p. 144). While he agrees that logical constants *do* have this feature, he takes it to be a criterion of adequacy for his own theory that it should be able to *explain* this feature rather than taking it for granted.[6]

Strawson secondly rejects the view that logical expressions are those expressions in virtue of which statements follow from, are necessarily implied by or are incompatible with other statements. He attributes this view to Arthur Pap. Strawson's response is that such relations of consequence and incompatibility can also be 'generated by the descriptive or non-logical words in sentences' (Strawson, 1982, p. 144). He makes a similar point in ILT: the idea 'that all inferences depend on form alone […] suggest[s] that all entailment-rules, or rules of inference, are formal logicians' rules; and this is false. The rule that "*x* is a younger son" entails "*x* has a brother" is not a logician's rule. The existence of logicians' rules does not render lexicographers' rules superfluous' (Strawson, 1952, p. 54). Strawson's 'lexicographers' rules' are the same as what (Sellars and) Brandom have called '*material* rules of inference' (as opposed to formal rules). Strawson clearly accepts the view that these material rules of inference have an original authority. According to him, logical expressions cannot be defined as those expressions in virtue of which statements can be said to follow (or be incompatible with) one another.

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[6] Strawson is not alone in being dissatisfied with the account of formality in terms of topic-neutrality. MacFarlane (2000, pp. 69–75) notes that topic-neutrality (understood as 'not being about anything in particular') is notoriously vague. It is unclear, for example, whether set theory and arithmetic are topic-neutral. It could be said that they concern specific objects: namely sets and numbers. Dutilh Novaes (2011, p. 316) adds that topic-neutrality might not even specify a necessary condition for demarcating the scope of logic; the development of certain 'logics', such as modal logic, temporal logic or epistemic logic, seem to deal with more specific subject-matters (such as modality, time, knowledge or belief). The least that can be said about topic-neutrality, therefore, is that it should be explicated into something more precise (or into a variety of more precise notions) to understand in what sense(s) logic might be said to be topic-neutral. Different accounts of formality can be seen as offering more precise characterisations along these lines.

Having rejected the accounts of logical form canvassed above, Strawson goes on to outline his own account. He takes the 'imprecisely expressed' idea that logic 'reveals or contains the general essence of propositional thought and language' (Strawson, 1982, p. 145) as his starting point. While he refers to Kant and Boole as predecessors of his way of thinking about logic, he focuses on Wittgenstein's formulation, which occurs in proposition 5.47 of the *Tractatus*:

> One could say that the logical constant was what *all* propositions, by their very nature, had in common with one another. But that is the general propositional form. (Wittgenstein, 1922, 5.47, quoted in Strawson 1982, p. 145)

Strawson emphasizes that his own argumentative strategy '[…] is not intended as an exposition of Wittgenstein's own thought' but consists of 'one possible way of following up the hint contained in his remark' (Strawson, 1982, p. 148). His argumentative strategy centres on the idea that all the material needed to introduce logical expressions is already contained in what is essential to the general nature of the proposition. Because Strawson takes propositions to be what is expressed when we are using language in a fact-stating manner, when 'we are saying *things are in fact this way*' (Strawson, 1982, p. 145), he interchangeably talks about what is essential to the general nature of *propositions* and what is essential to *empirical statements*, which he takes to be the paradigmatic example of our use of language in a fact-stating manner. According to Strawson, two things are essential to the general nature of propositions: (1) the informativeness of a proposition, which entails that a proposition should exclude other propositions and, in other words, stand in relations of incompatibility; (2) the distinction between a particular concept (linguistically expressed by a subject-expression) and a general concept (linguistically expressed by a predicate-expression).

Strawson's central idea is that the constants of standard propositional logical and first-order predicate logic can be fully elaborated from (1) and (2). In sum, Strawson argues that 'standard logic' is 'something in principle excogitatable, though not of course actually excogitated, by pure reflection on the general nature of statement, on what is the least that is necessarily involved in the making of empirically informative statements' (Strawson, 1982, p. 158). His elaboration of the constants of standard propositional logic (Strawson, 1982, p. 148ff) can be reconstructed as follows:

> [1] If anything is to qualify as a proposition it must be informative.
> [2] To be informative, a proposition must stand in relations of incompatibility with other propositions (it must exclude other propositions).
> [3] A relation of *implication* from P_1 and P_2 can be said to hold if and only if P_1 is incompatible with all the propositions that P_2 is incompatible with and perhaps more.
> [4] A relation of *contradiction* between P_1 and P_2 can be said to hold if and only if (a) P_1 is incompatible with P_2, and (b) neither P_1 nor P_2 are incompatible with any proposition P_3 that is also excluded by the other.
> [5] A relation of *disjunction* between P_1 and P_2 can be said to hold if and only if (a) P_1 implies P_3, (b) P_2 implies P_3, (c) P_3 together with not-P_1 implies P_2 and (d) P_3 together with not-P_2 implies P_1. The relations of implication and contradiction used in this elaboration were already elaborated in [3] and [4].

[6] Linguistic devices can be introduced that indicate the occurrence of these relations of implication, contradiction and disjunction.

It is worth examining this elaboration step by step. Strawson's fundamental notion is the notion of the *informativeness* of propositional content. It is on the basis of informativeness that he purports to build the elaboration of the constants of standard propositional logic. This fundamental notion is introduced in [1], and the aim of [2] is to further explicate this notion.

According to a standard (rough) conception of informativeness, an utterance is informative only if the utterer succeeds in fulfilling certain reasonable demands and expectations on the part of the audience, concerning the utterance's (assertoric) content. The expectations-driven kind of informativeness is familiar from Gricean analyses. Strawson, too, contributed to the analysis of conversational norms governing the informativeness of assertions (e.g., Strawson, 1964). In the case of his elaboration of the constants of propositional logic, however, Strawson adverts to a far more general notion of informativeness. The 'notion of exclusion', which he takes to be 'fundamental' (1982, p. 148) to the informativeness of propositions, is explicated in terms of how propositions stand in relations of incompatibility (1982, p. 149). In order for a proposition to be informative, it must exclude, and thus stand in relations of incompatibility to, other propositions. For example, the informativeness of the proposition that

(ii)   Odysseus is in Ithaca

is constituted by the exclusion of propositions, such as the proposition that

(iv)   Odysseus is in Kefalonia,

that are incompatible with it. According to Strawson, the foundation necessary for the elaboration of the constants of propositional logic is the fact that propositions stand in incompatibility relations to one another, which is constitutive of the informativeness of propositions. This is what [1] and [2] elucidate.

Taking the notion of incompatibility as basic, Strawson first elaborates a relation of implication from this fundamental notion of incompatibility in [3]. The idea is that the notion of incompatibility underwrites an implication relation, in the sense that one proposition P_1 can be said to *imply* P_2 if and only if P_1 is incompatible with everything that P_2 is incompatible with, and perhaps more. An example is the implication relation from the proposition that

(ii)   Odysseus is in Ithaca

to

(v)   Odysseus is in Greece,

given that (ii) is incompatible with every proposition that (v) is incompatible with (and more). For example, (ii) is incompatible with every proposition excluded by (v), such as the proposition that Odysseus is in Cuba. It is however permissible for (ii) to be incompatible with more propositions than (v) is incompatible with, such as the proposition that Odysseus is in Kefalonia, which is incompatible with (ii) but compatible with (v).

What is important to notice is that, although Strawson proposes to elaborate the logical constants of standard propositional logic, the relation of implication he elaborates from incompatibility relations in [3] is not the same as the relation of *material implication* in standard propositional logic. For example, the material implication from

(vi)　Odysseus is a Trojan king

to

(vii)　Odysseus is a lion

is true, because the antecedent proposition is false. According to the definition in [3], however, the implication from (vi) to (vii) does not hold. The reason is that there is a proposition incompatible with the consequent (e.g., 'Odysseus is human') that is nevertheless compatible with the truth of the antecedent. Therefore, at least one relation of implication that can be elaborated from what is implicit in the general nature of propositions is *not* the material implication relation of standard propositional logic. While Strawson does not make this observation himself, it is unlikely that he was not aware of this. Strawson has, on numerous occasions, criticized the material implication interpretation of conditional sentences in English (see Strawson, 1952, pp. 82–90, Strawson, 1986). Nevertheless, this is an important nuance to make and a point that is not emphasized by Strawson himself.[7]

In [4], a relation of contradiction or negation is elaborated from the fundamental notion of incompatibility. According to Strawson, there are two conditions for P_1 and P_2 to be each other's negations. The first condition is that P_1 and P_2 are incompatible. The second condition is that P_1 and P_2 are each compatible with any proposition excluded by the other. That is, P_1 is compatible with any proposition incompatible with P_2, and P_2 is compatible with any proposition incompatible with P_1. The second condition aims to capture the Principle of Excluded Middle. Whereas 'S is red' and 'S is blue' are incompatible, 'S is red' and 'S is *not* red' are each other's negations, because 'S is red' is compatible with everything excluded by 'S is *not* red' (namely itself, 'S is red'), and 'S is *not* red' is compatible with any proposition that is incompatible with 'S is red', e.g., 'S is blue', 'S is green', etc.

A similar explanatory strategy of unpacking negation in terms of incompatibility is pursued by Peacocke (1987) and Brandom (2008). Peacocke argues that ' ~ A is the weakest condition incompatible with A' (Peacocke, 1987, p. 163), and Brandom claims that a 'sentence *q* is the negation of *p* just in case *q* is the *minimal* incompatible of *p*: the one entailed by everything else incompatible with it.' (Brandom, 2008, p. 126) Although Brandom and Peacocke prefer the order of explaining negation in terms of incompatibility, it is possible to reverse the order of explanation. Brandom notes that incompatibility can equally be explained in terms of negation (or contraries in terms of contradictories), given that 'for *Q* to be a contrary of *P* is for *Q* to imply *P*'s contradictory, *not-P*' (Brandom, 2019, p. 143).

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[7] It is worth noting that Brandom follows a similar strategy in defining a notion of entailment in terms of incompatibility. According to Brandom, '*p* incompatibility-entails *q* just in case everything incompatible with *q* is incompatible with *p*' (Brandom, 2008, p. 121). In response, Restall (2008) has argued that such relation of entailment cannot have a place in an intuitionistic logic, as it can be shown that it validates the double negation elimination rule.

Similar to Peacocke and Brandom, Strawson explains negation in terms of incompatibility. However, he does not make the *stronger* claim that this is the only order of explanation that can be pursued. Given that negation can be defined in terms of incompatibility, and conversely, debates about *which* order of explanation is *better* must specify the further constraints determining what counts as a *good* explanation. It is possible to argue that the order of explanation should be in line with a plausible genealogical account of how language actually evolved. If this is granted, then it seems reasonable to think that the ability to regard facts (or actions) as incompatible is a more primitive ability than the more sophisticated ability to treat a claim as the contradictory of another claim. Moreover, if the order of explanation is to track the order of understanding, it seems justified to take it that the capacity to treat claims (or actions) as incompatible is more fundamental. Peacocke hints at an argument in a similar vein, when he writes that what it 'is primitively obvious to anyone who understands negation is just that ~ A is incompatible with A.' (Peacocke, 1987, p. 163) Similarly, Price argues that a truth-functional account of the incompatibility between *P* and *Q* in terms of the negation of the conjunction of *P* and *Q* 'clearly depends on our knowing that truth and falsity are incompatible. If we do not have a sense of *that*, the truth tables for negation give us no sense of the connection between negation and incompatibility.' (Price, 1990, p. 226) Both quotes seem to suggest that incompatibility is more fundamental than negation, in the sense that a (perhaps practical) *understanding* of incompatibility is more fundamental than, and presupposed by, the more sophisticated ability of treating claims as each other's negations. I return to this issue in greater depth in the following section.

In [5], Strawson elaborates a relation of *disjunction* from the relations of implication and contradiction (or negation) he already elaborated. While Strawson does not mention *conjunction*, it is easy to define conjunction (as well as the material implication relation) in terms of disjunction and negation. This follows from the well-known fact of the interdefinability of logical constants.

The last step, [6], introduces 'linguistic devices' which explicitly express the relations that have been elaborated from the fundamental notion of incompatibility. While these devices are the well-known symbols of standard propositional logic (except for the symbol which makes explicit the first implication relation Strawson elaborated—cf. supra), there are clear differences between the meanings of these symbols and their counterparts in natural language. Whereas the natural language expression 'and' can be used to couple nouns and adjectives, '∧' (in propositional logic) only couples propositions. And the differences between the meanings of material implication relation and English 'if … then' sentences are well-known. While Strawson devotes (1952, pp. 78–93) quite some time in accentuating these differences in his ILT, he also claims that there is 'some degree of interpenetration of meanings of the interpreted expressions of the system and of ordinary speech respectively.' (Strawson, 1952, p. 78) Given this interpenetration, it is open to Strawson to claim that these natural language expressions also have the function of expressing relations that can be elaborated from what is implicit in the informativeness of propositional content, though they might have different jobs as well.

Strawson's elaboration of quantification devices uses the claim that a proposition must be informative and the claim that the distinction between a specification of a

particular concept and a specification of a general concept is essential to the nature of a proposition. If we accept these claims, the devices can be elaborated as follows:

[1'] There is a set S of propositions in each of which the same general concept is predicated of a different particular.
[2'] The statement which is implied by any member of S (and not implied by any member of any other set S') is to be labelled as the statement which expresses the 'highest common factor' of S.
[3'] A linguistic device is to be introduced which exhibits this schema of existential quantification. With the introduction of the negation operator, we can also introduce a notion of universal quantification.

Here it should be noted that, for Strawson's elaboration of the quantifiers of first-order predicate logic to work, one must not only accept the essential informativeness of propositional content but also defend the claim that there is an essential distinction between subject and predicate. However, the claim that this distinction *is* in fact fundamental is not uncontroversial. Ramsey, for instance, famously states that 'there is no essential distinction between the subject of a proposition and its predicate, and no fundamental classification of objects can be based upon such a distinction' (Ramsey, 1950, p. 116). MacFarlane raises a related issue in his discussion of Brandom's logical expressivism: 'if quantifiers are to count as logical, on Brandom's view, it must be the case that any autonomous discursive practice must include subsentential structure. But why should that be the case?' (MacFarlane, 2008, p. 58)

Neither LFLC nor ILT contain a sustained defence of the subject/predicate distinction. However, it would be incorrect to conclude that Strawson has nothing to say on the matter. On the contrary, the distinction between subject and predicate (or between particular and universal) is probably the topic that he considers the most important. He returns to the subject repeatedly in both his early and later writing.[8] This lies beyond the scope of this paper, but a full defence of Strawson's logical expressivism would need to defend this fundamental distinction against objections.

It is useful to summarise the general strategy Strawson is pursuing before going into further detail. Strawson aims to characterise and clarify the notion that logical constants are those constants which can, in principle, be fully elaborated from what is implicit in propositions as such:

We might say that the result allows us to think of standard logic as something in principle excogitatable, though not of course actually excogitated, by pure reflection on the general nature of statement, on what is the least that is necessarily involved in the making of empirically informative statements. (Strawson, 1982, p. 158)

This perfectly corresponds to the logical expressivist's first criterion for logical vocabulary: the 'L' ('elaborated') in the characterisation of logical vocabulary as a universal LX vocabulary. The 'X' condition also seems to be fulfilled. Strawson writes:

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[8] See for example Strawson (1953), the second part of Strawson (1959) and Strawson (1961, 1970b, 1974).

> They are to be forms or devices whose force can be wholly explained in terms
> of the ways in which they exhibit or indicate (though they do not affirm) the
> incidence of certain of these relationships. (157)
> […] devices of which the meaning is given by saying that their force is precisely
> that of exhibiting propositions as standing in such relations. (159)

Strawson defends the same view in ILT. Here he calls the logician's vocabulary
a second-order vocabulary. Whereas a first-order vocabulary is used to describe
(worldly) facts, a second-order vocabulary is used to logically appraise the relations
between statements themselves. As with his treatment in LFLC, Strawson takes the
primitive notion of logical appraisal to be *inconsistency*. He argues that whenever
we apply a predicate, 'we implicitly exclude from application to it any predicates
incompatible with that which we apply' (Strawson, 1952, p. 7). Strawson further adds
that

> When we notice that this function of exclusion is implicit in all descriptive uses
> of language, we should not find it surprising that language contains devices for
> rendering the function explicit; devices of which, in English, the word 'not' is
> the most prominent. (Strawson, 1952, p. 7)

Similar passages can be found throughout ILT. In combination with the quoted
passages from LFLC, this yields robust evidence that Strawson thought of logical
vocabulary as a (second-order) vocabulary whose function is to render explicit what
is implicit in propositional content. Sometimes he talks about 'statements', while at
other times, as in the above quote, he refers to 'all descriptive uses of language'.

   This concludes my case for regarding Strawson as a logical expressivist *avant la
lettre*. In the following sections, I outline some challenges to his approach and propose
several necessary clarifications.

4 The meaning and function of logical vocabulary

So far I have argued that Strawson is a logical expressivist. He argues that logical
vocabulary (1) is explicative of, or expresses, what is implicit in propositional content,
and (2) can be elaborated from what is implicit in propositional content. The current
section investigates in greater depth the content of the claim that logical vocabulary is
explicative of what is implicit in propositional content. One worry is that the notion
of logical vocabulary having the expressive role of 'making something explicit' is not
sufficiently clear. This is an unresolved issue in Strawson. He gestures towards the
claim that logical constants 'exhibit or indicate (though they do not affirm) [the rela-
tions in which propositions stand in order to be informative]' (Strawson, 1982, p. 157)
but does not make this idea of 'exhibiting' or 'indicating' more precise. Strawson
is not the only philosopher insufficiently clear about this point. As Brun (2019) has
recently argued, other logical expressivists, such as Peregrin and Brandom, similarly
failed to make clear what this expressive role really amounts to.

   To clarify the expressive role attributed to logical vocabulary, it is useful to look at
the example of (sentential) negation. Strawson argues that negation can be elaborated

from the incompatibility relations in which propositions always already stand. As I observed, a similar strategy of explaining negation in terms of incompatibility is pursued in Peacocke (1987) and Brandom (2008). Another example is Huw Price, who argues that 'negation [can] be explained in terms of the primitive notion of incompatibility' (Price, 1990, p. 228). Price's account is interesting because he provides two possible genealogies of how negation developed from the more primitive ability to treat things or situations as incompatible. He calls the first genealogy 'the *active* account': this account locates our grasp of incompatibilities in our experiences as agents. Price makes the case that the capacity to grasp choices or decisions presupposes a grasp of different options as being incompatible, further arguing that '[o]nce language comes to be associated with the activity of agents, there is thus a need for negation in formulating, offering, and expressing choices' (226). Negation here arises in the *active* part of our language, which Price also calls the non-descriptive part.

Price's second genealogical account centres on the role our grasp of incompatibilities plays in our *descriptive* use of language. Price locates the evolutionary origin of this use of language in our early systems of signals indicating the presence of things that are important to the social group (such as danger or the availability of food). Price argues that to understand these signals *as* signals one must have some grasp of the incompatibility between the conditions under which it is appropriate to signal and the conditions under which it is inappropriate to do so:

> For the moment, however, the important thing is that even such a basic linguistic task as that exemplified by our signalling ancestors contains the materials on which to build negation. To signal significantly one needs to be capable of discrimination. One needs to signal in some circumstances and remain silent in others. One needs a sense that these are mutually exclusive possibilities. (227)

The idea is that the acquisition of the lexical item of negation allows a language-user to explicitly *deny* what she could previously only practically and implicitly reject. Concerning the active, non-descriptive part of language, this amounts to an agent's ability to explicitly deny that she intends to φ rather than to ψ (with φ-ing and ψ-ing being incompatible actions). Regarding the descriptive part of language, this amounts to an agent's ability to explicitly deny the presence of food or danger, rather than implicitly asserting it by remaining silent.

I take Price's second account to be very much in line with Strawson's theory that the 'function of exclusion is implicit in all descriptive uses of language', and the claim that 'we should not find it surprising that language contains devices for rendering the function explicit; devices of which, in English, the word "not" is the most prominent' (Strawson, 1952, p. 7). Price's account adds more substance to Strawson's. Price is also in accordance with Brandom's claims that logical vocabulary allows one to explicitly *say* what one could previously only implicitly *do*. The acquisition of negation allows one to explicitly deny what one could previously only implicitly reject in practice. This is the expressive role that negation plays in our language.

A new challenge is posed by this initial clarification, however. There is a familiar argument against accounts regard see negation as a marker of denial.[9] For example, if a negation is embedded in a conditional such as

(viii) If Odysseus is not in Ithaca, he is on an adventure,

then it would be incorrect to claim that the 'not' in the antecedent of (viii) plays the role of marking the explicit denial of 'Odysseus is in Ithaca'. Uttering (viii) is compatible with other attitudes towards the antecedent. A speaker might not know where Odysseus is and therefore neither wish to endorse or deny that Odysseus is in Ithaca. Instead, the speaker might simply wish to imagine what else would follow from the fact that Odysseus is not in Ithaca.

It would therefore be incorrect to claim that the *meaning* of 'not' is to explicitly mark a denial. It will not do either to claim that the meaning of 'not' in embedded cases differs from its meaning in unembedded cases. If this were the case, the argument from

(viii) If Odysseus is not in Ithaca, he is on an adventure,

and

(ix) Odysseus is not in Ithaca

to

(x) Odysseus is on an adventure

would be invalid on grounds of equivocation. Given that there does not seem to be anything wrong with this argument, the above response will not help the logical expressivist.

The logical expressivist has a far better response to the problem, however. A key distinction must be made between the *meaning* and the *function* of logical vocabulary. I argue that the logical expressivist's emphasis on the expressive role is an answer to the question concerning the proper *function* of logical vocabulary. To work, it must be supplemented by a *logical inferentialist* response to the question concerning the meaning of logical vocabulary. Recent logical expressivists usually endorse logical inferentialism, the view that the meaning of logical expressions is fully determined by their inferential role. The inferential role is usually specified in terms of the introduction and elimination rules in a natural deduction system, or in terms of their 'circumstances and consequences of application'. Further questions arise as to which specific features of our *use* of language constitute the meaning of logical expressions: *unilateralists* argue that the assertion conditions suffice, *bilateralists* argue that both assertion and rejection conditions must be taken into account.[10]

So the logical expressivist's emphasis on the *expressive* role of logical vocabulary should be seen as an answer to a question about the *function* of logical vocabulary.

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[9] This argument is often attributed to Frege. See Geach 1965 for a classic formulation.

[10] See Ripley (2017) for an overview and discussion of some central issues in the debate. Ripley distinguishes not only between unilateralism and bilateralism but also between coherence-based and warrant-based conceptions. Ripley argues that warrant-based conceptions face huge difficulties in capturing disjunction and that unilateralism has difficulties in accounting for negation. Unilateralism is defended by Dummett (1976). Bilateralism is defended by Restall (2005), Rumfitt (2000), Smiley (1996).

What construal of 'function' is at stake here? One influential distinction is made by Preston ([1998](#)), who distinguishes between the notions of *proper function* and *system function*. The notion of a *proper function* was developed in detail by Millikan ([1984](#), [1989](#)), and gives a causal-historical account of functional explanation. In rough outline, an item *x* has a proper function F only if x is a reproduction of some prior item that has performed F, and exists because of performing F.[11] In other words, the *proper function* of *x* (where *x* might refer to a biological trait but also to linguistic devices) has to do with the function that its specific evolutionary and historical trajectory has selected *x* to perform. This account differs from a *system function* account, which does not refer to the particular history of a function, but only to a system's current capacities and dispositions.

Price's genealogical account of the expressive function of negation seems naturally to fit with the historical account that the notion of a proper function aims to represent. There are two main advantages of characterizing the expressive role of negation as an answer to the question about the *function* of negation, rather than its meaning. First, the Frege/Geach problem does not pose a challenge for expressivist accounts about the proper function of logical vocabulary. The reason is that there is nothing mysterious about the fact that certain items (tools, biological traits, linguistic devices, etc.) can be used in different ways in order to fulfil different functions, possibly differing from their *proper* functions, i.e., the function they were originally selected to fulfil. So even if there are *uses* of negation in which it does not mark an actual incompatibility (in embedded cases), it remains the case in principle that adding negation to one's language allows one to do something that one could not do without negation (that is, to explicitly mark an incompatibility).

Another advantage is that this characterization sheds light on the *kind* of explanation logical expressivists have in view. As I observed in Sect. [3](#), Strawson's (and other logical expressivists') choice for defining negation and the other logical constants in terms of incompatibility is especially attractive for those who want the explanation to be consonant with a genealogical account of how more complex abilities (for example the more sophisticated ability to use negation) are evolved in terms of more primitive abilities to treat certain facts or choices as incompatible. For this reason, it is not surprising that many logical expressivists are sympathetic to certain varieties of pragmatism and naturalism.

While I have argued that the question about the meaning of logical vocabulary should be distinguished from the question about the proper function of logical vocabulary, both questions overlap in interesting ways. I will give two illustrative examples. First, the meaning analysis of logical expressions must be informed by our answer to the function question, in the sense that the inferential rules that constitute the meaning of logical expressions should *allow* the logical expressions to play their expressive role. Williams ([2015](#)) developed the central elements of a kind of *functional analysis* to capture this idea. According to him, an adequate account of the function of a certain expression (or vocabulary in general) must *rationalize* the meaning analysis, and correspondingly, the meaning analysis must *enable* the expression to fulfil its function. Deflationists about truth, for instance, might argue that the function of a truth-predicate

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[11] See Millikan ([1984](#), pp. 17–51) and Millikan ([1989](#)) for much more detailed discussions.

is to be used as a device of generalisation. It allows one to say that 'Everything the Oracle of Delphi says is true' and by doing so to endorse all claims by the Oracle of Delphi without having to know every claim she has ever made. Thomasson (2020) pursues a similar strategy. She defends an expressivist view of metaphysical modality according to which the function of metaphysically possible or necessary claims is to express the metalinguistic rules that govern our terms, while remaining at the level of the object language. This answer to the question about the function of modal discourse is then supplemented with an inferentialist account of the *meaning* of modal claims, which allows such claims to fulfil the function of expressing metalinguistic rules. Similarly, I argue that the logical expressivist should combine (1) a commitment to logical inferentialism, as an answer to the question about the *meaning* of logical expressions, with (2) an expressive story about the *function* of logical vocabulary. A methodological constraint can be subsequently explicated, to the effect that the inferentialist account of the meaning of logical expressions should allow these expressions to fulfil their proper functions.

Second, the expressivist answer to the function question offers another reason for endorsing a traditional response to a prominent objection to logical inferentialism. Prior (1960) famously points out that if the only constraints on the meanings of logical expressions should be that they are governed by introduction and elimination rules in a natural deduction system, one can simply introduce a new connective, 'tonk'. Tonk has the introduction rule proper to disjunction (which permits the inference from 'A' to 'A tonk B') and the elimination rule proper to conjunction (which permits the inference from 'A tonk B' to B). This connective allows us to draw any arbitrary inferences from A to B, potentially trivialising the logical inferentialist proposal. The traditional response to Prior's objection is to argue for the further condition that the extension of language through the introduction of new logical vocabulary should be *conservative*. This means that the rules governing the newly introduced logical expressions should not license any inferences involving only the old vocabulary that were not already permitted before the language was extended.[12] The logical expressivist offers a good reason why we would want such conservativeness to constrain the rules that constitute the meaning of logical expressions. After all, if logical expressions are to have the *expressive* function logical expressivists ascribe to them, then the expressions should do exactly that: *express* and not violate the underlying relations of consequence and incompatibility (cf. Brandom, 2000, p. 68).

To sum up, I have argued, firstly, Strawson's central claim, endorsed by other logical expressivists, that logical vocabulary is *expressive of* what is implicit in propositional content, ought to be understood as an answer to the question about the *function* of logical vocabulary, rather than the *meaning* of logical vocabulary. Secondly, I argued that a natural way to account for the *meaning* of logical vocabulary is to adopt a logical inferentialist view, which specifies the meaning of logical vocabulary in terms of their introduction and elimination rules. Thirdly, I argued that a natural way to account for the *function* of logical vocabulary is to understand it in terms of Millikan's notion of a *proper function*, and I briefly discussed two advantages of this approach. Lastly, I

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[12] This traditional response is originally found in Belnap (1962). See Steinberger (2011) for a more recent discussion on harmony.

argued that questions about the meaning and function of logical vocabulary relate in at least two interesting ways.

5 Semantic inferentialism and logical expressivism

Let *logical inferentialism* be the view that the meanings of logical expressions are fully determined by their inferential role. This role is usually specified in terms of the introduction and/or elimination rules for a logical expression in a natural deduction system.[13] Let *semantic inferentialism* then be a more ambitious kind of inferentialism which extends this idea to capture the meaning of non-logical expressions as well as logical expressions. This was first suggested by Sellars (1953), but Brandom's semantic inferentialism (1994) remains the most sophisticated attempt to represent the meaning of linguistic expressions in terms of their inferential role. A key question now arises: what is the connection between logical expressivism and semantic inferentialism? Most importantly, does one need to be a semantic inferentialist to be a logical expressivist?

The answer depends on how logical expressivism is defined. Unfortunately, logical expressivists are not entirely clear on this. Brandom has recently defined logical expressivism as 'the view that the expressive role that distinguishes logical vocabulary is to make explicit the inferential relations that articulate the semantic contents of the concepts expressed by the use of ordinary, nonlogical vocabulary' (Brandom, 2018, p. 70). The link is very strong here between semantic inferentialism and logical expressivism. On other occasions, however, there are reasons to doubt whether Brandom wants to say that logical expressivism and semantic inferentialism are inseparable. In *Between Saying and Doing*, he claims that his semantic inferentialist project in *Making It Explicit* and his logical expressivist work in *Between Saying and Doing* 'are largely orthogonal enterprises' (Brandom, 2008, p. xiii). Although he emphasises that both works discuss 'the nature of logic and its role in philosophy', he is more reluctant to stress the link between both views. He clearly thinks that semantic inferentialism and logical expressivism naturally fit together, but he does not clarify whether he takes the two positions to be inseparable.

Hlobil (2016) has developed an expressivist, substructural (nonmonotonic) logic in collaboration with Brandom. This logic takes a material consequence relation as its primitive. Hlobil too defines logical expressivism without any reference to semantic inferentialism. Hlobil stresses a *link* with semantic inferentialism, but his proposed definition of logical expressivism itself does not involve such a link. He writes:

> Logical expressivism is the thesis that (i) logical vocabulary can be introduced into any language with a well-behaved material consequence relation and incoherence property solely in terms of this consequence relation and incoherence property, and (ii) the thus introduced vocabulary allows us to form sentences that

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[13] On Dummett's two-sided model of meaning, introduction rules correspond to an expression's circumstances of application. Elimination rules correspond to an expression's consequences of application. Introduction and elimination rules both matter, therefore. See Dummett (1973, p. 396) for a formulation of this account. Gentzen (1969) pursues another approach, suggesting that we treat the introduction rules (and not the elimination rules) as constitutive of the meaning of logical expressions.

make explicit facts about the underlying (and also the extended) consequence relation and incoherence property. (Hlobil, 2016, p. 88)

While (i) corresponds to the idea that logical vocabulary can be elaborated from relations of material consequence (and incompatibility), and (ii) corresponds to the idea that logical vocabulary *expresses* these relations (while staying in the object-language), Hlobil's definition does not include the further statement that the relations of material consequence (and incompatibility) specified in (i) are also constitutive of the propositional content paradigmatically expressed by declarative sentences.

Unlike Brandom, Strawson is not a semantic inferentialist. He does not develop a systematic theory of meaning centred on a primitive explanatory notion of (material) inference and incompatibility. Strawson does however write about different theories of meaning. His inaugural lecture on 'Meaning and Truth', delivered in 1969 after succeeding Gilbert Ryle as the Waynflete Professor of Metaphysical Philosophy at the University of Oxford, contains his most sustained analysis of meaning and its relation to truth. Strawson argues that the explanatory potential of elucidating the concept of meaning in terms of the concept of truth is limited. In 'Meaning and Truth', Strawson discusses the 'Homeric struggle' between 'theorists of formal semantics' and 'theorists of communication-intention' (1970a, p. 132). The former group aims to elucidate the notion of meaning in terms of truth-conditions and claims that reference to the function of communication is non-essential for such an elucidation. The latter group argues that an elucidation of the notion of meaning is impossible 'without reference to the possession by speakers of audience-directed intentions of a certain complex kind' (132). Strawson's essay attempts to show that the communication-intention theorists are right. He writes the following concerning the explanatory potential of the concept of truth:

> … [i]t is indeed a generally harmless and salutary thing to say that to know the meaning of a sentence is to know under what conditions one who utters it say something true. But if we wish for a philosophical elucidation of the concept of meaning, then the dictum represents, not the end, but the beginning, of our task. (144)

Strawson's main argument is sketchy, but it proceeds roughly as follows. He begins by observing that if the notion of meaning is to be elucidated in terms of truth-conditions, then the prior notion of truth must be elucidated accordingly. Second, Strawson claims that a speaker S 'makes a true statement if and only if things are as, in making that statement, he states them to be' (Strawson, 1970a, p. 138). He argues that this inevitably leads to the need to say something about *what* it is that has been stated in making a true statement. Thus 'we are led, by way of the notion of truth, back to the notion of the *content* of such speech acts as stating, expressly supposing, and so on' (139). Third, to avoid a circle this cannot be elucidated in terms of truth again. It instead requires a clarification of 'the notions of those speech acts themselves' (139). Such a clarification is to be provided in terms of the speaker's audience-directed intentions. Strawson concludes that 'we know nothing of human *language* unless we understand human *speech*' (145).

Whatever one thinks of this argument's merits, Strawson himself is clearly sceptical of the explanatory potential of philosophical approaches to meaning in terms of truth.[14] As with Brandom's claim that 'semantics must answer pragmatics', Strawson thinks that a good philosophical account of meaning should pay attention to the actual speech acts we perform when *using* sentences with certain purposes. Unlike Brandom, Strawson does not have the ambition to develop a systematic theory of meaning. He certainly does not aim at a theory expressed in terms of a more basic notion of (material) inference and incompatibility on the semantic side and the normative statuses of commitment and entitlement on the side of pragmatics. As we have seen, however, Strawson does think that material inferences are *genuine* inferences, and he also thinks that the relations of material incompatibility are implicit in the idea of informative propositional content as such. Moreover, he thinks that a study of meaning cannot be carried out without paying attention to our actual practices of communication. Putting these strands together, a philosopher sympathetic to Strawson's argument would take it as demonstrated that the practical mastery of rules of inference and incompatibility is indispensable for the mastery of a given language.

While logical expressivism and semantic inferentialism fit together quite naturally, they are by no means inseparable. It remains open to propose an order of explanation which explicates the notion of propositional content in terms of the notion of truth, rather than inference and incompatibility, while remaining in agreement that a necessary condition for the informativeness of propositions is that they should stand in relations of incompatibility to other propositions. Consequently, logical vocabulary can be defined as having the dual character of being elaborated from what is implicit in the informativeness of propositions and being explicative of what can be elaborated from what is implicit in it. One might go as far as to argue that the notions of truth and falsity, and that of incompatibility, are too fundamental and too essentially interrelated for one order of explanation to be conclusively preferable over the other. I emphasise that specifying individual truth-conditions is always a specification of individual truth-conditions *rather than* another set of truth-conditions. While Strawson does not advance this argument himself, I think that an account along these lines is certainly in the spirit of many of his other writings, reminding us repeatedly that we can justifiably aim to bring to light the fundamental concepts within our conceptual scheme, while resisting the urge to *reduce* one fundamental concept in terms of the other. To these ends, Strawson encourages us to imagine 'the model of an elaborate network, a system, of connected items, concepts, such that the function of each item, each concept, could, from the philosophical point of view, be properly understood only by grasping its connections with the others, its place in the system—perhaps better still, the picture of a set of interlocking systems of such a kind.' (Strawson, 1992, p. 19)

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[14] In 'Truth-conditions and Communication' (1995), Ian Rumfitt elaborately discusses Strawson's main argument. Rumfitt criticises Strawson's analysis of the speech act of *informing* which Strawson takes to be an essential part of the proper analysis of meaning.

6 Conclusion

I have done three things in this paper. First, I have presented evidence for the claim that there is a clear sense in which Strawson is a logical expressivist. Second, I have argued that despite the historical and philosophical interest of this claim, his views on the nature of logical vocabulary face several challenges. Third, I have addressed some of these challenges by offering possible responses. These responses are only initial steps towards the construction of a logical expressivist position that is a worthy contender in the contemporary debate; the development of a full-blown account lies outside the scope of this paper. I firmly believe, however, that the two basic tenets of logical expressivism—that logical vocabulary is *explicative of*, and can be *elaborated from*, what is implicit in propositional content—are exciting. They should lie at the heart of any demystifying (yet positive) approach concerning the problem of demarcation in the philosophy of logic.[15]

References

Asmus, C., & Restall, G. (2012). History of Logical Consequence. In D. Gabbay, F. J. Pelletier, & J. Woods (Eds.), *Volume 11 of The Handbook of the History of Logic* (pp. 11–62). North-Holland.

Belnap, N. D. (1962). Tonk, plonk and plink. *Analysis, 22*, 130–134.

Brandom, R. (1994). *Making It Explicit*. Harvard University Press.

Brandom, R. (2000). *Articulating reasons: An Introduction to Inferentialism*. Harvard University Press.

Brandom, R. (2008). *Between saying and doing*. Oxford University Press.

Brandom, R. (2018). From logical expressivism to expressivist logic. *Philosophical Issues, 28*, 70–88.

Brandom, R. (2019). *A spirit of trust. A reading of Hegel's phenomenology*. Harvard University Press.

Brun, G. (2019). Logical expressivism, logical theory and the critique of inferences. *Synthese, 196*, 4493–4509.

Dam, G. B., Van De Westerlo, E. M., Purushothaman, A., Stan, R. V., Bulten, J. et al (2007) Antibody GD3G7 selected against embryonic glycosaminoglycans defines chondroitin sulfate-E domains highly upregulated in ovarian cancer and involved in vascular endothelial growth factor binding. *The American journal of pathology, 171*, (4):1324-1333. https://doi.org/10.2353/ajpath.2007.070111

Dummett, M. (1973). *Frege: Philosophy of language*. Harvard University Press.

Dummett, M. (1976). What is a theory of meaning? (II). In G. Evans & J. McDowell (Eds.), *Truth and meaning: Essays in semantics* (pp. 67–137). Clarendon.

Dutilh Novaes, C. (2011). The different ways in which logic is (said to be) formal. *History and Philosophy of Logic, 32*, 303–332.

Etchemendy, J. (1988). Tarski on truth and logical consequence. *Journal of Symbolic Logic, 53*, 51–79.

Geach, P. T. (1965). Assertion. *The Philosophical Review, 74*, 449–465.

Gentzen, G. (1969 [1936]). Investigations Into Logical Deduction. In M. Szabo (ed.), *The Collected Papers of Gerhard Gentzen*, pp. 68–128. Amsterdam: North-Holland.

Hlobil, U. (2016). A nonmonotonic sequent calculus. In P. Arazim & M. Dančak (Eds.), *The Logica Yearbook 2015* (pp. 87–105). College Publications.

MacFarlane, J. (2000). *What Does It Mean To Say That Logic Is Formal?* PhD Dissertation, University of Pittsburgh.

MacFarlane, J. (2008). Brandom's Demarcation of Logic. *Philosophical Issues, 36*, 55–62.

Millikan, R. (1984). *Language, thought, and other biological categories: New foundations for realism*. MIT Press.

Millikan, R. (1989). In defense of proper functions. *Philosophy of Science, 56*, 288–302.

Peacocke, C. (1987). Understanding logical constants: A realist's account. *Proceedings of the British Academy, 73*, 153–199.

Peregrin, J. (2014). *Inferentialism: Why rules matter*. Palgrave Macmilan.

Preston, B. (1998). Why is a wing like a spoon? A pluralist theory of function. *Journal of Philosophy, 95*, 215–254.

Price, H. (1990). Why 'Not'? *Mind, 99*, 221–238.

Prior, A. N. (1960). The runabout inference-ticket. *Analysis, 21*, 38–39.

Quine, W. V. (1953). Mr. Strawson on Logical Theory. *Mind, 62*, 433–451.

Ramsey, F. (1950 [1925]). Universals. In R.B. Braithwaite (ed.), *The Foundations of Mathematics and Other Essays*, pp. 112–134. London: Routledge & Kegan Paul Ltd.

Read, S. (2012). The Medieval Theory of Consequence. *Synthese, 187*, 899–912.

Restall, G. (2005). Multiple Conclusions. In P. Hájek, L. Valdés-Villanueva, D. Westerståhl (eds.), *Logic, Methodology, and Philosophy of Science: Proceedings of the Twelfth International Congress*, pp. 189–205. London: College Publications.

Restall, G. (2008). Assertion, denial, commitment, and incompatibility (and some consequence). *Studies in Logic* pp. 26–36.

Ripley, D. (2017). Bilateralism, coherence, warrant. In F. Moltmann & M. Textoy (Eds.), *Act-based conceptions of propositional content: Contemporary and historical perspectives* (pp. 307–324). Oxford University Press.

Rumfitt, I. (1995). Truth conditions and communication. *Mind, 104*, 827–862.

Rumfitt, I. (2000). Yes" and "No. *Mind, 109*, 782–823.

Sellars, W. (1953). Inference and meaning. *Mind, 62*, 313–338.

Shapiro, L. (2018). Logical Relations and Logical Expressivism. In O. Beran, V. Kolman, & L. Koreň (Eds.), *From rules to meaning. New essays on inferentialism* (pp. 179–195). New York: Routledge.

Smiley, T. (1996). Rejection. *Analysis, 56*, 1–9.

Steinberger, F. (2011). What harmony could and could not be. *Australasian Journal of Philosophy, 89*, 617–639.

Strawson, P. F. (1952). [ILT] *Introduction to Logical Theory*. Routledge.

Strawson, P. F. (1953). Particular and general. *Proceedings of the Aristotelean Society, 54*, 233–260.

Strawson, P. F. (1959). *Individuals. An essay in descriptive metaphysics*. Methuen.

Strawson, P. F. (1961). Singular terms and predication. *Journal of Philosophy, 58*, 393–412.

Strawson, P. F. (1964). Identifying reference and truth-values. *Theoria, 30*, 96–118.

Strawson, P.F. (1971a [1970a]). Meaning and truth. In P.F. Strawson, *Logico-linguistic papers*, pp. 131–146. London: Methuen.

Strawson, P.F. (1971b [1970b]). The asymmetry of subjects and predicates. In P.F. Strawson, *Logico-linguistic papers*, pp. 73–89. London: Methuen.

Strawson, P. F. (1974). *Subject and predicate in grammar and logic*. Methuen.

Strawson, P.F. (1992). *Analysis and Metaphysics.* Oxford University Press.

Strawson, P.F. (1997a [1982]). [LFLC] Logical form and logical constants. In P.F. Strawson, *Entity and identity and other essays*, pp. 142–161). Oxford: Oxford University Press.

Strawson, P.F. (1997b [1986]). 'If' and '⊃'. In P.F. Strawson, *Entity and identity and other essays*, 162–178. Oxford: Oxford University Press.

Strawson, P. F. (2011). Intellectual autobiography. In P. F. Strawson (Ed.), *Philosophical writings* (pp. 227–247). Oxford University Press.

Tarski, A. (2002 [1936]). On the Concept of Following Logically. *History and Philosophy of Logic, 23,* 155-196.

Thomasson, A. (2020). *Norms and necessity*. Oxford University Press.

Williams, M. (2015). Knowledge in practice. In J. Greco & D. Henderson (Eds.), *Epistemic evaluation* (pp. 161–185). Oxford University Press.

Wittgenstein, L. (1922). *Tractatus logico-philosophicus.* Translated by C.K. Ogden. London: Routledge.