There is no such Thing as Predication

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Summary: It is often taken for granted that predication is something that happens on a mental, non-linguistic level, that the *grammatical* operation of predication is merely a shadowy epiphenomenon of our *mental* gluing together of the entities stood for by the grammatical subject and the grammatical predicate. I argue that there is nothing – or at least nothing clearly graspable – that could be reasonably called *predication* save the grammatical operation. Predication, I argue, is what happens when we use a linguistic 'tool' having built it of two specific parts, where the parts, already furnished with certain inferential roles, conspire to produce a sentence with a specific inferential potential, which then can be used within a plentitude of our language games.

I Looking for a glue

In a memorable paper, Donald Davidson (1986: 446) insists that "there is no such thing as a language, not if a language is anything like what many philosophers and linguists have supposed". I have always taken this as an exaggeration, albeit an apt exaggeration that might be philosophically helpful. Now when it comes to predication, what I would have expected to hear from the same author would be along the lines of "there is no such thing as predication ...". But instead of this I hear something very different (Davidson, 2005: 77):

> [I]f we do not understand predication, we do not understand how any sentence works, nor can we account for the structure of the simplest thought that is expressible in language. At one time there was much discussion of what was called the "unity of proposition"; it is just this unity

> that a theory of predication must explain. The philosophy of language lacks its most important chapter without such a theory, the philosophy of mind is missing its crucial first step if it cannot describe the nature of judgment; and it is woeful if metaphysics cannot say how a substance is related to its attributes.

I find myself at odds with just about everything written in this paragraph; and what is worse, my disagreement stems from a notion of language which I believe I have acquired also by reading Davidson. Reading this passage, I desperately sought for an indication that it was leading up to some catch, and not meant to be taken at face value. But, alas, I am afraid there is none.

To avoid misunderstanding: I see nothing wrong in understanding predication as a clearly delimited *linguistic* phenomenon. We put together one kind of expression, which we have come to call the *subject*, with a different kind of expression, called the *predicate*, possibly incorporating some morphological amendments of the latter (adding "-s" in English, or such like). This is so straightforward that any putative lack of understanding must concern the semantic correlate thereof.

However, it is often taken for granted that as expressions *stand for their meanings* (subjects for *individual concepts* or perhaps directly *individuals*; predicates for *predicative concepts* or *properties*; *sentences* for *thoughts* or *propositions* or *situations* or *truth values*; etc.), the grammatical operation of predication must be merely a shadowy epiphenomenon of the real thing, *viz.* predication on the level of the entities represented by expressions. Our concatenating of the grammatical subject with the grammatical predicate is seen as merely the evidence of the underlying "reality" that we have somehow glued together the two entities represented by the two expressions; and we are curious about what this glue is.

But all of this, in my opinion is utterly misguided; the only thing we are really doing is *linguistic*; the illusion that something is happening on a deeper – and more fundamental – level stems from the fact that we have developed an idiosyncratic way of

talking about grammatical predication and then forgot about the fact that this was a *post hoc* depiction; and we started to see it as a part of the very act of predication. And we may even look inside ourselves and see, as Wittgenstein put it, "*illustrierte Redeweisen*".

II Some history

In the *Categories*, Aristotle says, in effect, that a subject (*hypokeimenon*) is what a statement is about, while a predicate (*katêgoroumenon*) is what a statement says about its subject. Without distinguishing between syntax and semantics as we would nowadays, he says:

> Of things themselves some are predicable of a subject, and are never present in a subject. . . . Some things, again, are present in a subject, but are never predicable of a subject. . . . Other things, again, are both predicable of a subject and present in a subject. . . . There is, lastly, a class of things which are neither present in a subject nor predicable of a subject (Aristotle 1928: Part II).

From the perspective of a post-linguistic-turn philosopher, this might be dismissed as a conflated jumble of talk about language and talk about what the language is about; but it would not be very sensible to use current perspectives to *criticize* Aristotle. What, however, can be legitimately gleaned from our modern perspective is that Aristotle gives predication – or, more precisely, what was later to be understood as predication as a *semantic phenomenon* – an ontological footing: what we do when we predicate, according to Aristotle, is to subsume a subject (a *thing*, hence an *object* in the more contemporary idiom) under a predicate (a *concept* or a *property*). Expressing this in language is merely secondary.

This ontological footing might encourage us to look at predication as at something that happens in the world, independently of us. A thing (a "subject") happens to acquire a property (a "predicate").

What is left to us is to speak this out in words. This also has affinity with the view held by Russell in the 1910's and 1920's, when he wanted to base the whole of semantics on *facts*, which, for him, were precisely such natural coincidences of objects and properties (or relations)[1]. However, the obvious trouble this view engenders, concerning the meanings of false predicative sentences etc., indicates that, over and above facts *proper*, we cannot make do without something like *potential* facts (e.g. the *Sachverhalte* of Wittgenstein's *Tractatus*), and hence that alongside the 'natural predication' we would need to admit predication effected by us, speakers.

Philosophers of the modern era generally addressed predication as a mental phenomenon. Thus Kant states that "All relations of thought in judgments are those (a) of the predicate to the subject; (b) of the principle to its consequence; (c) of the divided cognition and all the members of the division to each other" (1781/1787: A73/B98). Again, this seems to indicate that predication is primarily a mental rather than a linguistic phenomenon (though of course, we should not accuse Kant of considering predication as belonging to the subject matter of what is now called psychology).

This perspective thus leads to the conclusion that predication must be housed in the mind (consisting in the mind combining a predicative mental content with a subjectual one). Linguistic expression is then merely an expression of this. And it is against this background that the problem of "unity of proposition" rears its head: what kind of glue do we need to conjoin the two mental entities?; especially when it seems that it is somehow *us* who apply the glue.

Russell's wrestling with this problem is well known. His basic intuitions are, firstly, that "every proposition has a unity which renders it distinct from the sum of its constituents"; and, secondly, that it is a unity "which analysis cannot preserve" (1903, §55). Hence it seems that analysis breaks the proposition into pieces which cannot be reassembled. But the problem is not con-

[1] See Russell (1914; 1918/9).

fined to the outcome of analysis; how the proposition gains its unity in the first place must be part and parcel of the same question. For a proposition is not a mere "aggregate", an assemblage of items, because the items of which it consists are specifically integrated, in some surplus way. And the question is what does this surplus consist in?[2].

This problem is not peculiar to Russell and Wittgenstein. Kant had already felt its acuteness in his first Critique, where he discussed it under the name of homogeneity of judgment[3]:

> In all subsumptions of an object under a concept the representation of the object must be *homogeneous* with the concept; in other words, the concept must contain something which is represented in the object that is to be subsumed under it. [...] But pure concepts of understanding being quite heterogeneous from empirical intuitions, and indeed from all sensible intuitions, can never be met with in any intuition. How, then, is the *subsumption* of intuitions under pure concepts, the *application* of a category to appearances, possible? (A136/B176)

Kant concludes that there literally is something as a glue, namely what he calls a schema (A138/B177):

> Obviously there must be some third thing, which is homogeneous on the one hand with the category, and on the other hand with the appearance, and which thus makes the application of the former to the latter possible. This mediating representation must be pure, that is, void of all empirical content, and yet at the same time, while it must in one respect be *intellectual*, it must in another be *sensible*. Such a representation is the *transcendental schema*.

[2] See Stevens (2008) for a nice survey of Russell's desperate pursuit of such a glue.

[3] See a thorough discussion of this issue given by Rosenberg (2005).

This invokes a picture of subject and predicate being united by means of a third thing which goes through both of them (a lace). But what exactly is the schema that acts as this kind of lace? Surprisingly, Kant tells us it is a kind of concept (A146/B186):

> The schema is, properly, only the phenomenon, or sensible concept, of an object in agreement with the category. [...] If we omit a restricting condition, we would seem to extend the scope of the concept that was previously limited.

Hence it seems that what binds together an object and a concept is again a concept (and a regress would seem to be forthcoming).

III Looking for a glue, continued

Note that if we consider predication as a purely linguistic phenomenon, then there will be no problem of "unity of proposition" (*viz.*, in this case, sentence). The proposition is unitary simply because it is the concatenation of two respective sounds, or marks on a paper. Of course, the proposition (sentence) has *meaning* and we might wish to say that by concatenating the words we also concatenate their meanings. But this is not necessarily to claim that this is what we literally do *qua* speakers – it may merely be what we do *qua* theoreticians accounting for what speakers do. A problem with the unity of proposition will emerge only if we conclude that to put together the meanings, it is *not enough* to put together the words (*qua* the merely linguistic objects). And then, once again, we would find ourselves in search of some additional "glue".

I think otherwise. I think that we can talk about "putting together" a proposition only insofar as it is effected by putting together the words. Otherwise, we would be presupposing that words and expressions have meanings that are independent of their working within sentences. And this would be an atomism that many philosophers of language in the twentieth century (including the later Wittgenstein) would vigorously – and, I think, rightly – reject.

Take Frege. He accepts the traditional idiom in which he talks about prototypical simple sentences as subsuming an object under a concept, and even though he takes pains to make clear that his concepts, rather than being mental entities, belong to his "third realm"[4] (the realm of objective ideal entities), it may seem that the problem of the unity of proposition is also acute for him. Not so, however, when we take a closer look at what Frege's concepts really are.

As is well known, Frege's concepts are *functions*, namely functions mapping objects on truth values. Why is this so? Because, as Frege (1892) explains to us, concepts are expressed by unsaturated expressions and these unsaturated expressions are liable to being saturated by names designating various objects.[5] Each such saturation generates a truth value, and this is the truth value that is assigned, by the concept-function, to the object.

This is to say that the concept expressed by the predicate is an encapsulation of the semantic function that the predicate has in simple sentences. Hence it is not something that the predicate would have independently of the sentences in which it occurs – on the contrary, it is in fact distilled from the sentential meanings by subtracting the meanings of the subjects[6]. No wonder, then, that it fits together with any of the objects.

Someone might object that this is only an *explication* of the concept of concept, that the concept as such is something self-standing, something that *must* be glued together. I think Frege would protest: for him the explication of why the two kinds of meanings "fit together" is precisely the key and lock model, in which one (and only one) of them must be unsaturated. But independently of what Frege might think, what I think is that though the Fregean function may be seen as an explication, it is not an explication of some entity independent of language. Instead, it ex-

[4] See Frege (1918/9).

[5] "For not all the parts of a thought can be complete; at least one must be 'unsaturated', or predicative; otherwise they would not hold together" (Frege 1892: 205.).

[6] See Peregrin (2005).

plicates the workings of a predicative word within our language games, and it does this by rather artificially delimiting how the word contributes to the workings of sentences.

Hence what about the intuition that predication is something that we accomplish, within our mind, by sticking together two different entities? Here it may be appropriate to cite Wittgenstein (1953, §295): "When we look into ourselves as we do philosophy, we often get to see just such a picture. A full-blown pictorial representation of our grammar. Not facts; but as it were illustrated turns of speech."

IV A pragmatist perspective

Davidson claims that understanding predication lays the foundation to understanding "how any sentence works" and understanding "the structure of the simplest thought that is expressible in language". This seems to indicate that there is no sentence without predication. But is this the case? Take the sentence "It is chilly". Is this a case of predication? True, it has the grammatical structure of a subject-predicate sentence (at least in English). But what is being predicated of what? Clearly the structure here is no more than an artifact of grammar.

Less trivially, take the sentence "Prices rise". Does it amount to gluing together an object and a concept? "Prices" do not seem to be a well-defined object. And although the subject-predicate structure of the sentence would seem to reflect some pre-given real structure, it is rather arbitrary. Or take the celebrated "The king of France is bald", as Russell's considerations have indicated, if what we are after is content, then it is questionable how seriously we should take its grammatical structure.

I think a useful antidote to many such confusions is to assume a thoroughly pragmatist perspective, and look at language not as a set of signs *standing for* things, but rather as a set of tokens with which we are able to *do* things. This was the strategy employed by Wittgenstein in the beginning of *Philosophical Investigations* with his 'builders game' (1953, §2ff.), which he later articulated

more explicitly as the urge to see language as a toolbox (1969, §31):

> Language is like a collection of very various tools. In the tool box there is a hammer, a saw, a rule, a lead, a glue pot and glue. Many of the tools are akin to each other in form and use, and the tools can be roughly divided into groups according to their relationships; but the boundaries between these groups will often be more or less arbitrary and there are various types of relationship that cut across one another.

Hence let us look at words as tools. Any such tool is usable for a variety of purposes and, usually, in connection with other tools. The tools play, within our linguistic practices, various roles. *Subject* is what we call a common kind of sound with a specific kind of usage (eg. a screwdriver); *predicate* is another common kind of sound with another specific usage (a screw). *Predication* is what happens if we use these tools together (screwing together, say, two planks). While doing this we would usually have various accompanying thoughts (or other kinds of "mental contents"). But this is not relevant from the viewpoint of understanding screwing, nor of understanding predication (though it may be relevant from other perspectives, such as the perspectives of the psychology of craftsmanship or communication).

V Subjects and predicates as tools

What do subjects and predicates, viewed as tools, actually *do*? What do we achieve with them individually and how can they be joined to form the powerful tool of a sentence? It may be helpful to look at the ontogenetically rudimentary stages of predication, i.e. at the ways in which words come to be employed as rudimentary subjects and predicates by infants.

An instructive account of the early ontogenetic stages of what is to become predication is given by Bogdan (2009). According to him, its roots are connected with the stage where words begin to

step into the prior non-linguistic processes of "making manifest some reaction, attitude, emotion, interest, or other state of mind", where "these overt expressions do the *double duty* of directing attention to a shared target and expressing mental states as comments addressed to the interlocutor about the target" (Bogdan 2009: 85). It is, then, words which make it possible to disentangle these two acts and make them a matter of two relatively independent (linguistic) tools: subject and predicate (*ibid.*):

> The proposal now is that in a first phase, the words acquired by shared naming begin to take over the *first* role of overt expressions, which is to *direct coreferential attention* to a target and activate the relevant concepts about it, leaving to looks, faces, voice intonations, and other *nonverbal* signals, the second (and already known) role of expressing mental states as comments. As the child acquires more words by shared naming and weaves them into full utterances, and as the visual contexts of shared attention are increasingly replaced by the linguistic or virtual contexts of shared attention, predicate words and entire sentences begin to take over the *second* function of expressing comments on shared topics.

This means that what is to become a fully-fledged subject later starts to function as a tool of helping to fix the shared attention, whereas that which is to become a predicate comes later and does something in the context of the attention already fixed. (What *something*? Bogdan does not tell us too clearly; he talks about "expressing comments", which is an expression taken from the context of fully-fledged language whose meaning in the present context is not quite clear. Bogdan also speaks about the would-be subjects as referring to "objectlike" sortals, while the would-be predicates to "property-like" sortals, but this again seems to be rather cryptic.)

What happens then? What changes must this rudimentary "predication" undergo in order to become fully-fledged predication? Bogdan comments on some of the steps in the following way

(Bogdan 2009: 91, 94): "Even though initially the child is likely to comprehend an adult's stipulation in imperative terms ... in her thinking and productive communication the child will end up representing the word reference relation as something about which she can be right, but also often wrong, and that is therefore subject to correction. ... In short, conventionally symbolic communication works only if both parties, and the child in particular, recognize the intended descriptive correctness of the reference to a target and its implicit social normativity, in the sense of being obligatorily the same for everybody engaging in such communication."

This is, I think, a basically important point, to which I will come back later. I think this is more instructive than the general description of the transition from rudimentary to fully-fledged predication Bogdan himself gives later in the book (Bogdan 2009: 104):

> The *predicative* unity of human judgments is due to distinct yet gradually converging developments, most of them uniquely human, as far as I can tell. These developments end up reorganizing the young child's coinstantiative judgments along new dimensions—the P-dimensions. In particular, a predicative judgment owes its unity to the exercise of two P-abilities—to direct intently and explicitly the meaning of predicate words at the referents of subject words, in the form of comments about topics, relative to some presuppositions; and to signal or express the intent to do so (which at least in the formative stages of early childhood, also involves having this intent acknowledged by an interlocutor in communication)

Anyway, we can see, though merely in a sketchy way, the difference betweens subjects and predicates within these rudimentary predicative practices: subjects are principally tools of fixing attention to a particular object or situation and predicates are tools of doing something in the context of attention thus already fixed. What I think is that the crucial change from the rudimentary linguistic practices to fully-fledged language is connected with what

is only hinted at by Bogdan: to the intervention of normativity. I think that it is when the child comes to understand that her ways of using words can be either right or wrong, and when she acquires the sense of *what* is right and what is wrong, that her using words starts to be real using language. As Davidson (1999: 112) puts it

> It is difficult to exaggerate the magnitude of the step from native or learned disposition to respond to stimuli of a certain sort, to employing a concept with the awareness of the chance of error. [...] This is where the concept of truth enters, for there is no sense in saying a disposition is in error – one cannot fail to "follow" a disposition, but one can fail to follow a rule.

A similar point is made by another author addressing the ontogenesis of language, namely Olson (2007 311):

> Epistemological development in children may be viewed as little more than learning the normative practices for ascribing appropriate attitudes to the content of expressions. Whether a statement is a *claim* or a *conjecture* depends upon its believability but also implies what one should do about it. If it is a conjecture one may search for evidence to provide a reason for belief or doubt. If it is an expression of belief one may rather look for its source. If an *hypothesis* gains evidence it may become a *finding* and with more evidence graduate into a *conclusion*.

I think that in view of this the status of words as tools basically changes as they become entrenched within the network of respective corectnesses and social norms that underlie them. Words cease to be tools in the sense of helping the infant getting what she wants (be they tools of attempts at directly imperative influencing others, or tools of getting their attention etc.) and start to be rather tools of navigating through the webs of social, normative practices, prominently including the practices of giving reasons (and asking for them).

VI Normative pragmatics

The previous section led us to the conclusion that, if we are to consider words constituting a fully-fledged language as tools, then they are different kind of tools than prototypical tools such as screwdrivers or hammers. The vital difference is that words have not just usages, i.e. habitual ways of being put to use, but also have what I call *roles*. This is a subtle but all-important distinction. A screwdriver and a screw have usages, but not roles in my (slightly fashioned) sense. Words, on the contrary, do have roles, over and above their usages. What makes the difference?

The difference is a matter of the rules governing their usage. We may think of rules telling us how to use a screwdriver or a screw (*position the screw orthogonally to the surface*, *turn the screwdriver clockwise*, ...), but these are rules in the sense of instructions helping us achieve a desired end (which itself is independent of the tools – the tools are, as it were, parts of the solution, not parts of the task itself). However, some items are used according to rules of a different character. Take chess pieces (as the Wittgensteinian arch-example of entities of this kind): it is clearly not the case that the rule "move the bishop only diagonally" would instruct us what to do to achieve an end independent of chess. Therefore, Wittgenstein points out that rules of this kind are "arbitrary" in a specific sense[7].

My conviction is that our language games are underlain by rules of this latter kind; and that this is precisely what is behind the fact that we perceive our expressions as *meaningful*. What makes us perceive them thus is precisely that they have certain roles *vis-à-vis* the rules of our language games. And from this semantic viewpoint, the most crucial rules are *inferential* rules, rules stating what is correctly inferable from some basic sentences containing the word in question and what they are inferable from. (The term *inferential* may be misleading, for these rules are *not* instructions telling us how to infer successfully, but rather rules constitutive of the semantics of our language.)

[7] See Wittgenstein (1969: 184-5). See Peregrin (2008) for a discussion.

The basic idea, then, is that the rules of language, especially the inferential rules, open a "space of meaningfulness" which lets us engage in new kinds of actions, which we usually assemble under the heading "meaningful communication"[8]. Words and sentences are tools which help us accomplish the tasks which this space makes it possible for us to set up and carry out – tasks mostly, though not exclusively, connected with interaction with other people. What we especially need is the establishment of a certain logical scaffolding – every sentence, to express a proposition, must have a negation, must be capable of entering into conjunctions, implications etc. It follows that the category of sentences must display, from the viewpoint of inference, a structure akin to Boolean algebra[9] – sentences must have *infima* (conjunctions), *suprema* (disjunctions), *complements* (negations), etc.

It is important to distinguish between rules of the kind which advise one how to use a screwdriver and those of the kind underlying chess or language (let us call them *integrative*, for they work only it they are integrated into larger wholes). Whereas the former ones are means to external ends (fastening two planks together to build a cabin, say), the latter ones give rise, via their integration, to new ends – they constitute new spaces for actions. Hence their roles are a matter of the position within the scaffolding that generates the space. And the scaffolding is a matter, first and foremost, of *inferential* rules – the position of a sentence within it is determined by what I call the *inferential potential* of the sentence, *viz.* what the sentence can be inferred from and what can be inferred from it.

We must note too, as Quine, in particular, pointed out[10], that there is one sense in which the parallel between our words and tools can be misleading. Rather than tools in themselves our words are better seen as elements of a tool-building kit, each of which, in isolation, would be useless, but which together pro-

[8] For more about this see Peregrin (2012).

[9] Not necessarily literally a Boolean one, perhaps a Heyting one or something similar.

[10] See esp. Quine (1960; 1969).

vide for endlessly flexible possibilities of building very different tools. It is only sentences, or sometimes maybe even some supersentential units (like theories), that are real tools

Words, then, do not have inferential potentials, but merely inferential roles, which are a matter of how they contribute to the inferential potentials of the sentences in which they occur. (Sentences, for that matter, also have inferential roles, aside from their inferential potentials; for also sentences may be part of sentences[11].) And the crucial task of a word, we may now say, is to most flexibly contribute to sentences, as nodes of the inferential scaffolding of our space of meaningfulness. The problem is that the scaffolding is supposed to be huge and rich and we must be able to build all its nodes out of a relatively limited supply of basic units, words.

All of this is important in understanding that saying that words are (like) tools does not amount to saying that what we can accomplish with words is akin to what we do with screwdrivers or hammers. The ways we put words to use is a matter of their inferential roles, of their contributions to the inferential potentials of sentences, which in turn are a matter of the *modi operandi* of the sentences within our inferential, linguistic practices. Hence, unlike the usage of a hammer, the role of a word is not something intelligible independently of the practices which they co-constitute. The way in which these practices bootstrap themselves into existence and in which, at the same time, sentences acquire their inferential potentials and words acquire their inferential roles, is something unprecedented in human history; but it does not compromise the fact that words are a sort of tools and that their meanings are best seen as a matter of what they are used for.

To sum up, words are tools not quite like screwdrivers and hammers; they are more like bishops and rooks; more precisely, they are like small parts from which we can assemble something like bishops and rooks.

[11] See Peregrin (2009).

VII Subjects vs. predicates from an inferential perspective

Hence it is the words of our language that must conspire to provide for the rich enough variety of sentences inferentially structured in such a way that they make up the desired Boolean-algebra-like arch-space. From this viewpoint, subjects and predicates are two kinds of expressions providing for a rich repertoire of combinations (sentences) with inferential potentials. What are the differences between the inferential roles of these two basic kinds of expressions?

We have seen that Bogdan (2009) hinted at two differences between the ways infants tend to use subjects and predicates within the practices of rudimentary (proto)predication. One has to do with the fact that the would-be subjects come to express "object-like" sortals, while the would-be predicates "property-like" ones; the other concerns the fact that while subjects act as "attention-fixers", predicates already presuppose attention to be fixed. I think that both these differences are echoed in differences between the roles of the fully-fledged subjects and predicates, though their nature mutates significantly.

We can say that the first difference, the difference between expressions having to do with objects and those having to do with properties comes to be echoed by the differences between the inferential structures of the respective categories of expressions. Both subjects and predicates form something like Boolean algebra; the two algebras are, however, different.

Predicates do seem to have infima, suprema and complements; *viz.* their conjunctions (*blue and round*), disjunctions (*blue or round*) and negations (*not blue*). There are predicates that apply to everything (*blue or not blue*) and those that apply to nothing (*blue and not blue*), and these can be considered as the maximal and minimal elements of the algebra, respectively. Given this, the question whether the predicates constitute the Boolean alge-

bra turns on the question whether the distributive law holds, i.e. whether[12]

$(P\vee(Q\wedge R))(a) \dashv\vdash ((P\vee Q)\wedge(P\vee R))(a)$

holds for all predicates P, Q and R and every (or at least some) subject a[13]. (The formula on the previous line is not supposed to be a formula of a logical calculus, but just a schematic expression of the form of natural language sentences.) However, this appears to follow from the fact that the applications of the logical operators to predicates can be taken to commute with the corresponding sentential operators, *viz.*

$(P\wedge)$ $(P\wedge Q)(a) \dashv\vdash P(a)\wedge Q(a)$;

$(P\vee)$ $(P\vee Q)(a) \dashv\vdash P(a)\vee Q(a)$;

$(P\neg)$ $(\neg P)(a) \dashv\vdash \neg P(a)$.

Does the algebra have any atoms? Though many philosophers, notably those seeking for an ultimate empirical basis of human knowledge, have taken it for granted that there must be some atomic qualities and hence that there must – at least potentially – be atomic predicates, natural language does not seem to contain any such predicates.

Now consider subjects. They also can be conjoined (*Tom and Bill*) and we can also think about their disjunctions (*Tom or Bill*) and perhaps even negations (*not Tom*); hence also they can be thought about as a Boolean algebra. (In this case we will even have more explicit maximal and minimal elements, viz. *nothing* and *everything*). And though in this case the logically complex subjects appear to be considerably less natural than logically complex predicates, we can again think about the logical operators commuting with the sentential ones:

$(S\wedge)$ $P(a\wedge b) \dashv\vdash P(a)\wedge P(b)$;

[12] While the sign "$\vdash$" denotes inferability, "$\dashv\vdash$" denotes inferential equivalence. Hence "$A \dashv\vdash B$" is a shorthand for "$A \vdash B$ and $B \vdash A$".

[13] In fact we could consider predicates constituting a Boolean algebra w.r.t. a subject *a* independently of their behavior w.r.t. other subjects; however, we usually assume that their behavior in this respect is the same w.r.t. all subjects.

(S∨) P(a∨b) ⊣⊢ P(a)∨P(b);
(S¬) P(¬a) ⊣⊢ ¬P(a).
This would seem to indicate that the difference between the categories of subjects and predicates is not great[14].
However, the two algebras are different, and this brings to light the general difference between the inferential roles of subjects and predicates. If we consider the algebra of subjects dual to the one we considered so far – that is, we see conjunctions as

[14] As Strawson (1974) pointed out, trouble arises because (S∨) does not seem to be generally compatible with (P∧). For assume (P∧) and (S∨) hold and consider the formula (1) (P(a)∧Q(a))∨(P(b)∧Q(b)). In view of (P∧), it is equivalent to (2) (P∧Q)(a)∨(P∧Q)(b) and in view of (S∨) this is further equivalent to (3) (P∧Q)(a∨b). But using (P∧) once more we can further transform this into (4) P(a∨b)∧Q(a∨b), and using (S∨) again we get (5) (P(a)∨P(b))∧(Q(a)∨Q(b)). Now (5) is not equivalent to (1): if a is P, but not Q, and b is Q, but not P, then (1) is not true, whereas (5) is. This may seem to indicate that *if* we construe predicates as forming a Boolean algebra based on the usual logical vocabulary, it is difficult to construe subjects in the same way; and *vice versa*.

This, however, would be a misguided impression. As a matter of fact Strawson's observation does not show that we cannot construe subjects as a Boolean algebra with the logical operators commuting with the sentential ones as in the case of (S∨). The trouble with the combination of (P∧) and (S∧) is that given both of them, (P∨Q)(a∧b) becomes ambiguous. The ambiguity comes to the surface if we use quantifiers and write, in a cumbersome, but helpful notation $\forall p{\in}\{P,Q\}$: p(a) resp. $\exists p{\in}\{P,Q\}$: p(a) instead of (P∧Q)(a) resp. (P∨Q)(a); and similarly $\forall x{\in}\{a,b\}$: P(x) resp. $\exists x{\in}\{a,b\}$: P(x) instead of P(a∧b) resp. P(a∨b). The (P∨Q)(a∧b), then, is clearly ambiguous between $\forall x{\in}\{a,b\}$: $\exists p{\in}\{P,Q\}$: $p(x)$ and $\exists p{\in}\{P,Q\}$: $\forall x{\in}\{a,b\}$: $p(x)$. It is the first, but not the second, that is equivalent with $\exists p{\in}\{P,Q\}$: P(x) ∧ $\exists p{\in}\{P,Q\}$: P(x) and hence with (1), whereas it is the second, but not the first, that is equivalent with $\forall x{\in}\{a,b\}$: P(x) ∨ $\forall x{\in}\{a,b\}$: P(x) and hence with (5).

Hence the Strawsonian problem is a problem of notation, not of the fact that the standard logical connectives cannot be seen as making *both* subjects and predicates into Boolean algebras.

suprema rather than *infima* etc. – , it will be an algebra with a distinguished class of atoms – *viz.* simple singular terms, resp. their inferential equivalence classes.
In this case (unlike the case of the algebra of predicates) it will come naturally to characterize the elements of the algebra by means of the subsets of the set of its atoms, aka the *universe of discourse*. Moreover, it may lead us to the characterization even of predicates by means of the subsets of the universe, namely the sets of precisely those elements to which the predicates apply. (This, of course, corresponds with standard formal semantics for classical predicate logic.)[15]
The other difference between rudimentary subjects and predicates noted by Bogdan, namely that between attention-fixing and assuming attention already fixed, is reflected, in terms of the inferential structure, in quite a different way. It has to do with the difference between an utterance which is false in a given context, and that which is simply inappropriate in the context. This comes to be usually articulated, following Strawson (1952), in terms of *presuppositions*; where a presupposition of a given sentence A is a sentence B such that B is inferable from both A and ¬A. While in classical logic there is no non-trivial room for presuppositions, once we admit truth-value-less sentences, we can say that a presupposition of A is a sentences that must be true in order for A to have a truth-value at all. And within these settings, it is possible to capture different presuppositions associated with subjects and

[15] There are also more specific differences. If we restrict *a* to only *atoms* of the domain of subjects, then the following seems to hold: P(a)⊢ P(b) only if *a*=*b*. (It seems that *Boxer*(*Tom*) ⊢ *Boxer*(*Hammerhand*) cannot be vindicated otherwise than by *Tom*=*Hammerhand*.) On the other hand, due to the absence of any obvious atoms in the domain of predicates, nothing analogous holds for predicates. Another, related point is that P(a∧b) ⊢ P(a), following from (P∧) above, holds only if P is a specific ("individual-level") predicate (for others this simply will not work – witness *Tom and Bill are enemies*), whereas in the case of (P∧Q)(a) ⊢ P(a), no such restriction (in view of the absence of predicate atoms?) seems to be necessary.

predicates (though it is not always the *syntactic* subject resp. predicate that acts as a *topic* and *comment* from the viewpoint of the dynamics of an utterance.[16])
Let me stress that these considerations of the differences between the inferential roles of subjects and predicates remain the level of a mere sketch. It is not the purpose of the present paper to give a detailed analysis of them (though such an analysis would be desirable!); the purpose is just to throw some light on how the roles look like and how from the inferentialist perspective subjects and predicates differ from each other.

VIII Conclusion

In an often quoted aphorism, Wittgenstein (1953, §504) says:

> But if you say: "How am I to know what he means, when I see nothing but the signs he gives?" then I say: "How is he to know what he means, when he has nothing but the signs either?"

It is quite clear that however interesting it might be to find out what one feels, thinks, or imagines when one drives a screw with a screwdriver, it has little relevance for the screwing itself. Knowing how to use the screwdriver does not include knowing what to feel, think or imagine – one may be a skilled screwdriver user independently of what one thinks.
In contrast to this, the common idea is that predicating, combining two kinds of expressions to produce a speech act – typically assertion – involves *thought* in an essential way. The idea is that unless what one does with one's words is a mere shadow (an epiphenomenon) of what one does in one's mind, no *real* predication happens. But predication is a public practice: just like driving screws deals with the natural world, predicating deals with the social world (which is no less objective or non-mental).

[16] See Peregrin (1996).

Hence, looking at predication as something that happens when we use a linguistic "tool" having built it out of two specific parts, allows us to avoid the many confusions which almost inevitably arise if we try to pin down predication as a mental phenomenon by introspection, or if we see it as an operation which the mind carries out with some worldly materials. What, I think, happens is that the parts, already furnished with certain inferential roles, conspire to produce a sentence with a specific inferential potential, which then can be played in the game of giving and asking for reasons, or indeed elsewhere in our plentitude of language games.[17]

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