What is the role of logic in epistemology?

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Inferentialism

Inferentialism stems from the conviction that the way in which a type of sonud becomes a *meaningful expression* cannot be construed as the sound coming to *represent a meaning*, but rather as the sound becoming a vehicle of certain inferential practices, practices the paradigmatic example of which is *argumentation*, i.e. the *game of giving and asking for reasons*. Inferentialism accords with the movement of part of the philosophy of language in which various representational theories of meaning, which dominated the first half of the twentieth century, have come to be replaced, in the second half of the century, by various kinds of use-theories of meaning[1]. However, inferentialism carries this movement forth.

We can see the step from the representational theories to the use-theories as a step from the question *what is the meaning possessed by a meaningful expression?* to the question *what makes an expression meanigful?* (This move discards the presupposition that meaning is a thing represented by the expression.) Now inferentialism can be seen as moving forth to the question *what makes us able to carry out meaningful utterances?* And the answer to the last question is that we become capable of such acts when we set up a certain normative framework within which this becomes possible. Just like by setting up the framework of the rules of chess we become able to become chess players and do such things as check the opponent, by setting up the rules of language, especially the inferential rules, we become able to become speakers and do such things as assert that it is raining outside. (Needless to say that while the rules of chess can be forged more or less purposefully, things are different with the rules of language – they must be the result of some spontaneous evolution.)

I believe that the vantage point which we achieve in this way lets us see various things concerning language in a rather new light. And as from the viewpoint of inferentialism the rules of logic are basically a sort of rules of language, it also allows us to throw some new light on the nature of logic. In this paper we want to discuss, from this viewpoint, the

[1] See Peregrin (2011).

relationship between logic and epistemology – and cast some doubts on the common ways in which this relationship is usually seen[2].

Modus ponens vs. *modus schmonens*

Our descriptive maps of the world, our theories, are ever more precise and ever more detailed. How does it come that we are so successful in describing and explaining the world? It would seem that one of the ingredients that help us in this is *logic*. Logic somehow fosters and boosts our knowledge of the world, though there is probably no general agreement on how it does this.

Take the example of Russell (2009). According to him, what logic does is help us assemble complex pieces of knowledge out of simpler ones, so that any piece of knowledge we might have is a logical complex of some primitive pieces known empirically:

> If we knew all atomic facts, and also knew that there were none except those we knew, we should, theoretically, be able to infer all truths of whatever form. Thus logic would then supply us with the whole of the apparatus required. (P. 63)

Thus, we may say, any nontrivial piece of knowledge we have is co-produced by logic – for it is logic that must have forged it from the empirical deliverances of our senses. And though I think few philosophers today would agree with all details of Russell's picture, the view that logic is essentially co-responsible for weaving the web of our knowledge keeps to be widespread.

How logic is able to do it, how is it able to help us deliver the detailed and accurate knowledge of the world? The answer may appear to be forthcoming: we have developed such methods of thought, such modes of combining simpler beliefs into more complex ones, that the results fit perfectly with the facts around us. This appears to be no minor achievement: out of the myriads of ways in which we might try to put together the fragmentary knowledge our senses mediate us, we have hit on the very one which does it so that our knowledge is faithful to what it is the knowledge of. This cannot be a chance; we must thank the evolution of our species for this.

Let us consider the picture of human acquisition of knowledge painted by Rips (1994). Investigating the ways we arrive at knowledge he states that "to us earthlings, an intuitively straightforward inference principle is the one logicians call modus ponens" and he invites us to consider an alternative to this rule, which he calls *modus schmoens*, which leads us "from *IF so-and-so THEN such-and-such* and *So-and-so*" to "*NOT such-and-such*". Thus, one using

[2] See Peregrin (2014) .

this rule would use the premises *If it rains, the streets are wet* and *It rains* to *The streets are NOT wet*. Rips provides the following commentary:

> The existence of creatures who systematically deny modus ponens and accept *modus shmonens* would be extremely surprising- much more surprising than the existence of creatures who differ from us in basic perceptual or memory abilities. In a situation like this one, we would probably be more apt to blame the translation into English from whatever language the creatures speak than to accept the idea that they sincerely believe in *modus shmonens* (...). Indeed, our reluctance to attribute exotic inferences even to exotic creatures is an interesting property of our thought processes. *Modus ponens* and other inference principles like it are so well integrated with the rest of our thinking - so central to our notion of intelligence and rationality – that contrary principles seem out of the question. As Lear (1982, p. 389) puts it, "We cannot begin to make sense of the possibility of someone whose beliefs are uninfluenced by modus ponens: we cannot get any hold on what his thoughts or actions would be like." Deep-rooted modes of thought such as these are important objects of psychological investigation, since they may well turn out to playa crucial organizing role for people 's beliefs and conjectures- or so I will try to argue. (P. vii-viii)

Is it so unimaginable that we use *modus schmoens*? Consider the following argument

Either it does not rain or it is not sunny
It rains
It is not sunny

Let us signify the connection *either not ... or not ...* as $\rightarrow$; then the form of this (correct) argument would be

$A \rightarrow B$
A
$\neg B$

It looks like *modus schmoens* – why it is not *modus schmoens*? Well, the obvious answer is that because the $\rightarrow$, in this particular case, is not *implication*. But let me ask the perhaps *prima facie* simpleminded question – why not? Well, of course we know English, and therefore we know that *if ... then ...* is an implication, while *either not ... or not ...* is not! Well and good, but what makes an expression of English (or, for that matter, of any other language) liable to being called *implication*?

We know very well what an implication in classical logic is. It is a connective behaving in accordance with the well known truth table: $A \rightarrow B$ is true if A is false or B is true. What is an implication in logic, more generally? Well, an answer may be that it is a connective that is, in

relevant respects, similar to the classical $\rightarrow$. (Or, perhaps, that is, in relevant respects, similar to the *if ... then ...* of English?)

In any case, when we want to make sense of classificators like *modus ponens* or *modus schmonens*, we must be able to delimit the concept of implication – for to say, as Rips does, that *modus ponens* is "well integrated with the rest of our thinking", while *modus schmonens* is not, makes sense only if they are both related to *implication*. (Otherwise, we saw, *modus schmonens* would be nothing alien to us!)

When Frege (1879) defined his version of implication, his definition was based on the observation that if $A \rightarrow B$, then it cannot be the case that *A* is true and *B* is false. And in fact he elevated this to the only case when $A \rightarrow B$ was false, in all other cases it was proclaimed true, which made the implication into the traditional material species. Now the condition that if *A* is true and *B* is false, then $A \rightarrow B$ is false is equivalent to the condition that if *A* is true and $A \rightarrow B$ is true, then *B* is true, which is the condition that finds its expression in the *modus ponens* rule.

Hence a hypothesis: An operator $A \otimes B$ is an implication only if it complies with *modus ponens* (*MP*):

$$\frac{A \otimes B \qquad A}{B}$$

This hypothesis is not one that could be exactly tested, because it concerns the vague usage, namely the usage of the term *implication*, but still we could consider its viability. First, is complying with MP a necessary condition for being implication? There could be certainly objections. We could probably find some operator in some logic that is called *implication* while not complying with MP. (But we must keep in mind that we should acknowledge that there may be cases when something has come to be called *implication* without substantiation.) Also there are arguments that *if ... then ...* in English does not comply with MP without an exception[3]. But despite all this, I think that complying with MP is reasonably close to being a necessary condition of being an implication.

Is it a sufficient condition? Imagine an operator producing only sentences that are necessarily false. This operator does comply with MP (albeit trivially). Would we call it an implication? Hardly. Hence it would seem that we need something more than complying with MP to have an operator that could be reasonably called implication – hence complying with MP does not seem to be a sufficient condition of being an implication. (What must be

[3] See, e.g., McGee (1985).

added to it to make for the sufficient condition? One candidate might be some version of the deduction theorem: X,A $\vdash$ B only if X $\vdash A \rightarrow B$).

What follows from accepting that being an implication involves complying with MP? Of course it follows that there cannot be an implication not complying with MP. And consider the scenario sketched by Rips: the extraterrestrials who use *modus schmonens* instead of *modus ponens*. What exactly does it mean? One construal would be that it is their *implication* that is governed by *modus schmonens* instead of *modus ponens.* But we have just seen that this is simply impossible: not because such creatures would be to weird or too hard to imagine – but simply because the concept of implication not complying with *modus ponens* makes as little sense as the concept of married bachelor. But then the other possibility is that they have an operator, not necessarily an implication, which is governed by *modus schmonens* instead of *modus ponens*. And this is quite trivial, for we ourselves certainly do have such an operator.

What is the uphsot of these considerations? It might seem that we are aiming at an absurd conclusion that there can be no errors in logic, that using *modus schmonens* is as good as using *modus ponens* (for it always carves the operator it involves in such a way that it is correct for it). But we certainly know that we *can* make errors in logic – and indeed the above considerations should not be read as denying that this is possible. The question, however, is *what kind of error we can make when using modus schmonens instead of modus ponens*.

Kinds of errors

In our lives, we pursue many goals, and there are, objectively, ways that lead us to fulfillment of the goals, while there are ways which fail to lead us there. If we want to climb on a high tree, there are ways that get us there and there are ways that lead to our falling down. If we need to cook a good meal, then again there are ways to do it and there are ways to produce something inedible. If we characterize the ways which lead to a success as *correct* and those which do not as *incorrect*, then we can say that any goal 'induces' some rules concerning its fulfillment. Rules of this kind are sometimes called *directives*[4].

[4] See, e.g., von Wright (1963). Directives are a somewhat limit case of a norms, for such a norm as *It is correct to climb a tree in this, and not in that way* can be, it seems, rephrases as something as *If you climb a tree in this, and not in that way, you will avoid falling*, which appears to be a purely factual, rather than a normative, claim; and this would seem to render the normativity of the original claim somewhat dubious. However, here we will assume that such directives can be treated as cases of norms.

Consider a slightly less trivial example. We are to climb a rock securing ourselves by a rope fastened around our waist. The following picture shows a correct and an incorrect way of how to make the knot:

Picture 1a

Picture 1b

If we use the knot from Picture 1a, we are likely to be safe on the rock, using one from Picture 2b, we are in a serious danger of falling down.

Now the situation seems similar with our process of acquiring knowledge – there is the goal of acquiring as much true beliefs as possible and there are correct and incorrect ways of doing it, there is, especially, a correct logic and an incorrect one. The former is likely to get us knowledge, the latter leads us astray. And while *modus ponens* is an instance of the former case, *modus schmonens* is that of the latter.

This would imply that using the latter we commit the same kind of error as we commit when we tie the alpinist knot in the way depicted on Picture 1b; and what I am going to argue is that this cannot be the case. To prepare the ground for the argument, let us consider the kinds of errors we can commit in general.

To make an error is to do something otherwise than it should be done, or than it is done correctly. Hence we can say, an error is a deviation from a norm. What is a norm? There are at least three possible answers to this question. First, a *norm* may be seen as just a matter of what people normally do. Thus, according to this construal it is a norm to sleep at night or to drive on the right side of the road (at least in continental Europe or in the USA). But it seems that there are also norms which are not normally followed, say various speed limits for cars. Hence, second, there is a construal of *norm* according to which a norm is what people take to be a norm (not necessarily following it). And third, there may be norms that are not instituted by people, but that they are in some sense absolute (perhaps prescribed by a god or yielded by the nature itself). In the second and third sense of norms, unlike in the first, we can use also the word *rule*.

This classification of norms (or of meanings of the word *norm*) yields a corresponding classification of errors. In case of the first construal of *norm*, error cannot be anything else than a deviation, doing something otherwise than it is normally done. Thus this kind of error is always relative to a background normality - my usage may be normal with respect to my

other usages, but may be abnormal with respect to usages of other members of my community. Let us call this kind of error *dissonance*.

Let us introduce a specific word also for the kind of error construed as the violation of a norm in the second sense of the word – let us call it *discord*. Hence a discord consists in doing something in a way deviating from what is held for correct. Again, this error is relative to a background, in this case to a background society that endorses the norm – what is correct in one society may be incorrect in another.

Discord is relatively independent of dissonance, for people may behave in ways that are not in accordance with what they hold for correct. Many people, for example, would regularly exceed speed limits with their cars, admitting that this is not correct. Hence if I do not violate the speed limit, I would be in dissonance with the others, without being in discord with them. But there is a specific kind of rules for which the possibility of independence of dissonance and discord is limited, namely rules that are not explicitly articulated ("unwritten rules").

As Wittgenstein taught us, there *must* be such rules, on pain of infinite regress. (To follow an explicit rule, we must interpret it, and we must do so *correctly*, that is to be able to follow an explicit rule, we must already follow a rule[5].) Such rules, then, must be in some sense implicit to what their adherents do. And their existence cannot be a matter of merely regular behavior (the fact that people of a society tend to walk on the right side of a road, by itself does not mean that there is such a rule in the society) it must consist in certain "normative attitudes" of their followers, attitudes which are manifested in especially by some negative reactions to violations of the rules and/or some positive reactions to their following, but also by following the rules. Hence in case of implicit rules behaving in accordance with the rule is one of the factors constitutive of the rule as such. (This is by no means to say that we cannot violate an implicit rule, it is to say that wholesale violations are possible only when they are massively compensated by the other manifestations of the normative attitude constitutive of the rule.) Hence in case of an implicit rule, certain measure of dissonance may already mean discord.

Now consider error construed as the violation of a norm in our third sense of the word. Let us call it *fallacy*. A fallacy, then, is a violation on an absolute, human-independent rule. Are there such rules? We saw crucial examples, the directives. (Perhaps there are other kinds of norms that are absolute too; I think not, but to argue against this claim would be beyond the scope of this paper.) Hence there are errors-as-fallacies, things like making the alpinist knot in the wrong way. However, what I am going to argue for is that there are specific kinds of norms for which the very possibility of this kind of error is disputable. And they are very

[5] See Peregrin (2014, Chapter 4).

important kinds, for they are the norms that regulate our symbolic activities, our handling of *meaningful signs*.

Consider a rule that it is incorrect to emit a sound that means *that this is a cat* when pointing at a tiger. At first sight, it may seem quite similar to the rule that it is incorrect to use a sound that is too loud when pointing at a tiger. And in this latter case, if we admit the possibility of absolute norms, there does not seem to be a reason why this could not be one of them (emitting a loud sound in the presence of a tiger may well be a life hazard). But in fact there is a significant difference between the first and the second case: that a sound is loud is an "intrinsic" property of the sound, a property which we can detect just by hearing the sound. In contrast to this, the property that it means *that this is a dog* cannot be detected by inspecting the sound itself, it is not intrinsic, it is something that the sound has in virtue of the fact that it has come to be treated in a certain way by a certain linguistic community. Hence just like by looking at a car I can see that it is big, blue or dirty, but not that it is owned by John, by hearing a sound I can hear that it is loud, high or squeaky, but not that it means thus and so.

What exactly makes a sound mean that *this is a cat*? Certainly no sound has a linguistic meaning by itself, it must have it in force of being treated in a certain way by the members of a relevant linguistic community, namely being treated as subordinated to certain rules. And the rules governing the usage of our words are mostly the implicit kind of rules, they consist in the fact that we usually use the words in certain ways and that we react to not using them so by means of various kinds of 'corrective behavior'[6].

Of course not everybody and not always must use the expressions in accordance with the rules, there may be *discords*; one may use sometimes a word not in accordance with what she takes to be the correct usage, or one may standardly use it not in accordance with what is taken to be the correct usage in her community. Thus one may, sometimes, make an error of not following *modus ponens* though she takes it to be the rule governing the usage of the relevant connective, or one may standardly not follow *modus ponens*, though this rule is taken to govern the connective in the language of her community.

However, if a word is to have a meaning for a linguistic community, there must be an overwhelming majority of speakers of the community who agree on the rules governing it – for there is no other way for a sound to acquire meaning. It makes little sense to assume that a god or nature supplied the sound with the meaning (without also making the speakers endorse the corresponding rules). Of whatever kind other rules might be, the rules

[6] Cf. Wittgenstein (1953): "But how does the observer distinguish in this case between players' mistakes and correct play? – There are characteristic signs of it in the players' behaviour. Think of the behaviour characteristic of correcting a slip of the tongue. It would be possible to recognize that someone was doing so even without knowing his language." (§54)

governing expressions are surely man-made – that the speakers of English have employed the sound "dog" and not another one is clearly a contingent matter, and it would make little sense to assume that a god of nature would prescribe us to use this very sound (rather than another) in a certain way.

Hence if we violate the rules governing the usage of a word, it cannot be a failure (for the rules cannot be absolute), it can be merely a discord. Now as I have argued, *modus ponens* clearly belongs to the rules governing the usage of *if* ... *then* ... (and thus constituting its meaning). It follows that using *modus schmoens* instead of *modus ponens* can at most be a discord, not a failure.

An objection to this might be that though rules governing *words* are man-made, there are rules governing *concepts*, which may be the meanings of the words and for which the argument that they must be man-made fails. However, then we must ask how does a *concept* come to be interconnected with a *word* – how, that is to say, the word acquires its meaning. And if we reject what Quine (1969) dubbed the "museum myth", according to which we stick words to concepts as labels to exhibits in a museum, and subscribe to inferentialism, he answer must be that they acquire it by being subordinated to certain rules by the members of the relevant community. Hence there is no way of establishing the connection between a word a concept without establishing rules that are constitutive of the concept – hence there is no way of dissociating the concept itself from its connection to the word[7].

Logic as a public business

It might seem that the upshot of these considerations is that the rules of logic come out as akin to rules of etiquette: the only error we can make against them is of the kind of the error that we make when we use knife and fork in a way that does not accord with the standards of the current community. However, are not the rules of logic something much more important and much more useful?

Of course they are; and of course it does not follow from our considerations that this is to be denied. What however, does follow is that logical constants are brought to life, and to a certain extent kept alive, *by communities*. They are not tools like simple fishing rods that may be produced and used individually, they are more like money, that must be underpinned by a certain social consensus. They cannot live but in the milieu of a language, and a language cannot live but in the milieu of a society.

[7] This was stressed by Sellars, according to whom, as Brandom (2002) puts it, "grasping a concept is mastering the use of a word." (P. 27)

How much does language depend of community? This is, needless to say, not only a question that is controversial, but also one that is subject to actual controversies. One of the threads of the post-Wittgensteinian "rule following discussion", for example, concerns the question in how far could a Robinson, on his island, follow rules, especially rules of language. On one extreme, there are people claiming that it follows from Wittgenstein's considerations that this was not possible. (Kripke (1982), p. 110, for example, claimed that Robinson can be said to follow rules when "we are taking him into our community and a applying our criteria for rule following to him".) On the other extreme, there are people who take this to be absurd, for they take it for obvious that an isolated individual can set up rules that she can follow. (See, for example, Blackburn (1984).)

Now a tool that is socially forged may depend, after having been forged, on a support of the society in various degrees. Consider the following kinds of tools:

1. *Money*. The fact that a banknote is useful is essentially underpinned by the fact that the society takes it to have some value. Moreover, its functioning is limited to social exchanges. Hence if a Robinson were to have banknotes on his deserted island, they would be of no use for him.

2. *Gun*. A gun is a product of a society in the sense that it cannot be produced individually (let us disregard marginal cases), but only by a large social collaboration. It can be used individually, but this is limited: Robinson can use a gun as long as I have ammunition (that is also produced socially); once he is out of it, the gun is of no use for him.

3. *Bicycle*. A bicycle is a product of a society in the sense that it cannot be produced individually, but only by a large social collaboration (again, let us disregard marginal counterexamples); but then it can be used individually (suppose that the bike ha some heavy-duty tires, is equipped by a pump etc.). Hence if Robinson had a bike on his island, he could use it for a very long time.

Now it is clear that words, and especially logical constants, have a lot to do with money[8]. They too mean something only if they are taken to mean something; and they too primarily function in social exchanges. But words have also a secondary function: they help us think. (In case of logical constants, as I will argue later, this amounts to furnishing us with *new modes* of thought, such as the hypothetical mode; in case of other words it may enable us to think some particular thoughts about particular things.) And *this* function does not seem to be so much dependent on society as the previous one.

It is this function that makes us think not only about money, but also about guns and bicycles. It would seem that from this viewpoint, words and logical constants are at least as the gun: if somebody learns how to "think logically", then it would seem this is an ability that

[8] See Jorgensen (2009).

one can take away also when she leaves the society which equipped her with it. (The question is whether this ability then is already "permanent", like the bike, or fades away in some horizon, like the gun ...)

Logic as a mold

What I think is even a more serious moral to be drawn from the above considerations is that the rules of logic are not strategic directives advising us what to do with our (ready-made) beliefs, but rather constitutive rules the adherence to which make it possible for us to acquire any beliefs (in propositional form) at all.

We have seen that it is not possible to have the concept of implication (and, consequently, hypothetical beliefs) unless one is subordinating the concept to *modus ponens*. Thus *modus ponens* is not a way to manage beliefs effectively, but it is rather a way of acquiring a material from which to build (certain) beliefs. However, what certainly *is* possible is not to have implication at all (and hence not be capable of having hypothetical beliefs).

What is the difference between a creature with, and a creature without, an implication? It would seem that the difference is significant. To be able to have hypothetical beliefs – to be, as it were, able to have conditional thoughts – does not seem to be any minor improvement of one's cognitive gear. Hence to operate 'within' the rules of logic means to acquire a powerful cognitive upgrade. This means that to follow the rules of logic *is* useful – though useful in a different way than it seems to be.

What holds about hypothetical propositions, holds much more generally about propositions in general. Rules of logic, taken together, are not only responsible for there being logically complex propositions, incorporating the individual logical operators constituted by the rule, but more generally propositions at all. For what is a proposition? Which kind of entity would be reasonably given this name?

It would seem that a proposition is something that has a contrary that can be conjoined with other propositions that can imply other propositions and can be implied by them. Thus, I would say that just like what it takes to be a physical object is to be located in space-time and causally interact with other objects, what it takes to be a proposition is to be located in the 'logical space' and to be interconnected with other propositions by the logical relationships. If this is true, then there can be no propositions without logical rules – the rules *forge* the propositions just like the rules of chess forge the pawns, rooks and bishops.

Hence the picture according to which there is a straightforward analogy between tying knots in certain ways and climbing mountains safely on the one hand, and following the rules of logic and acquiring lots of true beliefs on the other, is amiss. When we reflect on the meanings of logical constants and acknowledge their inferential dimension, we can see that

the rules of the kind of *modus ponens* are not *tactical* or *strategic* rules that would advice us what to do (and what not to do) with our beliefs – and that we cannot see them as "deep-rooted modes of thought". They are rather *constitutive* rules, which equip us with certain *kinds* of beliefs (in case of *modus ponens*, especially *hypothetical* beliefs) and also with (propositional) beliefs in general. It follows that the picture of having been fortunate in having fallen upon *modus ponens*, among so many other alternative modes of thought, is untenable – we cannot systematically fail *modus ponens*, for this would mean that we would forfeit the concept of implication – and not having implication, we cannot fail *modus ponens* either, for *modus ponens* concerns nothing else than just implication.

That does not mean that evolution has not equipped us with certain exclusive epistemological powers; however, these powers cannot be understood as using the correct rules like *modus ponens*, rather than their fallacious variants. What evolution equipped us with is the very concept of implication and the hypothetical mode of thought that goes hand in hand with it. To be sure, there may be rules for an efficient employment of implications, rules different from the constitutive ones, there are, however, not the rules logic is usually engaged with.

The rules that are *constitutive* of meanings, *viz*. rules making the sounds we emit into *meaningful expressions* (in the way rules of chess make wooden pieces into *kings*, *rooks* or *bishops*) are regularly mistaken for rules *regulating* the usage of meaningful signs. Many rules for using meaningful signs do *not* tell us *what to do*, and hence the picture of choosing the best of them as a means to achieve a desired end (like having an adequate knowledge of the world) is misplaced. The rule that a particular wooden bishops should move only diagonally applies to the piece of wood only because it is a bishop, and it is a bishop only in so far as it is taken to be subordinated to the rules of chess (in the relevant way); hence the situation is not such that here we have the piece, we have a spectrum of rules of what to do with it, and we have to choose the most desirable one. The rule that this piece is to be moved only diagonally is not better or worse than the rule that it is to be moved in some other way, what substantiates its adoption is that it co-constitutes the role of bishop, which, in cooperation with other roles, makes up the amazing game of chess.

Similarly, the sound *if ... then ...* is governed by *modus ponens* only in so far as it is an implication, while it is an implication only if it is taken to be subordinated to *modus ponens*. Hence rules like *modus ponens* cannot be seen as something we manage to fall upon among many possible alternatives – they are not "modes of thought" that would lead us to our cognitive ends in better or worse ways. We may accept them (which, in case of *modus ponens*, amounts to acquiring implication), or fail to accept them; but their usefulness for us is not a matter of them alone, but rather of the holistic web or rules of which they are part and which supplies us with certain useful 'cognitive tools'.

Conclusion

Davidson (1984) famously argued that though anything a speaker claims may be false, it cannot be the case that everything, or almost everything, she claims is false. The reason is, roughly, that to make a false (or, for that matter, true) claim presupposes that the claim is meaningful; and one can make meaningful claims only if what she claims is mostly true. There is no other way to equip one's utterances with meanings save to systematically produce utterances that generally accord with one's environment and that are in this sense true.

Now our argument has a lot to in common with Davidson's, save for the fact that we not only claim that one cannot be a speaker/thinker without most of her assertions/beliefs being true, but we claim, over and above this, that she cannot be a speaker/thinker without endorsing some particular inferential rules, which open up, for her, several modes that determine what we call thinking. It is these rules that unlock what Sellars called *the space of reasons*, the space which nourishes propositions and that thus lets us think in their terms.

It follows that a rule such as *modus ponens* is not one among many possible ways of weaving our beliefs together – the way we have fortunately discovered to be optimal. It is rather something that co-constitutes our gateway into our peculiar kind of thinking and reasoning – that gives our thought its 'logical dimension' and thus makes us capable of reasoning in the first place.

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