BOOKS OF ABSTRACTS

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According to Thomas Raleigh, the second idea is not tenable. He argues that we cannot indirectly and demonstratively think about an environmental object via directly attending to a non-environmental item unless we believe that (B1) the item is not any environmental object and (B2) the environmental object which we try to think about is suitably related to the item. Otherwise, we demonstratively think only about non-environmental items which are components of visual phenomenology or fail to demonstratively think. Note that ordinary folks believe neither of B1 and B2. Thus, it follows that ordinary folks do not demonstratively think about any environmental object. This conclusion is extremely implausible. Therefore, we should dismiss the possibility that we can indirectly and demonstratively think about an environmental object by attending to a non-environmental item. Consequently, naïve realism alone can explain the necessary-conditional relation.

This argument can be criticized. One might claim that the introspective description is wrong. It seems that we can also describe the process from third person perspective. Such a description should be provided without any reference to phenomenology. The third person perspective is more appropriate than the first person one to elucidate the cognitive process of formation of demonstrative belief, because it fits to scientific methodologies. Phenomenology is in nature first personal. Given this, the phenomenology of veridical visual experience should not play any role in explaining the process of formation of demonstrative belief. Thus, the necessary-conditional relation should be somehow explained without any reference to the phenomenology.

It is controversial from which perspective we can grasp the nature of the relation. Indeed, our intuition can be separated in this respect. This may amount to the question: which intuition do you have? This is philosophically a dead-lock. In order to avoid this predicament, I turn to a different relation between a veridical experience and a demonstrative belief: rational-explanatory relation. It is generally accepted that a mental state can be pointed to as an explanatory reason for a (cognitive) activity. For example, my belief that there is a pint of beer in front of me can be pointed to as an explanatory reason for reaching my hand forward. Note that there is such kind of explanatory reason that we can use a mental state as an explanatory reason only via introspective awareness of the mental state. I call this introspective explanatory reason; I call the corresponding relation introspective rational-explanatory relation (shortly, IRE).

It is plausible that a veridical experience can be referred to as an introspective explanatory reason for forming a demonstrative belief. Hence, it is also plausible that IRE holds between a veridical experience and forming a demonstrative belief. The question to be asked here is: how can we explain why IRE holds between them?

My suggestion is that the following two conditions must be satisfied for IRE to hold: (1) a veridical experience must be phenomenal; (2) a veridical experience must involve environmental objects. Given this, I argue that to accept both (1) and (2) is to accept naïve realism. Given the conceptual connection between introspection and phenomenology, IRE cannot be elucidated from the third person perspective, differently of the consideration of the necessary-conditional relation.
subject of empathic motivations while lacking a theory of mind. The development of mindreading abilities would allow her to enjoy a better understanding of her actions and their consequences, thus endowing her with a certain degree of moral agency.

Naïve Realism and Demonstrative Belief

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Naïve realism is the claim that the phenomenology of veridical visual experience is constituted by perceived environmental objects and some of their properties. Philosophers of perception have held wide-ranging discussions on the viability of naïve realism against the background of many counterarguments such as the argument from hallucination, whereas it has not been sufficiently discussed how naïve realism is motivated. My paper aims to argue that naïve realism can be motivated by considerations of how a visual experience can be referred to as a kind of reason for forming a demonstrative belief.

There is a basic strategy for arguing for naïve realism: (1) to take up a cognitive state and then to clarify what relation hold between a visual experience and the cognitive state; (2) to demonstrate that naïve realism alone can explain the relation. There are many candidates of such a cognitive state: knowledge about the external world, knowledge of intrinsic properties of environmental objects, object-involving belief and demonstrative belief. In this paper, I focus on demonstrative belief about environmental objects.

To have a veridical experience is a necessary condition for having a demonstrative belief about an environmental object. In other words, there is a necessary-conditional relation between a veridical experience and a demonstrative belief. How can we explain why the relation holds? Some philosophers such as John Campbell and Thomas Ralegh have focus on this question to argue for naïve realism.

Suppose that I see a red apple and then form a demonstrative belief that that is red. The situation can be described from my perspective as follows. First, in the visual experience, I undergo the phenomenology which appears to involve the red apple. With an appropriate intention, then, I attend to the phenomenology in order to pick out the apple by the demonstrative concept that and its redness by the colour concept red. This introspective description suggests that I form the demonstrative belief at a point when I apply the concepts to the phenomenology via attention. In this case, the concepts of that and red refer to certain components of the phenomenology. The question to be asked is: how can the demonstrative belief be about a red apple as an environmental object? There are two possibilities. One is that the red apple is the very component of the phenomenology. To accept this idea is to accept naïve realism. In this case, we can explain why the necessary-conditional relation holds in the following manner. Having a veridical experience, environmental objects are phenomenally presented to us and thereby become available for a demonstrative belief. If we do not have any veridical experience, any environmental object does not become available.

The other is that the concepts of that and red somehow indirectly pick out the apple and its redness. The fact that a concept directly picks out an item does not mean that the concept cannot single out something other than the item in any indirect way. It might be possible that that and red indirectly pick out the apple and its redness. This idea does not support naïve realism at all.
The Empirical Evidence for Semantics: What Can it Tell us and Why?

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This paper explores the ways in which semantic theories might be held to be answerable to empirical evidence, looking in particular at the kind of cognitively real approach to semantics common to many participants in recent debates about the semantics/pragmatics border. I will examine exactly what is supposed to be involved in an assumption of cognitive reality, contrasting strong claims about on-line processing mechanisms with a range of weaker claims. Finally, I will survey some of the possible sources of empirical evidence (e.g. speaker judgements, developmental data, processing time experiments, eye-tracking, brain scans) and ask what they might be able to tell us about the kind of semantic theory we need.

Language

The Empirical Evidence for Semantics: What Can it Tell us and Why?

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Does empathy require a theory of mind?

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The term ‘empathy’ is used in many different ways. It has been used to designate a specific type of behaviour, an emotion, a character trait, a motivation, or a certain ability. Depending on the definition of empathy we subscribe, the answer to the question of whether empathy requires a theory of mind may seem an obvious yes or an obvious no. When the term is used to refer to a moral emotion, the consensus seems to be that it does require a theory of mind. However, I believe that we can offer a minimal definition of empathy which is sufficient to count as a moral emotion but which does not require a theory of mind. I will offer such a definition and argue that a being motivated to act by empathy in this sense would count as a moral subject. Moral subjects are beings who can at times be motivated to act by moral reasons, among which we find moral emotions. Moral subjects should be distinguished from moral agents. The latter are moral subjects who can be evaluated for their actions because they have a sufficient understanding of them and their consequences. A being can be a moral

35
Propositional Attitudes and Deferred Reference
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The so-called relational theory of propositional attitude sentences, such as

John believes that Hesperus is a planet,

is composed of the following theses:

(R) RELATION:
Propositional attitude sentences express two-place relations: the first relatum is the referent of the term in the subject position and the second relatum is the denotation of the that-clause following the main verb,

(H) HOMOGENEITY:
The second relata of the relations expressed by propositional attitude sentences, i.e. what that-clauses denote, are entities all of the same kind, no matter what the context and the attitudinal verb are.

Thus, according to the theory, the following sentences,

John believes that Hesperus is a planet
John knows that Hesperus is a planet,

express the holding of two different relations between the same entities: John; the denotation of ‘that Hesperus is a planet’.

Traditionally, the theory has been widely endorsed, so widely that it has mostly been implicitly held and even those who have discussed it explicitly have generally spent no or little time in providing some motivations in its support. Still, the following may be reasons for accepting the theory:

• INFERENCE: Endorsing (R) is the easiest way of accounting for the intuitive validity of inferences like the following:

  John believes that Hesperus is a planet
  Mary believes everything John believes

The aim of the paper is to try to develop the idea that undermining defeaters operate their defeat by requiring the subject to consider her higher-order commitments about the basing of lower-order beliefs.

As it is well known, Pollock (1974: 42-3) distinguished between undermining and overriding defeaters. Let \( p \) be a previously warranted proposition: while overrides explicitly suggest that not-\( p \), underminers don’t. Instead, they are reasons to believe that the justification is not strong enough to warrant belief in \( p \). Consider the following examples, where \( e \) is the evidence, \( p \) the proposition warranted, and \( d \) the defeater (and \( e \) and \( d \) are the only pieces of evidence that are relevant for \( p \) available to the subject):

(1) \( e = \langle \text{Andreas says that puffins are a species of mosquitoes} \rangle \)
\( p = \langle \text{Puffins fly} \rangle \)
\( d = \langle \text{Filippo tells me that Andreas’s knowledge in naturalistic matters is very low} \rangle \)

(2) \( e = \langle \text{I remember having left the book on the desk} \rangle \)
\( p = \langle \text{The book is on the desk} \rangle \)
\( d = \langle \text{I now see that the book is not on the desk} \rangle \)

While \( d \) in (2) explicitly says that not-\( p \), \( d \) in (1) suggests that the source of justification is not trustworthy. In (2) we have an overrider; in (1) we have an underminer. A plausible account of undermining defeat—a long the lines suggested by Sturgeon (2012: § 1.4)—maintains that underminers operate by appealing to a belief about the base of the subject’s belief in \( p \) (say, “my belief that \( p \) is based on Andreas’ testimony”), and by suggesting that there was something wrong in basing the belief in \( p \) on that specific base (say, “Andreas is unreliable in the relevant subject matter”).

The thought is, roughly, that while underminers pertain exclusively at the level of belief-management (they force the subject to reflect on the way beliefs were formed), overrides can be circumscribed to the level of belief reception and rejection. I will try to elaborate this idea.

How exactly do underminers force the subject to do the higher-order epistemic work that they seem to require? Let’s consider example (1): \( d \) appears to suggest that, at least in the relevant context, the source of evidence is not reliable. Some have noted that this is usual with undermining defeat, and claimed that underminers typically work by showing that the source is defective in some way or not working in the proper environment (e.g. Casullo 2003: 45-6). Consider this other example:

(3) \( e = \langle \text{My proof of \( p \)} \rangle \)
\( p = \langle a \text{ seemingly logical theorem} \rangle \)
\( d = \langle \text{A logician tells me that there’s a mistake in my proof} \rangle \)

Supposing that I am generally good at proving theorems, that the proof wasn’t especially difficult, and that there were no disturbing elements (such as having had too much wine, or having executed the calculation in a noisy place), it does not seem that the underminer here suggests either that the source is defective or not operating in the proper environment (however we might want to specify the notion of proper environment). Rather, it appears to suggest that there’s been an occasional mistake in the justificatory process.

I will argue that underminers, in general, indicate that something went wrong in the justificatory process—suggesting that the source is unreliable is just one way of doing so. More precisely, I will claim that an underminer can suggest that something went wrong in the justificatory process in at least two ways. Suppose we can use propositional triads to represent in a basic way the pieces of information available to the subject when she incurs in a defeater:
significant amount of up to date neuro-scientific data. The result is a renewed representational framework in which he can develop his own proposal, the AIR theory of consciousness. His approach is based on the integration of the original intermediate level theory with attentional modulation. Attention is taken to be the necessary and sufficient top-down process capable of allowing the arising of conscious experience. Prinz considers intermediate level representations, attention and unity (the composition of different particular experiences into one coherent phenomenal framework) to be the three core elements of consciousness. The neural correlates he proposes for each of them are respectively: vector-waves, modulation (at the gamma frequency) and resonance. He claims that when appropriate representations are modulated by attention, in resonance between different neural groups, a unified and coherent conscious experience of the stimulus will arise.

I hold that, if we accept Prinz’s assumptions and closely follow his line of argument, his idea seems to be plausible to a significant extent. Nevertheless, I think that there are at least two critical aspects that are worth noting and discussing, for they might lead to some relevant issues for his proposal. The first problem is relative to notion of intermediate level, which appears far too general and underspecified to be a useful and necessary component of a theory, which has to be implementable in such a specific neuro-biological model. The second goes a little beyond Prinz’s proposal and concerns the problem of cognitive penetrability. If we strictly follow his account, the information processed in what he identifies as the high cognitive level seems to play no active role in affecting and shaping current phenomenal experience, which, in turn, would result cognitively impenetrable. I consider such a consequence to be rather undesirable.

In the first part of the paper I will present Jackendoff’s original intuitions about the intermediate level of information processing. I will sketch out his theory and review the model he adopted to support it, namely the model for visual information processing developed by David Marr (1982). Then I will discuss Prinz’s version of the intermediate level theory, presenting its structure, from both the functional and the neuro-biological perspective, in sufficient detail as to be able to argue for the mentioned critical aspects: notion generality and cognitive penetrability. Finally I will propose an extended version of the theory which takes into account other top-down processes that might be involved in visual object perception and recognition. In particular I will present the pro-active brain model developed by the Harvard Medical School group led by Moshe Bar. Briefly, what they suggest is that part of the incoming information is quickly associated (through neural shortcuts) with analogue information already stored in memory, in order to generate a plausible prediction of a set of possible identities for the object. This prediction is projected to brain recognition areas, where it acts like a filter, narrowing down the possible interpretations of the visual stimulus, thus facilitating identification. I believe that stored representations of objects are to be intended as complex multi-modal and conceptual interfaces, which connect sensory aspects with valuations and acquired knowledge. If this is true, then an associated projection in this top-down model would connect the currently perceived stimulus with all possible stored information about previously perceived similar stimuli. I will argue that this model might be consistently integrated in the intermediate level theory in order to build a viable way of avoiding the problems connected with Prinz’s version. In fact, I think that such an integration would allow for a further specification of what is to be considered the “intermediate-level” and provide an account on how previously stored and high level processed information may be involved in real-time in the construction of intermediate level representations, thus shaping the character of our current conscious experience.

Thus, Mary believes that Hesperus is a planet

For according to (R) the sentences enjoy the following logical form:

\[
\forall x(Bjx \rightarrow Bmx)
\]

and thus the explanation of the validity of the inference does not need to go beyond the usual rules of first order classical logic with quantifiers.

- **PASSIVE:** If in a propositional attitude sentence, for example

  John believes that Hesperus is a planet,

  the that-clause were not referential, then the sentence would not permit the passive form in which

  the that-clause would go in the referential subject position. But the passive form is allowed, since

  That Hesperus is a planet is believed by John

  is perfectly grammatical.

- **SIMILARITY:** There are contexts in which propositional attitude verbs are clearly transitive, such as the following:

  John believes Mary’s theory.

Since an inference like

\[
\begin{align*}
    John & \text{ believes } Mary \text{'s theory.} \\
    Mary 's \text{ theory} & = \text{ that Hesperus is a planet} \\
    Thus, John & \text{ believes that Hesperus is a planet}
\end{align*}
\]

seems to be a valid instance of the substitution of identicals, and since ‘to believe’ is transitive in the first sentence, then the verb should be taken as transitive also in the last one.

I will show that, good as they might be, these reasons do not seem to be strong enough to establish the truth of the theory.

Just as there seem to be signs of the truth of the theory, there also seem to be signs of its falsity. After centuries in which, apart from a few exceptions, the relational theory had not been called into question, there has been an inversion of tendency. Recently, much attention has been put on the following linguistic data, which are considered to be able to show that the theory is false:

- **SALVA CONGRUITATE:** in accordance with the relational theory, that-clauses are referential expressions and refer to entities of a certain kind \( F \). But then in sentences like

  John hopes that Hesperus is a planet
it would have to be possible to substitute the that-clause with an expression of the kind \textit{the }F\textit{ that Hesperus is a planet} without turning the sentence into an ungrammatical one. But it is not possible: all of

\* John hopes the proposition/fact/state of affairs/sentence/… that Hesperus is a planet are ungrammatical.

- \textbf{SALVA VERITATE}: in accordance with the relational theory, that-clauses are referential expressions and refer to entities of a certain kind \(F\), being they propositions, sentences, contents, states of affairs, facts, … According to the theory the two following sentences,

John fears that Sue will come to the party
John fears the proposition/ fact/state of affairs/sentence/… that Sue will come to the party,

would thus have to have the same truth conditions, but they do not: while the first expresses a fear that concerns Sue coming to the party, the second expresses an instance of a phobia concerning an abstract or a linguistic entity.

I will argue that, under scrutiny, \textbf{SALVA CONGRUITATE} cannot be considered as problematic. Concerning \textbf{SALVA VERITATE} I will instead maintain that it does seem to cry for an explanation.

Those who present these linguistic facts generally conclude that that-clauses are not devices of reference and thus that thesis (R) is false. I will instead maintain that this is not the obligatory conclusion. I will suggest that a sentence like

John believes that Hesperus is a planet

involves a polysemous term: in uttering it we make present a sentence, i.e. “Hesperus is a planet”, in order to refer to something else. Moreover, in different contexts we intend to refer to entities of different kinds.

Since this is a reactionary account, in that it holds that that-clauses are devices of reference, I will conclude that the linguistic facts considered as problems for the relational theory do not seem to force the conclusion that (R) is false.

domains, to some of which we will revert in the body of the paper. The cases are similar because the underlying computational processes may not be dissimilar. Secondly, derivational framework- with an innate mechanism and a computational process- appears to be psychologically more plausible (Laurence and Margolis, 2012) than other alternatives.

This paper thus attempts, using the notion of derivation, to develop a general theory of mental representation and proposes an alternative, namely, derivational theory of mind. An offshoot of this exercise is that the representational theories of mind (RTMs) in the present form, often claimed as “the only game in town”, has to be rejected in the current form, along with its distinctive versions such as “language of thought” (LOT). Another one is that, the currently fashionable dominant trend in contemporary philosophy -called linguisticism here- appears to be conservative, (just like psychologism and logicism in the previous century). At the very least, it puts pressure on the ideas in the representational landscape while proposing an alternative structure that can withstand this.

The structure of the paper is as follows. The section 1 starts with a brief introduction to the problem of representation and the present status of representational theories. Since a theory of mind is a twin theory of mental states and processes, in Section 2 theories of mental processes, such as Dual Processing Theory (DPT) are critically evaluated after discussing theories of mental states. On the constructive side, in Section 3, a model, S3 model as opposed DPT, consisting of the notions indication, representational import, and derivation is proposed. A justification of this model is offered in the next section in terms of narrow syntax and a developmental account of derivations. The section 5 where some objections to the proposed derivational theory of mind are considered and brief replies are offered, concludes the paper.


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In this paper I will address Jesse Prinz’s recent effort to provide the debate about visual conscious experience with a new neuro-biologically compatible theory. I will clarify the core aspects of his proposal and discuss why I believe that his account presents at least two critical points, which need to be discussed carefully, since they might reveal two correspondent problems for his entire framework. Finally, I will propose a hypothesis for a possible extension of Prinz’s theory that might offer a viable way of avoiding these problems.

In his recent book \textit{The conscious brain} (2012) Jesse Prinz aims to build up a coherent account for visual conscious experience. According to his proposal each core element of the theory he presents can be grounded from a neuro-biological perspective, by identifying its neural correlate. In order to achieve this goal he adopts the framework of the intermediate level theory of consciousness, first developed by Ray Jackendoff in 1987. The general idea of this computational theory is that the flow of information processing in the brain (at least in the case of vision, but both Jackendoff and Prinz argue that the approach could be generalized to all sensory modalities) can ideally be divided in three stages or levels. To each one of these levels corresponds a specific representation of the visual input. The most important claim, however, is that only the type of representations associated with the intermediate level presents a sufficient degree of both organization and phenomenal similarity to be suitable to become conscious. Prinz systematically tests the consistency of these ideas with a

When the Push of Derivations Come to the Shove of Representations:
A Case for Derivational Framework of Cognition
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Human beings use language, entertain thoughts, create and enjoy music and arts, perceive and visualize things; they have minds. Their mind, it is claimed, is special and unique among the animalia. The suggested reasons for this claim are, either their capacity for language, thinking, music, arithmetic or perception, is biologically isolated, or, that it is possible to reduce these capacities into something which is primal and sui-genesis, and taking this approach, it is argued, we get a grip on what makes them special. Recent candidates in this theoretical landscape take one mental capacity as fundamental and the rest as adjunct or redundant.

On the face of it, it is claimed that primacy of language, or thought, or music, or arithmetic, or vision has to be assumed in any theory of mental representation (see, Hinzen 2012, Fodor 1998, Brandt et al 2012, and cf. Marr 1982), as they are prior “both ontologically and in order of explanation” (Fodor 1998 pp: 7, added emphasis). Against this dominant approach in cognitive science (cf. Chomsky 2011, 2012), here we attempt, without any proposal to reduce or eliminate these approaches, to develop a contrasting framework: derivations.

There are three main reasons, as we see below, for rejecting the currently dominant representational framework that gives weightage to some form of primacy argument. The first argument is that the primary argument (PA) is inconclusive; one can, if she wishes, use a PA in favour of any of the approaches mentioned above. With sufficient modification of PA we can have a theory that claims to explain the primacy of language, the primacy of thought, the primacy of music and so on to the point of mutual exclusion, according to the acquired theoretical world views of the arguers. Secondly, PA is indefensible, absence an evolutionary explanation, and an evolutionary explanation in the case of PA is difficult to come by. What kinds of evolutionary pressure there might have been, that favoured for instance, language over thought, or thought over music, music over arithmetic? Assuming that Darwin is right about evolution of organisms through random variation and natural selection, how could it be that one window of cognition gets primacy or ontological priority over others? PA has no defensible resources to address these problems. Finally, there is an independent argument that one element of cognition, a computational process called derivation, is common to all the windows discussed above, because all of them are computational systems.

There are two main reasons for favouring the derivational framework. First one is that using this framework, it is possible to explain the problem cases that appear in all the windows of the mind such as language, thought, music, perception. There are strikingly similar cases of illusion in all these situations of illusion in all these elements to address these problems. Finally, there is an independent approach to defend T1. In section 2 I show that semantic relativism. Indeed, given the principle (a), the sentence:

(T1) if A sincerely asserts the proposition expressed by (1) and B sincerely asserts the proposition expressed by the negation of (1), then necessarily they genuinely disagree;
(T2) if A and B genuinely disagree, then necessarily one of them makes a normative error. Since this error presumably depends on a wrong analysis of knowledge, necessarily, at least one of them defends a wrong epistemological account.

Many contemporary philosophers are willing to accept the two following theses:

(1) Smith knows that either Jones owns a Ford or Brown is in Barcelona expresses a true proposition. Nevertheless — B claims — under the hypothesis that GC actually occurs, (1) seems to express a false proposition: then, it seems to be possible that a case of justified true belief is not ipso facto a case of knowledge.

Consider an epistemologist, A, who claims that, necessarily, for every cognitive subject S and for every proposition p, S knows that p if and only if S is justified in believing that p. Another epistemologist, B, proposes a counterexample by describing the well-known Gettier’s Case II (GC). Under the hypothesis that GC actually occurs, an obvious consequence of A’s analysis of knowledge is that the following sentence:

When the Semantic Evaluation in Gettier Cases
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Since propositional content is non-specific with respect to the parameter index \( i \), B asserts the negation of the same proposition asserted by A, by uttering the negation of (1). Furthermore, given that according to (5) the proposition expressed by (1) is true if and only if the proposition expressed by the negation of (1) is not true, if A asserts the proposition expressed by (1) and B asserts the proposition expressed by the negation of (1), then one of them asserts a true proposition, while the other one asserts a false proposition.

However – as I claim in section 2.1 – if we buy semantic relativism, then we cannot accept T2. Even though asserting a false proposition involves a violation of N, in a relativistic framework the violation of a norm such as N might be insufficient to make a normative error. Indeed, the assumption that asserting a false proposition is a normative error does not take into account the role played by the parameter index \( i \) in the semantic evaluation. Consequently, we have to adopt another norm of assertion:

\[ (N^*) \text{ S should assert that p on an occasion } O \text{ only if p is true relative to the index (i) that is operative for S on } O. \]

According to \( N^* \), it is not necessary that at least one cognitive subject, A or B, makes a normative error: A can evaluate the proposition expressed by (1) as true relative to a certain epistemic parameter, while B can evaluate the proposition expressed by the negation of (1) as true relative to another one. In the conclusion I argue that it is hard to see how to accept both T1 and T2.

Therefore, when we self-ascribe introspectively a conscious experience that P:

- We self-ascribe a reason to believe that P
- We admit that this reason is not itself justified (we have no reason to have a reason to believe that P)
- We nevertheless maintain, in spite of (B), that we have a reason to believe that P (maybe because of the nature of our informational, and particularly perceptual, devices: sometimes we do not dismiss an unjustified reason to believe that P only because we cannot help believing that we have a reason to believe that P)

Using examples, I will try to show that this conception accounts for our introspective self-ascriptions of experiences.

Here is the important point: if this conception is correct, it explains the main anti-physicalist intuition (the intuition of conceivability). Indeed, this intuition is based on the fact that it seems always possible to have a conscious experience (say, pain) without the brain state which is supposed to be identical with it (say, C-fiber activation), and conversely. And this appearance of possibility cannot be explained away by saying that in such cases, we do not conceive pain without C-fiber activation, but merely a thing that appears to be pain without C-fiber activation. Indeed, when it comes to conscious experiences, “appearing to be pain” and “being pain” are the same thing (Kripke, 1980).

This last fact is explained by my conception. Indeed, a thinker cannot think “it seems to me that I have an experience that P but I don’t”, because such a thought would arguably justify the satisfaction of the conditions (1), (2) and (3). But these conditions cannot be met because by definition when I introspectively self-ascribe an experience that P, I implicitly admit that there is no fact Q which differs from the experience and which is the reason which justifies that I believe that I have the experience. In other words, if experiences, when thought about introspectively, are indeed thought about as “ultimate seemings” (reasons to believe something, which themselves are not justified by any reason), it is by conceptual necessity impossible that I have a reason to believe that I have an experience without having this experience, given that I implicitly asserted, when introspectively self-ascribing a conscious experience, that such a reason (that I could have without having the experience itself) does not exist. This explains why, when it comes to conscious experiences, there is no appearance/reality distinction (and that itself explains the intuition of conceivability).

Compared to other theories of phenomenal concepts, this conception has an advantage: it strongly links our conceptualization of conscious experiences to our other epistemic concepts. Consequently, it explains anti-physicalist intuitions by locating them in a comprehensive picture of our epistemic practices. Because of this, my account escapes the objection of being ad hoc.

I think it has numerous other advantages, which I cannot detail here. For example, this conception explains in a robust way the intuition of “acquaintance” (Balog, 2009) which concerns the kind of access we have to our conscious experiences. It also gives a framework that could solve some of the current debates concerning the existence of a “cognitive phenomenology” (Bayne and Montague, 2011).

REFERENCES


Finally, I analyze neuroscientific data, in relation with the Enactive Thesis, Externalism and Extended Mind in order to explore the possibility of Direct Realism, according to whom, when one perceives the world, the mind-independent object of perception are constituents of one’s experience. In other words, we can directly perceive the external world as it really is.

Conscious Experiences as Ultimate Seemings: Renewing the Phenomenal Concept Strategy
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Some philosophers have tried to show that conscious experience does not threaten ontological physicalism, by arguing that anti-physicist intuitions are nothing but a by-product of certain epistemological features of phenomenal concepts (the concepts we use to think about experiences through introspection). In contemporary philosophy, this line of thought has been labelled “the Phenomenal Concepts Strategy” (Hill, 1997; Loar, 1997; Papineau, 2002; see Stoljar, 2005 for the expression).

However, most of the theories developed under this label have in common one flaw: they are largely ad hoc. Indeed, their speculations concerning the psychological processes underlying our thoughts about consciousness are mainly guided by the project of defending physicalism. Moreover, these theories often explain anti-physicist intuitions as being the result of brute psychological facts: they offer a mere causal explanation of these intuitions instead of a comprehensive picture of our conceptual practices which could allow us to make sense of why these intuitions arise.

I wish to defend a conception that could avoid these flaws. My starting point is the semi-technical notion of “seeming”, which can be defined as follows: It seems to me that P when I have a reason to believe that P (such a definition does not account for all the ordinary or philosophical uses of “seem”, but this is not my purpose). Therefore, if I am rational, the fact that I believe that P implies that it seems to me that P, but not conversely.

When I am in a situation where it seems to me that P while not believing that P, I rationalize this situation as follows:

- I assert that Q (a fact distinct from the fact that P and from the fact that it seems to me that P, and which is compatible with not-P)
- I assert that the fact that Q is a reason to believe that P
- I assert that 2 and 3 are the reason why it seems to me that P

These assertions are not actually made every time it seems to me that P while believing that not-P. However, every time I am in such a situation, rationality commands that I judge such assertions to be available, even if I am not disposed to produce them.

My idea is that we sometimes self-ascribe some very peculiar kind of “seemings”, that I call “ultimate seemings”. They happen to be what we call conscious experiences. What are these “ultimate seemings”? They are what I self-ascribe when it seems to me that P while, even if it could be the case that not-P, I could not find a fact that Q which could be used to fulfil the conditions (1), (2) and (3). In other words, I self-ascribe an “ultimate seeming”, when it seems to me that P, even if I cannot justify the fact that it seems to me that P by appealing to another fact. Therefore, when I self-ascribe (a) the utterance is relevant enough to be worth the audience’s processing efforts, (b) it is the most relevant one compatible with the communicator’s abilities and preferences. The presumption of optimal relevance is said to capture what the audience of an act of ostensive communication is entitled to expect in terms of effort and effects. In particular, clause (b) suggests that the audience is entitled to expect the highest level of relevance that the communicator is capable of achieving given her means (‘abilities’) and goals (‘preferences’). It follows that the hearer’s expectations of relevance, whose satisfaction determines the stopping point of the comprehension procedure, are tightly constrained by considerations about the speaker’s beliefs and intentions.

Recent works within the relevance-theoretic framework (Carston 2007, Mazzarella 2011) have argued that associative accounts fail to explain how hearers accommodate speaker’s beliefs and other mental states when these affect the derivation of the propositional content of the utterance (the explicature, in relevance-theoretic terms). While Mazzone (2013) accepts that associative mechanisms based on mere spreading of activation cannot explain how information about the speaker’s mental states gains prominence in interpretation, he argues that Relevance Theory is exposed to the very same objection. The appeal to the notion of optimal relevance as an ‘acceptability criterion’ is not enough to show how information about the speaker’s beliefs and other mental states enters the picture: an explanation in terms of actual cognitive mechanisms involved in utterance interpretation is thus needed.

I propose a solution for Relevance Theory that is grounded on the interaction between the relevance-driven comprehension module and mechanisms of ‘epistemic vigilance’ targeted at the risk of being misinformed by others (Sperber et al. 2010): “the abilities for overt intentional communication and epistemic vigilance must have evolved together, and must also develop together and be put to use together” (Sperber et al 2010: 360, my emphasis).

Epistemic vigilance mechanisms are supposed to monitor both the reliability of the source of communicated information and the believability of its content. Sperber et al (2010) claim that epistemic vigilance mechanisms might operate in parallel with the relevance-theoretic comprehension procedure: they would both be activated by every piece of communicated information and the output of the former would affect the believability of the interpretation resulting from the latter.

I extend the scope of this interaction and suggest that epistemic vigilance mechanisms might directly affect the interpretation process. In particular, epistemic vigilance mechanisms that assess the competence of interlocutors would prompt the comprehension procedure to assess further interpretative hypotheses when the current one is not compatible with the speaker’s beliefs. In other terms, taking a further step along the path of least effort, which characterises the relevance-theoretic comprehension procedure, would be motivated by the detection of an incompatibility between the current interpretative hypothesis and the speaker’s beliefs by epistemic vigilance.

I argue that the suggested analysis might provide a clearer picture of how information about the speaker’s beliefs and other mental states affect the process of utterance interpretation, spelling out a tentative account of how the ‘optimal relevance’ acceptability criterion proposed by Relevance Theory could be cognitively implemented.

REFERENCES


Williamson on the Psychological View. A Criticism
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What is the nature of the evidence provided by thinking about hypothetical cases, such as those presented in the thought experiments (TE), and about cases in general? Is it psychological, as those who speak about intuitions seem to think, or not? This problem is closely related to that of the nature of the subject matter of philosophy, that most philosophers tend to conceive as non-psychological. Williamson’s position on the matter (Philosophy of Philosophy, 2007, chapter 7) consists in rejecting the psychological view on intuitions: if we want this method – the actual method, i.e. the armchair method – to provide us with evidence in favour or contra theses or theories concerning the non-psychological subject matter of our inquiry, then we have to understand the evidence, collected “by thinking about the cases”, as non-psychological as well. By thinking about cases – counterfactual, or factual - we directly gain knowledge about the object of our inquiry. On the contrary, thinking of the data provided by thought experimentation (and armchair methodology in general) as psychological would amount to open up a gap between these data and the object they are supposed to provide evidence for. Unlike Williamson, Brown (“Thought Experimentations, Intuitions and Philosophical Evidence”, 2011) thinks that the psychological view on intuitions can be defended: an indirect approach to the object of our inquiry is feasible, the gap can be closed. Her idea is to extend a solution adopted in the case of perception, reliabilism, to the problem at issue.

In the first part of this paper/talk we argue both against (a) Williamson’s move and (b) Brown’s proposal.

(a) Williamson’s argument is straightforward, but nevertheless suspicious. One could in fact object that, by arguing that the evidence must be conceived as non-psychological in order to make a certain kind of project plausible, Williamson is addressing the wrong problem: the problem does not consist in deciding how the evidence provided by the armchair methodology, i.e., by thinking about actual or hypothetical cases, should be understood in order to avoid the sceptical challenge. On the contrary what we should ascertain is whether the data collected through assessing actual and hypothetical cases could in fact provide evidence for the relevant object of inquiry. In other words: the nature of the TE evaluations should be ascertained preliminarily, rather than established a posteriori as Williamson does, on the basis of a methodology, the current one, that he wants to keep

Furthermore, the Extended Mind model (Clark, Chalmers, 1998) suggests that cognition is larger than subject’s body, and that its boundaries are not always inside the skin. The mind uses objects in the external environment as extensions of itself. Andy Clark states that cognition leaks out into body and world.

A related doctrine is Externalism, according to which in order to have certain types of intentional mental states, it is necessary to be correctly related to the environment. Externalist (e.g., Putnam) have claimed that meanings and thoughts are not in the mind, and quite similarly Noë states that perception is not a process in the brain, but the skilful activity of the animal as a whole. Some externalists affirm that phenomenal content are partially external to the body of the subject.

In In Proof of an external world (1939) G.E. Moore gave a common sense argument against scepticism by raising his right hand and saying “Here is one hand,” and then raising his left and saying “And here is another,” then concluding that there are at least two external objects in the world, and therefore that he knew (by this argument) that an external world exists. It is not by chance that I will focus on hands, precisely, on touch sense and affordances in their enactive dimension. Recently neuroscience brain imaging experiments using functional magnetic resonance imaging (fMRI) have discovered the canonic-neurons system, which give us a better founded idea of the relations between our perception/action system and the cognitive processes behind our knowledge of the external world.

The working hypothesis of the present paper is to show: a) that the discovery of canonic neurons supports the thesis of cognition as strictly based on enactive processes; b) that the discovery of bimodal neurons supports the Extendend Mind model; c) that according to results obtained in point a) and point b), we can argue, against anti-realistic representationalism and sense-data theory, that it is possible to know the external world.

In the first section I show how the discovery of canonic and bimodal neurons strengthens the Enactive Thesis and the Gibson’s intuition about the concept of affordance: neurophysiological studies confirm that motion and perception cannot be divided in their cortical aspects (at least in regions involving canonic phenomenon). I illustrate experiments (Rizzolatti, Gentilucci 1988) showing that at brain level there is a strong correlation between the way of grasping and the codification of the object. Cognition is attuned with the pragmatic use that external objects “mean” for the acting subject. In the brain dimension visualizing an object means understanding what we can really do with that object, how we can precisely catch it, or what kind of object we are in front of, we have to be aware of, or we can interact with. Seeing means realizing the way we can grasp, for example, the object. We cognitively catch it in a way defined by Dretske as non-epistemic (Dretske, 1979). It is not a chance that both actions, catching the object and seeing it, activate the same cortical regions (many of which in motor cortex).

Then, I’ll talk about bimodal neurons. They are similar to simple somatosensores neurons, that fire only to somatic stimuli. Moreover, bimodal neurons are more complex. They fire also thanks to visual stimuli, but only when the visual stimulus comes near their tactile receptive field (Fogassi et al., 1992), a particular space determined by their visual receptive field as an extension of somatosensory receptive field regardless the direction of the glance (Gentilucci et al., 1988) or stimulus across the retina (Gentilucci et al., 1983; Fogassi et al., 1996). We can define the surrounding space thanks to our organ in relation with the external objects. Thanks to this relation there are different bodily reference systems, because there are different body parts. Cognitive structures emerge from sensory recurring patterns, allowing to guide actions thanks to perception.

In the second section I argue that some experiments by Atsushi and Iriki on bimodal neurons (Iriki et al., 1996) support the Extended Mind model, showing that if we use a tool to catch an object, visual receptive field includes the tool, that becomes at brain level, a body part, changing the extrapersonal space in peripersonal space.

In the third section I use these results to criticize anti-realist representationalism and sense-data theory, holding that what is given in our experience is not non-physical entities (sense-data): these experiments show that we do not build arbitrary images, but isomorphics mappings of the external objects.
(A) suggests that the referent of that clauses in ordinary belief ascriptions are psychological contents. But this is not exactly what Burge says. “Arthritis” is not univocal in the same sense in which it is said that is “London”. In order to support the conclusion that there is a difference in concepts and thought-content between the two communities, Burge must rely on the assumption that the speaker in the actual situation makes a conceptual error, that he has an incomplete understanding of the concept of arthritis. In Kripke’s case the subject meet the conditions that permit us to say that he is using both “London” and “Londres” correctly, while, if we apply Burge’s principle for determination of content, we can’t say that Pierre, using “arthritis”, expresses the “arthritis’ concept. What I’m stressing is that the principle that Loar attributes to Burge is not the one that Burge operates with. In Burge’s externalism, what justifies ascribing the standard concept to the patient is not his linguistic deference on the community experts but the fact that he, by and large, uses the word “arthritis” in accordance with standard use. We can paraphrase what was said by saying that what Burge says is that Bert, using “arthritis”, expresses a content that is externally determined, and so that these external factors affect the way in which he thinks and conceives things: “A community-wide standard does not apply willy-nilly to all members of the community. There are conditions for minimum mastery, and for dependence or reliance on others. There are various ways of opting out.” (Burge 2007, 14).

Burge could say that it’s true that differences in the de dicto clauses implies difference in psychological content: we can’t use “arthritis” to describe Twin Bert’s mental states. This does not entail that the “arthritis” is univocal in the same sense as “London” is. (A) could suggests that the referent of that clauses in ordinary belief ascriptions are psychological contents. But this is not exactly what Burge says. Burge is not committed to (A), or better, he is committed to (A), but in a form in which we have to specify the attribution conditions for concepts. Given Bert’s minimal competence and his disposition to defer, we can say that both Bert and his doctor have the concept ‘arthritis’. What we know about Bert lead us to attribute the concept ‘arthritis’ to him and to think that our attribution captures how he conceives things. But what we know about Bert in Loar’s cases? I think, not enough.

Externalism, Enactive Approach and Canonic Neurons
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I will focus on the relation among the Enactive Thesis, Externalism and the recent discovery of Canonic and Bimodal neural systems. According to Enactive Thesis our knowledge, emerging from cognitive structures based on recurring sensory patterns, is physiologically connected with our capacity to conduct actions thanks to perception and vice versa. The sensory-motor system is fundamental to embodied-cognition experiencing the external world. The coupling between the bodily cognitive processes and the environment is basic. Enactivism inherited some (proto externalist) intuitions by James J. Gibson and Maurice Merleau-Ponty, suggesting that the mind depends on world/agents interactions. According to environmental theory by Gibson, animal behavior is based on a single movement/perception system. The concept of affordance, the environmental function that an object offers to an individual, or the sum of its practical uses, is primary. Also O’Regan and Noë claim that the mind is constituted by the sensory-motor interaction between the agent and the world. The set of actions results from the matching between environment and body.

(b) Brown avoids Williamson’s ad hoc move, but apart from proposing an analogy with the question of perceptual evidence and roughing in the reliabilist solution, she does not explain how and whether this can work for the problem at issue.

We make an attempt to implement her suggestion. However, the success of our attempt is based on a different conception of the nature of the non-psychological object, the psychological data at our disposal are supposed to provide evidence for, a conception that neither Williamson, nor Brown would accept: while for them the object of philosophical inquiry, i.e., what is looked for when it is asked what X is, are necessary true propositions about X, that real entity; for us are rather explicit norms for the use of “X” (for the application of the concept X).

Therefore, in the second part of the paper/talk, we argue in favour of a renegotiation of the nature of the aims and results of philosophical inquiry as a way to close the gap. Williamson himself considers the idea of redescribing the aim and results of philosophy and rejects it. One easy way to close the apparent gap between evidence (understood as psychological) and subject matter of philosophy – he argues – would be to psychologize the latter. This solution is tempting, but must be avoided: “if we are investigating our own concepts, our application of them must be relevant evidence. But this proposal makes large sacrifice for small gains” (Williamson 2007, p. 211). In particular, the point that Williamson stresses here is that by describing the subject matter of philosophy as conceptual one cannot meet the expectations philosophers have when they ask for a theory on X.

We argue that, in spite of being in the wake of the tradition of conceptual analysis, the norm view (i) does not amount to a psychologization of the subject matter of philosophy and (ii) can satisfy the expectations that philosophers have when they ask for a theory on X. Furthermore (iii) it offers a solution to the gap problem more viable than Williamson’s, since it allows us to maintain one of the most obvious and widely shared view on intuitions, i.e., that conception that sees intuitive judgements as the expression of what we would say/think; or, equally, as the product of our linguistic/conceptual competence.

The last part of the paper/talk is devoted to briefly illustrate how an inquiry starting from our intuitions indeed leads/can indeed lead to norms. Apropos, we suggest that two aspects in particular should be taken into account: (I) the structure of the method (it’s Reflective Equilibrium method, a method that is both descriptive and revisionary) and (II) the normative aspect of the intuitive judgements.
The Knower Paradox as Spandrel of Truth

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There is an intuitive picture of the rise of familiar paradoxes (e.g., liar, Curry, Russell-ish exemplification, etc.): namely, they came about from our having introduced the truth predicate into our otherwise paradox-free language. I have advanced one version of this picture according to which our base language (basically, the “semantic-free” language of maths, physics, biology, literature, history, etc.) is entirely paradox-free, and the familiar paradoxes are mere ‘spandrels’ of the truth predicate. (On my view, they give rise to “gluts”, sentences that are both true and false; but this facet of things is not central to my concern in this paper.) Despite its simplicity and plausibility, there is a natural objection to this account of things. Objection: our base language (free of truth predicate) can talk about knowledge; but knowledge -- via the knower paradox -- generates paradox; hence, not all familiar paradoxes (in the liar-ish family) are spandrels of the truth predicate, since they were around before we added the truth predicate to our language. My aim in this paper is to address this objection by giving a simple account of how the knower paradox is in fact a spandrel of truth.

Is Loar’s case a threat for social externalism?

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Loar (1987) constructs a case, which became quite popular among individualist, in order to reject social externalism about mental content. In particular, his polemical target is the view proposed by Burge in Individualism and the mental (1979). According to Loar, we cannot say that Bert and his doctor share the concept ‘arthritis’ – namely that two beliefs may differ in their conceptual roles (by virtue of different levels of understanding of the same concept) and nevertheless have the same psychological content.

Loar’s case is constructed in analogy with the case of Pierre, described in the 1979 article by Kripke, A puzzle about belief. Suppose that Bert (the protagonist of Burge’s story) leaves home and goes to France for a while, here he learns about a rheumatoid aliment called “arthrite”. Then, he comes to believe that this disease, arthrite, has affected both his ankles and his thigh. He would be surprised to learn that you can’t have “arthrite” in the thigh. At the same time, Bert has a “perfectly good understanding of the English word “arthritis”” (Loar 1987,185), but he does not realize that it translates in French as “arthrite” (maybe he has never seen it written down). Now, according to Loar, Bert could be afraid that he has two different kind of diseases in his ankles. It seems that “he believes that he has arthritis in his ankles” is doubly, but univocally true of Bert, by virtue of beliefs with distinct psychological content. Or, in another case, Bert’s English belief could have been that he does not have arthritis in his ankles. This belief would have been consistent with his French belief, but not with his actual English belief.

So, according to Loar, Bert’s beliefs must be distinct in psychological content, unless you want to deny that the relevant kind of consistency is consistency in content.

What I’ll argue is that this can’t be considered as a case against social externalism. According to Burge, the de dicto ascriptions of that-clauses capture the speaker’s mental and cognitive content. In Loar’s scenario Bert is fully competent with the term “arthritis” and this is equivalent to say that he fully grasps the concept ‘arthritis’. At the same time, Bert does not fully understand the French term “arthrite”, but that’s equivalent to saying that he does not fully grasp the concept ‘arthritis’. So, if we want to avoid this explicit contradiction (that Bert, at the same time, grasps and does not grasp the concept ‘arthritis’), we have to introduce the distinction between linguistic and conceptual competence; and, consequently, between linguistically misinformation and incomplete understanding. What seems to going on in Loar’s case is that Bert is linguistic misinformation about the French term “arthrite” because he does not realize that it expresses the same concept that “arthritis” expresses.

It’s fair to say that Loar thinks that his point does not require translation, but he does not give any explicit support to this latter thesis. I argue that, even if we can avoid translation, Loar’s case comes out to be just a new puzzle about belief attributions. Contrary to Loar’s opinion, his case is not a case about rationality and does not force social externalists to describe Bert as entertaining contradictory beliefs. I’ll show that what leads him to construct the case in such a way is the assumption that social externalism is committed to (A):

(A) Sameness of the de dicto or oblique occurrence of a general term in two belief ascriptions implies, if everything else is the same, sameness of the psychological content of the two belief thus ascribed.
phenomenology would be sufficient to assess experience for accuracy and thereby determine its intentionality. Accordingly, since experience is intentional in virtue of phenomenology alone, there would be at least one kind of representational content determined by phenomenology alone—the Phenomenal Intentional Content.

Now, given Horgan and Tienson’s direct strategy, the reasoning above should prove PIT and meet the constraints required to be a DAT at the same time. I will test the argument on that, then: if it succeeds, TE is a strong and direct evidence for PIT and it is possible to argue for Phenomenal Intentionality directly from TE. Firstly, I will fix the general constraints to be met in order for an argument to be a DAT. They are the following: (i) the introspective premise(s) of the argument should be justified/justifiable by TE; (ii) the non-introspective premises should be uncontroversial. (If the argument is from TE alone, the only reason to reject a DAT should be that one rejects TE itself—otherwise, it would be no longer clear whether or not the argument is from TE alone.)

Secondly, I will apply those constraints to Horgan and Tienson’s argument. It will turn out that there is no way for the argument to get the desired conclusion and be a DAT at the same time. So, the test is failed. In order to show that, I will offer two reconstructions of the argument, HT and HT*: they both run into some serious problems. On the one hand, HT violates (i): indeed, its introspective premise conflicts with TE. So, if TE stands, HT is to be rejected; alternatively, the argument is not from TE. On the other hand, HT* has the following two problems.

• It violates (ii), because one of its non-introspective premises looks controversial. If so, the argument is not from TE alone.
• Moreover, even if one granted that such a premise is widely acceptable and uncontroversial, there would still be a problem with the interpretation of one of the intermediate conclusions of the argument.

In particular, if interpreted in a too much strong way, such a conclusion (again) conflicts with TE. In that case, (again) either the argument should be rejected or it would not be from TE. A weaker interpretation would solve such a conflict, but, on the other hand, would also make the argument too weak to conclude for PIT.

To sum up, the final result will be the following trilemma: either the argument is to be rejected, or it is not from TE or it is too weak to draw the desired conclusion. So, at best, it is not strong enough to do to the job we would like it to do; at worst, we should reject it. In any case, we do not get what we want: a direct argument from TE alone supporting PIT. My conclusion, therefore, will be that TE is not a direct evidence for PIT. Accordingly, arguing directly from TE alone is not a good strategy to argue for Phenomenal Intentionality.

REFERENCES


There is No Such a Thing as A Priori Knowledge that is Certain Knowledge of Incompatibilities

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According to Implicit Definition, the logical constants come to have a particular meaning in our vocabulary by our conventionally stipulating that certain sentences (or inferences) involving them are to be true. For instance, let us assume that the meaning for ‘and’ is fixed by our stipulating that the following inferences involving it are to be valid:

A and B A and B A, B
A B A and B

Now, in his early paper “Truth by Convention”, Quine pointed out that there are an infinite number of instances of schema [x]. Consequently, the inferences of this infinitary collection could not have been conventionally stipulated to be valid singly, one by one. Rather, Quine argued, if there is anything at all to this idea, it must be something along the following lines: We adopt certain general conventions from which it follows that all the sentences of the infinitary collection are assigned the value Valid. Such a general convention would presumably look like this.

Let all results of putting a statement for ‘p’ and a statement for ‘q’ in ‘p’ and q implies p be valid.

A and B A and B A, B
A B A and B

However, the trouble is that in order to state such a general convention we have had, unavoidably, to use all sorts of logical terms – ‘every’, ‘and’, and so on. So the claim that all our logical constants acquire their meaning via the adoption of such explicitly formulated conventional assignments of validity must fail. Logical constants whose meaning is not fixed in this way are presupposed by the model itself.

For, surely, it is not compulsory to think of someone’s following a rule R with respect to an expression e as consisting in his explicitly stating that rule in so many words in the way that Quine’s argument presupposes. On the contrary, it seems far more plausible to construe x’s following rule R with respect to e as consisting in some sort of fact about x’s behavior with e.

In what would such a fact consist? Here there are at least a couple of options. According to a currently popular idea, following rule R with respect to e may consist in our being disposed to conform to rule R in our employment of e, under certain circumstances. On this version, the notion of rule-following would have been reduced to a certain sort of dispositional fact. Alternatively, one

Logic and Philosophy of Science

A and B A and B A, B
A B A and B

25

14
might wish to appeal to the notion of following a given rule, while resisting the claim that it can be reduced to a set of naturalistically acceptable dispositional facts. On such a nonreductionist version, there would be facts about what rule one is following, even if these are not cashable into facts about one’s behavioral dispositions, however optimal. I will work with the reductionist version of rule-following. Applied to the case we are considering, usually it issues in what is widely known in the literature as a “conceptual role semantics”. But, there is an alternative, and that is what I define a “metaphysical foundation of logic”. According to CRS, the logical constants mean what they do by virtue of figuring in certain inferences and/or sentences involving them and not in others. If some expressions mean what they do by virtue of figuring in certain inferences and sentences, then some inferences and sentences are constitutive of an expression’s meaning what it does, and others aren’t. On Peacocke’s framework, understanding a logical constant is understanding these principles for it which makes them truth-preserving. Peacocke holds also that this understanding is constituted by finding the introduction and elimination rules “primarily obvious” For instance, in the case of negation, Peacocke says that

What is primarily obvious to anyone who understands negation is just that A is incompatible with ¬A. Unless the ordinary user of negation appreciates that A and ¬A cannot be both true, then he does not understand ¬. ([1987]163)

Peacocke further hypothesizes that in order to find this “obvious”, the subject must have an “implicit conception” of negation. There is no incoherence in the idea that one can have an implicit or tacit knowledge of a normative rule. Only the thought that the alternative must be between conscious awareness of the rules and brute compulsion can lead us to think the contrary. But, as Quine suggests in “Carnap and Logical Truth”, any CRS must find a systematic way of saying which are which, of answering the question: What properties must an inference or sentence involving a constant C have, if that inference or sentence is to be constitutive of C’s meaning? Otherwise, this is my claim, we have a petitio principii.

One needs a metaphysical basis for logic, insofar as we seek an origin for our grasp of the meaning of negation. In contrast to Neil Tennant and Francesco Berto, I believe this is not to be found in our sense of contrariety, that is, in a semantic notion, but in our primitive grasp of incompatibility, a sense that follows inexorably from our deploying conceptual objects and objectual categories, and from our understanding of the fundamental features of bodies and events occupying space and time. Are incompatibility and contrariety coextensive notions? Or is incompatibility more primitive than the other one? I believe that every instances of contrariety is a case of incompatibility, but not the other way around.

So we need to show what sorts of logics are required by externalist and internalist accounts of the meanings of natural kind nouns. It follows from this aim that there is no such a thing as a priori knowledge that is certain knowledge of incompatibilities.

REFERENCES


Epistemology and Philosophy of Mind

Phenomenal Intentionality: Transparency Is not Enough
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The Transparency of Experience (TE) is a well-know introspective claim, according to which (roughly) introspection does not present us with any intrinsic feature of experience, but just with objects and their features (Harman 1990; Tye 1995). Representationalists, as Dretske (1995, 1996), Lycan (1996, 2001), and Tye (1995, 2000) have argued that TE is explained by the fact that intentionality is more fundamental than phenomenology. Accordingly, it would be a strong evidence in support of their view, Representationalism, which has been a very influential view about phenomenal consciousness in the last two decades.

However, recently, Horgan and Tienson (2002) have offered an introspective argument from TE to defend the opposite claim: the so-called Phenomenal Intentionality Thesis (PIT), according to which, there would be (at least) one kind of intentionality, called Phenomenal Intentionality, determined by phenomenology alone. If such an argument works, then TE would turn out to be a direct evidence for PIT. Clearly, this would be a serious threat for representationalists and their account of phenomenal consciousness.

In this talk, I will argue that Horgan and Tienson’s argument does not work, as long as it aims to be a Direct Argument from TE (DAT) and thereby assumes TE alone to prove PIT. The discussion will be in two main parts. In the first, I will give an intuitive characterization of TE and highlight the following three points.

• According to TE, it is introspectively impossible for one to focus on phenomenal character alone, since what introspection provides is an “ensemble” of phenomenal and representational properties inextricably related, such that one cannot draw a sharp line between what is (purely) representational and what is (purely) phenomenal.
• TE is dual: it has both a negative and a positive side. Indeed, at the same time, it reveals (i) that there are no such things as intrinsic purely phenomenal non-representational features of experience we are introspectively aware of (negative side); (ii) that there is something one is introspectively aware of: phenomenal character and representational content are introspectively inseparable (positive side).
• Phenomenal character as such is not ruled out by TE. Afterwards, I will briefly sketch out the opposition between Representationalism and Horgan and Tienson’s view. In particular, I will stress that, although they all argue from TE, they seem to exploit different strategies. Representationalists go indirectly (abductively), whereas Horgan and Tienson go directly. Indeed, they maintain that an attentive introspective analysis of our phenomenology leads directly to embrace their view. So, they offer a DAT: they want to get PIT just on the basis of what introspection alone offers, i.e. TE.

The second part of the talk will be concerned with the analysis and the discussion of Horgan and Tienson’s argument. Very roughly, they reason as follows. Given TE, when one introspectively focuses on the phenomenology of experience she also gets its conditions of satisfaction. If so,
In this paper, I will argue that an externalist theory of thought content provides the means to resolve two debates in moral philosophy. The first—that between judgement internalists and judgement externalists—concerns the question of whether there is a conceptual connection between moral judgement and motivation. The second—that between reasons internalism and reasons externalism—concerns the relationship between moral reasons and an agent’s subjective motivational set. The resolutions essentially stem from the externalist claim that concepts can be grasped partially.

However intended, the notion of ‘mental representation’ is one of the main issue in cognitive psychology. That’s why, every time the general standard cognitive view of mind is under attack, the same happens with ‘mental representation’ itself, above all by the RTM version. By the standard cognitive approach (Anderson 1980), mental faculties are intended as relations between representations and processes or rules, whose material substrate does not really matter, since representations are intended as not reducible to other levels than the supposed ‘mental’ ones, such as physiological levels.

Connectionist models (Rumelhart–McClelland 1988), whereas, are more biologically grounded, following the brain–body–environment entanglement: They take into account distributed processes and sub-symbolic representations, rather, that are thus intended as simulated ‘neural pattern’, computational complex configurations of interconnected nodes, re-built time by time. Nevertheless, how much alternative this model is to standard cognitivism itself is still questionable (Marraffa 2003).

More radically, Gibson (1979) introduced the concept of “affordances”, i.e. the environmental features apt to let the organism itself interact with the environment itself: The whole organism and eventually its mind is constitutively embedded, so to avoid a conceptualization of representation as an internal, irreducible ‘mental’ state. Supporting a structural connection in between action and perception, Gibson’s view seems to be quite anti-representationalist (Hutchins 1995), or, better, against a concept of ‘representation’ as a mental, internal state, with a propositional, language-based format (see also Noé 2004).

Against anti-representationalist view, A. Clark (1996) rather proposes a ‘minimal representationalism’, since, in his view, we cannot avoid a minimal meaning of representation. Following Hugeland (1991), he recognizes that, differently from simpler systems (ex. a plant reacting to the sunlight), showing an immediate causal relation in between the environment and the system itself, in complex systems we have to suppose the existence of ‘internal’ states, always encoded in the same way by a representational system.

In our view, what is questionable, is not that much the existence of ‘mental representations’ themselves, but what is the more adequate representational format.

The neuroscientific approaches mainly do mean as ‘representation’ a ‘neural pattern’ with a specific content (see Decharms-Zador 2000). However, what is ‘lost in translation’ is just the originary meaning of ‘mental’ representation itself, so that the neuroscientifical meaning of ‘representation’ results commonsensical at least, when not really oxymoronic (see Decharms-Zador 2000, Cullender-Cohen 2006, van Fraassen 2010).

We will take in consideration here particularly Damasio’s concept of ‘dispositions’, that might be one of the candidate to explain how, in details, what we provisionally define a ‘mental state’ might emerge from the neural pattern level. In his embodied model of the mind, what is basic is the representation of our own body, the rock-solid, wordless feeling that ‘I am alive’: This is the grounding sense of the biological identity and unity opposed to the always ongoing changes constituting life itself (2010). This representation of the body has an image format, that is, a non-propositional one.
In order to combine this representation with the representations of any object or event in the world the organism interacts with (generating the so-called “feeling of what happens” (1999)), another kind of representations, or, proto-representations, are here required. Damasio chrestens these ‘proto-representations as ‘dispositions’ or ‘dispositional representations’ (1994, 104). He introduces this level of ‘neural representations’, that are neural schemata, ‘disposing’ or ‘organizing’ other representations, in image format at first. ‘Dispositions’ are potential schemata or proto-representations, dormant firing neural pattern that might be activated on need, in order to build up more specific images. ‘Dispositions’ are potential patterns, inactive in themselves but that can be activated when needed, exciting other neurons of the whole pattern they belong to (in the so called ‘convergence zones’, mainly in the thalamus and basal ganglia, receiving signals both from areas representing the body both from other areas representing the object/events of the world, ordering them so that these representations might be realized synchronously (1999, 162). In themselves, then, the dispositional representations do not constitute a ‘deposit’ of knowledge, in image format. Rather, they constitute a mean to rebuild it, activating elsewhere circuits able to hold knowledge itself. Differently from images, they do not represent individual, concrete objects or events: As patterns, dispositions are the basic elements for the construction of images themselves. On account of that, then, they would seem to be the very connection between the neuro-physiological level of neural pattern and ‘mental’ (representational) level, as it (yet?) generally understood.

Furthermore, Damasio’s concept is very close to the notion of ‘image schema’ by M. Johnson (1987) (he himself refers to). J. defines an image schema as “(…) a recurring, dynamic pattern of our perceptual internal and motor programs that gives coherence and structure to our experience” (1987, XIV), or as “embodied patterns of meaningfully organized experience (bodily movements, perceptual interactions, manipulation of objects […] continuous structure[s] of organizing activity” (1987, 29). Opposite to the standard cognitive view, J. emphasizes especially the non-propositional format of these schemata. Thus, image schemata as proposed by Johnson at a theoretical, philosophical level, seems having the same functional role Damasio recognizes for his “dispositional representations”, at a neural level. Both authors, in fact, share the same effort of explaining how it is possible building up the grounding levels and hence the more abstract levels of knowledge starting from the bodily dimension, from not initially propositional structures.

Certainly these descriptions are as incomplete as obscure: By the way, they are an attempts, as far as pionearcing, of explaining how, in details, ‘mental’ states can grow up from physiological levels. The research of a sensory-motor origin of knowledge, however, was already at issue in the forgotten Piaget (1967) even before, who dealt with how to pass through the biologie to the connaissance. Even if at the very beginning, nowadays we see the more promising attempt in the combinations of studies in linguistics and the sensory-motor format of intentions as conceptualized by the mirror-neurons approach (Gallese-Lakoff 2005, 2007).

Given all that, any quantum computational process can by defined in terms of a standard one on a Turing machine as infinite but convergent. The limit, to which it converges, is the result of this quantum computation. It involves the notion of actual infinity since the computational series is both infinite and considered as a completed whole by dint of its limit.

As the model of a Turing machine unifies the utilized algorithm with the result obtained by it, quantum computer can be interpreted both as a convergently advanced algorithm and a convergently improved result for the former. If its objectivity is to model a concrete reality by the computed ultimate result, it coincides with reality unlike any standard Turing machine which has to be finite and thus there is always a finite difference between the computed reality and any completed result of a Turing computation. One can state that quantum computer calculates reality or that quantum model and reality coincide.

The offered model of quantum computer on a Turing machine as a convergent and infinite process comprises the more general case where that infinite process does not converge and even has infinitely many limit points. One can use the granted above axiom of choice to order the limit points even being infinitely many as a monotonic series, which necessarily converges if it is a subset of any finite interval, and to accept this last limit as the ultimate result of the quantum computer.

The axioms of choice can be used in another way to give the same result thus elucidating the physical and even philosophical meaning of Hilbert space, the basic mathematical structure of quantum mechanics:

Any object represents equivalently a limit point of the “tape” of the Turing machine, on which the quantum computer is modelled. If those limit points are even infinitely many, they can be represented equivalently by a point in Hilbert space where any “axis” of it corresponds one-to-one to a qubit ant thus to a limit point of the quantum computational process. Then obviously any state of any quantum system being a wave function and a point in Hilbert space can be interpreted as a quantum calculative process, and the physical world as a whole as an immense quantum computer.

Using the axiom of choice, one can always reorder monotonically a bounded set of limit points to converge or represent a point in Hilbert space as a single qubit by the Banach-Tarski paradox: Both are only different images of one and the same quantum computation.

The model of quantum computer on a Turing machine allows of clarifying the sense and meaning of a quantum computation in terms of a usual computer equivalent to some finite Turing machine: While the standard computer gives a result, the quantum computer offers a tendency comprising a potentially infinite sequence of converging algorithms and results as well as the limit of this tendency both as an ultimate algorithm-result coinciding with reality and as an image (“Gestalt”) of the tendency as a completed whole.

The transition from the result of a usual computer to the ultimate result of quantum computer is a leap comparable with human understanding and interpretation to restore the true reality on the base of a finite set of sensual or experimental data.

Epistemic Paradoxes and Bridge Principles
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Some recent attempts to account for the normativity of logic try to formulate epistemic norms in a conditional form, such as the principles discussed in MacFarlane’s ‘In What Sense (If Any) Is Logic Normative For Thought?’ (2004) and Restall’s ‘Multiple Conclusions’ (2005).
deducibility a conservative extension, but it is also a connective which inferential role is fully
determined by the suggested sequent calculi rules. This suffices to support the idea that being
 economical with regard to devices for combining premises and conclusions is proof-theoretically
sound and that tonk’s cousin can do the job.

Anticipating the complaint that even if the idea is proof- and use-theoretically acceptable, truth-
conditions for tonk’s cousin are still unclear, the paper presents a model-theoretic semantics which is
sound with regard to sequent calculi rules for both tonk and tonk’s cousin. Even if there is already a
semantics available for connectives requiring intransitive entailment-relations, the semantics
developed in this paper builds the use-theoretic interpretation into the compositional principles for
both operators by introducing two valuation functions such that sentences are evaluated both as
premises and as conclusions. For tonk, we get failure not just of transitivity but also of reflexivity.

Quantum Computer on a Turing Machine
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Quantum computer is discussed in papers both as a mathematical model and as its technical
realization. Only the mathematical model is meant here and in comparison with that of a standard
computer, namely a Turing machine. The quantum Turing machine is an abstract model equivalent
to the quantum circuit and can represent all features of quantum computer without entanglement.

Another way to generalize the Turing machine to the quantum computer is by replacing all bits
or cells of a Turing tape with “quantum bits” or “qubits”. A qubit is equivalently representable by a
unit sphere and a point chosen on its surface. Then if any bit is an elementary binary choice between
two disjunctive options usually designated by “0” and “1”, any qubit is a choice between a continuum
of disjunctive options as many as the points of the surface of the unit ball. That visualization allows
of highlighting the fundamental difference between the Turing machine and the quantum computer:
the choice of an element of an uncountable set necessarily requiring the axiom of choice.

The term of "quantum invariance" can be coined to outline the important role assigned to the
axiom of choice in the theory of quantum computer and inherited from quantum mechanics: The
theorems about the absence of hidden variables in quantum mechanics exclude any well-ordering
before measurement, but the results of the measurements are always well-ordered and thus any
quantum model implies the well-ordering theorem equivalent to the axiom of choice. However
quantum reality according to the cited theorems is not well-orderable in principle. Thus the relation
between quantum model and quantum reality requires correspondingly the axiom of choice and its
absence or the coined quantum invariance to designate that extraordinary relation between model and
reality specific to quantum mechanics and through it, to the theory of quantum computer. That quantum
invariance is well known in mathematics in the form of Skolem’s paradox, who has introduced the
notion of “relativity” as to set theory discussing infinity.

Quantum invariance as to quantum computer can be exhaustedly described by the mapping of
quantum computer on a Turing machine. The offered above visualization of quantum computer as a
tape of qubits is about to be used: Any qubit of it being a choice of one between a continuum of
disjunctive options can be replaced by a Turing machine (possibly with a tape consisting of infinitely
many cells) utilizing the axiom of choice for replacing. Furthermore quantum invariance states the
equivalence after that replacement.

The main desideratum for these principles is that they provide a plausible way to explain the
connection between valid arguments and informal reasoning, i.e., reasoning that could be attributed
to a rational agent.

One of the principles examined in my talk is Wo- (discussed in MacFarlane 2004):
(Wo-) If A, B |= C, then you ought to see to it that if you believe A and you believe B, you do
not disbelieve C.

In my presentation, I show that neither Wo- nor any of the other bridge principles discussed is
able to both (i) satisfy the desideratum and (ii) provide plausible requirements for rational belief.

First, I present a Preface Paradox scenario and test the principles against it. Then, I test the bridge
principles against the Lottery Paradox and show that the principles discussed do not provide plausible
requirements neither in the Preface nor in the Lottery example.

I also argue that rejecting the Agglomeration Principle (Bp & Bq → B(p&q)) is only prima facie
a way to avoid the problems with the principles in trouble.

I conclude that the principles can provide plausible reasons for rational belief, at best. If reasons
are not an option, then there are no plausible bridge principles.

The Ancient Master Argument
Two Examples of Contemporary Tense Logic
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The Master Argument of Diodorus Cronus has been long debated by logicians and philosophers.
During the Hellenistic period it was so famous that doxographers and commentators took for granted
its notoriety and none of them gave us a detailed report.
In primis, in this talk I would like to present the ancient argument from the most complete report:
Epicetetus, Arrian’s Discourses, II 19, 1.

The second step will be the discussion of two relevant formalizations: the formalization of Arthur
N. Prior (Diodoran Modalities, in Philosophical Quarterly, vol. 5, 1955, 205-13) which introduces
two additional premises related to the Diodorean theses, and the revision proposal by Peter Øhrstrøm
(Temporal Logic: From Ancient Ideas to Artificial Intelligence, Dordrecht, Kluwer, 1995) which relies only
on the known premises since these ones are deemed to be enough in order to deduce the conclusion that “Nothing is possible which is neither true now nor ever will be”.

Then, I will make some specific considerations:

1) The possibility to interpret the meaning of ekolouqein in the second premises as “to be in
accordance with”.

The verb ekolouqein is crucial to understand the whole argument of Diodorus. However, this
Greek word has different meanings and it has been interpreted in different ways (chronologically, as
material consequence, as formal consequence, et cetera). This theme has left a mark in the status
questionis about the Master Argument.

2) The interdefinability between the modal notions and the temporal notions.
Prior’s reconstruction of the Master Argument is clearly based on the interdefinability. If Prior is the pioneer in tense logic, the Aalborg University group are the contemporaries which continue his research. Peter Øhrstrøm and Per Hasle’s reconstruction gives an example of present-day temporal logic.

3) Some remarks about time as a discrete or dense sequence.

To understand the concept of time as a discrete or dense sequence is of utmost importance in order to evaluate the validity of the Master Argument. At second, this item has an impact on the soundness of the Argument, based on the truth of the first two premises. The premises, in fact, are probably obtained directly from Diodorus’ doctrines.

4) The formalization of sentences as tensed or as untensed propositions, and then the choice between a non-metric or a metric tense logic.

Prior’s approach to the description of the phenomena of reality refers to the time. Natural language is translated in tense operators prefixed to an untensed sentence. The tense operators are: a) P to denote the past as “It has been the case that -”, b) H to denote the strong past as “It has always been the case that -”, c) F to denote the future as “It will be the case that -”, d) G to denote the strong future as “It will always be the case that -”. The sentence, for instance p, alludes to an ontological “presentism”. So, by the tense operators we obtain an evaluation of time in the propositions, which concern an indefinite past or future time. On the other hand, the second solution is to locate an event in a given interval of time by a variable. In the first case we have a non-metric tense logic, in the second a metric tense logic.

5) The compatibility between the Master Argument of Diodorus and his truth criterion for conditional sentences.

Can we give a consistent interpretation of the Diodorus’ doctrines? An answer to the question is in the relation between the revised second premises of the Master Argument and the truth criterion by Diodorus. If we can understand the meaning of the second premises as a temporalized law of non-contradiction in the tense logic language, then the interpretation of the truth criterion becomes not just truth-functional (as Philo’s criterion) but it is linked with a time criterion. It would follow the ontological doctrine of the Megarian philosophers.

REFERENCES

Boethius, 1880. In librum Aristotelis peri Ermenia, pars posterior, Meiser, Teubner.
Epictetus, 1956, Discourses, Oldfather, Loeb.

In the literature on logical inferentialism, the discussion is typically centred on finding a suitable notion of harmony in order to exclude cases such as Prior’s connective tonk under the central assumption that tonk is meaningless or in any case not a logical operator we could accept. Going against the trend, this paper explores how to make sense of tonk and related connectives, both by giving them a use-theoretic interpretation, by elaborating on proof-theoretic aspects in a sequent-calculi setting and by presenting a model-theoretic framework within which at least the related connectives can be represented. The aim is to make room for the idea that a tonkish connective can replace conjunction and disjunction in certain circumstances.

As a first step towards such a connective, we introduce a connective corresponding to tonk in a sequent calculi setting. Following Belnap’s observation with regard to tonk and an approach suggested by Ripley concerning a transparent truth predicate in a sequent calculi setting, we note how the connective does not trivialise a context of deductibility as long as we do not add the structural rule cut which would enforce a transitive entailment relation.

However, the traditional conception of entailment assumes transitivity. Thus, the paper presents some reasons to explore an intransitive entailment relation. Firstly, it rehearse well-established reasons to give up transitivity in connection with the semantic paradoxes and vagueness. Secondly, it highlights a cost of keeping transitivity by showing how transitivity requires distinct connectives for combining premises and for combining conclusions in a sequent calculi setting.

To illustrate the connection, we introduce a tonkish connective which combines both premises and conclusions. We will call it tonk’s cousin. With weakening and cut present, this connective also trivialises. For those logicians hostile to weakening, we present a corresponding connective which does not require weakening to trivialise but still combine premises and conclusions. In the light of this new connective, we suggest that giving up transitivity can be seen as an alternative way to distinguish between being a premise and being a conclusion in addition to the traditional way which consists in having two connectives, conjunction and disjunction.

At this point, we can present a use-theoretic interpretation of the introduced connectives. While tonk’s cousin should be interpreted as a device for combining both premises and conclusions, we present an understanding of tonk according to which we are dealing with a device for increasing and decreasing the complexity of a formula through a comparison with weakening. We give reasons for why tonk, despite its similarities with conjunction and disjunction is not a device for combining premises and conclusions, while tonk’s cousin is.

Finally, the paper considers how tonk and tonk’s cousin deals with Belnap’s two criteria for an adequate implicit definition, namely uniqueness and conservativity. We show that while both connectives are conservatively extensions as long as cut is not present, only tonk’s cousin satisfy uniqueness with a reflexive entailment-relation. We take this to mean that not only is the idea of a connective for combining both premises and conclusions coherent and in certain contexts of


Tonking Around: An Exercise in Conceptual Economy
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19