Cognitive Phenomenology, Access to Contents, and Inner Speech

Marta Jorba (University College Dublin) & Agustin Vicente (Ikerbasque & University of the Basque Country)[1]

Abstract. In this paper we introduce two issues relevantly related to the cognitive phenomenology debate, which, to our minds, have not been yet properly addressed: the relation between access and phenomenal consciousness in cognition and the relation between conscious thought and inner speech. In the first case, we ask for an explanation of how we have access to thought contents, and in the second case, an explanation of why is inner speech so pervasive in our conscious thinking. We discuss the prospects of explanation for both sides of the debate and argue that cognitive phenomenology defenders are in an overall advantageous position. We also propose an account of inner speech that differs from other influential explanations in some interesting respects.

Keywords: cognitive phenomenology; access consciousness; phenomenal consciousness; inner speech.

1. Preliminaries

In recent years there has been an ongoing debate on whether phenomenal consciousness extends beyond sensory and perceptual experience, that is, whether there is a specific *cognitive phenomenology* (Bayne, 2009). This issue involves the question of whether we are *phenomenally* conscious of conceptual contents and attitudes, and has been mainly focused on whether we are *phenomenally* conscious of the content of our *thoughts* and our attitudes towards them – entertaining, doubting, hoping, etc. (see Bayne and Montague, 2011, for an overview). If we focus on the content side, some authors hold that conscious thought has a specific what-it-is-likeness, i.e. a particular phenomenology associated to contents of thoughts, which is not reducible to any other kind of phenomenology. Many other authors, however, deny that there is a specific phenomenology associated to thought contents or, in general, to conceptual contents, as such. According to them, thought contents and conceptual contents are not the kind of things that we can or do experience. Usually, opponents of the cognitive phenomenology thesis contend that we are only conscious of the perceptual associates of thoughts, like images, or emotions and, especially, inner speech.

[1] This is a thoroughly collaborative paper. Order of authorship is arbitrary.

Defenders of cognitive phenomenology have mostly focused on cases that are *prima facie* problematic for their antagonists. Thus, the most debated case is probably Strawson's (1994/2010) example of *understanding versus* not understanding a string of phonemes[2]: it seems that there is a phenomenological difference between hearing a string of words that you understand and hearing either a string of non-words or a string of words that you do not understand. You can make the non-understandable string of phonemes as similar to a comprehensible string of words as much as you like; still there will be a phenomenological difference. This phenomenological difference, it is concluded, can only be explained if we also have a phenomenological experience of the content of the utterance we have heard.

Another *prima facie* problematic kind of case is that of ambiguous stimuli. It has been noted that the experience associated to seeing the rabbit-duck picture (Wittgenstein, 1953) as a rabbit differs from the experience associated to seeing it as a duck[3]. The same seems to hold for ambiguous linguistic items. Ambiguous sentences or subsentential fragments seem to give rise to different phenomenological states depending on their different readings. Jackendoff puts the example of 'Plato is on the top shelf' (Jackendoff, 2012), which can mean (at least) that the guy Plato is on the top shelf, that a figurine of Plato is on the top shelf, or that the books written by Plato are on the top shelf. As Jackendoff (2012, 118) points out (probably in a slip): "[These different readings] sound the same but feel different, because of the difference in the way you understand them". Another example is an utterance of 'the meeting!" told to yourself when walking through the department's corridor (Peacocke, 2007): with these two words you can be reminding yourself that you had a meeting, or that you have to organize one, or it may be that you have just discovered that your current bad mood is due to the meeting you had a couple of hours ago, etc. The subsentential utterance is multiply ambiguous with respect to its force and its content. Yet, depending on its force and its content, you will have one experience or another. That is, the phenomenology of whatever 'the meeting!' stands for in a particular occasion is not exhausted by the

[2] The first appearance of this example dates back to Husserl (1901/1970); see Jorba (2010).

[3] This case differs from the understanding one in that it is a case of seeing-as experience, where the relevant issue is whether we can say that the concepts involved in the seeing have a contribution to experience..

"pronunciation" – which is compatible with many different phenomenological experiences.[4]

It seems that skeptics have found ways to explain the problematic cases away. For instance, Jackendoff (2012) tells us that, although we cannot be (phenomenally) conscious of contents, we are conscious of whether the words that we hear or that we tell ourselves are meaningful. That is, in Strawson's like-cases we are conscious of two things: (a) the pronunciations and (b) whether the pronunciations are meaningful.. The idea that we experience propositional contents is an illusion generated by the checking mechanism responsible for telling us whether a certain string of phonemes has meaning.

As for the case of ambiguity, it is usual to hold that the phenomenological difference between one token and another of an ambiguous but meaningful item is ultimately due to some other perceptual or emotional features that accompany them. Thus, 'the meeting!' may come accompanied with a feeling of remorse, or an image of the room, or of a threatening open mouth… (see Prinz, 2007). That is, the phenomenological difference between one token and another of 'the meeting!' is traceable back to perceptual or emotional phenomenology , which means that there is no need to postulate a further cognitive phenomenology. These maneuvers may look more or less *ad hoc* from the perspective of defenders of cognitive phenomenology, but it is certainly difficult to find convincing counter-arguments, basically, because these responses relocate the discussion within the muddy terrain of introspection. Up to now, it seems that the introspective evidence has been unable to settle the matter: some authors hold that they have experience of the content of their thoughts (Goldman 1993; Horgan and Tienson 2002; Pitt 2004; Strawson 1994/2010), but many deny having such experience (Lormand 1996; Prinz 2011a; Tye and Wright 2011).

[4] It is also important to note that the first kind of case (i.e. Strawson's like-cases) would eventually show that cognitive contents have some specific phenomenology. However, it does not show that there is some specific phenomenology associated either to *each* content, or to *each tokening* of a particular content. It may be that all contents feel the same – as contentful stimuli in general. But the case of ambiguous stimuli suggests stronger theses, namely, (i) that each content has a distinctive phenomenology associated to it, or (ii) that each token of a particular content may have a distinctive phenomenology. The first thesis states that content-types feel the same way in all circumstances and to all subjects, while the second thesis allows that thoughts may feel differently in different occasions and to different subjects (see Strawson, 2011, Jorba, 2013).. Not all defenders of cognitive phenomenology are committed to the stronger theses. However, the discussion we engage in here favors these stronger theses (though not either one in particular). Thus, from now on, we will only be concerned with the stronger theses and will correspondingly take it that the issue of cognitive phenomenology has to do with this kind of theses.

Importantly, there is another strand of the debate that barely makes use of introspective data and gives more strength to arguments related to the nature of consciousness and/or to the architecture of mind. Our paper is intended to be a contribution to this strand of the debate. We want to focus on two intertwined issues related to consciousness, one which apparently favors the defender of cognitive phenomenology, and another which is *prima facie* problematic for her. The first issue has to do with the relation between access and phenomenal consciousness, while the second deals with the use of inner speech in conscious thought. In the first case, exploring the relationship between access and phenomenal consciousness leads to an advantageous position for the defender of cognitive phenomenology, or so we will argue. Whereas defenders have an explanation about access-consciousness of thought-contents at hand, deniers still have to provide one. On the other hand, with respect to the use of inner speech in conscious thinking, the situation is apparently reversed: *prima facie*, deniers have a natural way to approach to this issue, while defenders have to come up with an explanation, something that has not been yet noted in the literature. We then sketch such an account, paving the way for a stronger overall view in favor of cognitive phenomenology.

2. Access and phenomenology

Regarding the relation between access and phenomenal consciousness, our claim is that the defender of cognitive phenomenology is in a better position when it comes to explaining the access consciousness of thoughts. So one first issue we want to discuss is how we can explain that thought-contents are access-conscious. As it is well known, the distinction between phenomenal and access consciousness (P- and A-consciousness, for short) was first introduced by Ned Block (1995). P-consciousness is defined in terms of what-it-is-likeness or experience, and A-consciousness is characterized as information being available to the direct rational control of thought and action. Given that thought contents drive our behavior, and that there can be no way to monitor and gain control over one's behavior, which is what A-consciousness is ultimately for, except by knowing about its causes, it seems that we have to be A-conscious of the content of our thoughts (though see below for discussion). Now the question is whether we have a handy explanation about how we access thought contents, or rather we have to look for one.

Despite the success that Block's distinction has had, there is some controversy regarding the relation between A- and P-consciousness. The distinction was introduced by means of examples, which suggest a certain view about the relation between both kinds of consciousness. One famous example, the superblindsighter case, seems to tell us that A-consciousness does not require P-consciousness. The superblindsight patient is an imaginary character that can guess what's in the blind portion of her visual field without being told to guess, that is, without prompting (this is the main difference with the real cases of blindsight patients). She spontaneously says that she knows that there is an X in her visual field although she cannot see it. Besides this case, the other examples suggest that, in normal conditions, A-consciousness draws its information from what is already P-conscious, and that A-consciousness consists in the global broadcast of P-conscious states. All of the examples, at least as they are presented and discussed by Block, induce to think that there is no difference, at the level of contents, or at the level of what a subject is conscious of, between A- and P-consciousness, that is, that what we are A-conscious and P-conscious of is the same kind of thing.

Let us begin with this last issue: *prima facie*, one could think that the contents of A-consciousness and the contents of P-consciousness are of different kinds. In Block's words (1995; 232): "the paradigm P-conscious states are sensations, whereas the paradigm A-conscious states are "propositional attitude" states like thoughts, beliefs and desires, states with representational content expressed by "that" clauses". It seems that Block is asserting that the contents of P-consciousness and the contents of A-consciousness are different kinds of things. The contents of P-consciousness are non-representational states,[5] while the contents of A-consciousness are representational states, in particular, propositional states. However, the issue is more complex.

To begin with, Block does not deny that propositional states (and the contents that individuate them) can be P-conscious. In the case of the superblindsighter, introduced as a case of A-consciousness without P-consciousness, Block (1995, 238) notes, "of course, the superblindsighter has a *thought* that there is an 'X' in his blind field that is *both* A-conscious and P-conscious. But I am not talking about the thought. Rather, I am talking about the state of his perceptual system that gives rise to the thought. It is this state that is A-conscious without being P-conscious". That is, a

[5] This would be Block's way of drawing the difference, given his non-representationalist views on *qualia*.

thought can also be P-conscious, or, in other terms, there is nothing to the distinction between A-consciousness and P-consciousness that *excludes* that thought contents can be P-conscious. Block, in particular, seems to be ready to grant that thought contents are both A and P-conscious when he writes: "a *thought* that there is an 'X' in his blind field that is *both* A-conscious and P-conscious"[6].

However, Block's quote also suggests that, in general, what is P-conscious can also be A-conscious. In the last sentence Block tells us that *a state of a perceptual system* is A-conscious. What this state consists in is unclear; in particular, it is unclear whether it is the same kind of state that normal sighters are P-conscious of. But it is possible to think that it might be that the same kind of states can be P- and A-conscious.

In sum, Block's quote suggests not only that all the kinds of things that are A-conscious can also be P-conscious, but also that all the kinds of things that are P-conscious can also be A-conscious. That is, contrary to what could be thought after reading Block's first quote above, his analysis of the superblindsighter case reveals that he does not think that there is some distinction at the level of contents between A and P-consciousness. Perceptual states can be A-conscious, and propositional contents can be P-conscious.

The other examples discussed in the literature also strongly suggest that there is no difference at the level of contents between A- and P-consciousness. For instance, this is what Block (1995; 240) says about P-consciousness without A-consciousness: "Suppose that you are engaged in intense conversation when suddenly at noon you realize that right outside your window, there is—and has been for some time- a pneumatic drill digging up the street. You were aware of the noise all along, one might say, but only at noon are you *consciously aware* of it. *That is, you were P-conscious of the noise all along, but at noon you are both P-conscious and A-conscious of it*" (our italics). This example is probably the clearest one in drawing the distinction between A and P-consciousness that Block intends to draw. As it can be seen, the distinction has nothing to do with the contents of the different kinds of consciousness: it is said that you are A-conscious and P-conscious of the same thing. Moreover, the example clearly

[6] In fact, he claims that it is unclear what the phenomenal character of thought involves and envisages the two possibilities we are discussing here, being P-conscious of the perceptual associates or having P-conscious thought-contents: "One possibility is that it is just a series of mental images or subvocalizations that make thoughts P-conscious. Another possibility is that the contents themselves have a P-conscious aspect independent of their vehicles (Block, 1995, p. 201, footnote 3).

suggests that A-consciousness, at least in this and analogous cases, consists in being aware of what it is already P-conscious.

So far, Block's discussion suggests that, at least in perception, the contents of P-consciousness and the contents of A-consciousness are the same kind of thing, and leaves open the possibility that the same holds for conscious thinking. Moreover, this discussion advances that, in the perceptual case, A-consciousness somehow draws, or acquires, its contents from what is already in P-consciousness. The superblinsighter example shows that this is not necessary,[7] but in all the other cases we see that there is nothing in A-consciousness that was not already in P-consciousness.

However, Block is not alone in thinking this way. Critics of Block such as Kriegel (2006), also see that the distinction between P and A-consciousness has nothing to do with what things we are conscious of. Kriegel, for instance, holds that what makes a state P-conscious is not its qualitative character or what-it-is-likeness, but its "for-me-ness", or subjective character, which is precisely what explains that the state in question (i.e. the very same state) can be available for control, i.e., A-conscious[8]. The main difference between Kriegel and Block, in what concerns us here, is the way Kriegel would deal with the pneumatic drill example. Instead of holding that we were P-conscious of the pneumatic drill's noise all along, he would say that we were not P-conscious of it until we became aware of it. This is because, for him, when we are habituated to a stimulus, the subjective character of the experience disappears (while its qualitative character remains). It can be said, thus, that there is even more alignment between A- and P-consciousness in Kriegel's account than in Block's.

On the other hand, while Block's remarks leave some issues about the relationship between both kinds of consciousness open, Kriegel nails one down (or so it seems to us) that is of special interest for our purposes. According to Kriegel, P-consciousness is the *basis* of A-consciousness. In particular, the for-me-ness aspect of P-conscious states (or that they are self-consciously entertained) is what makes those states available for cognitive control. Unconscious perceptual states (blindsight states included), as well as those perceptual states that result from habituation to a certain

[7] Moreover, the actual possibility of the imaginary case of the superblindsighter has also been questioned (see Kauffmann, 2004), thus making the case of A-consciousness without P-consciousness even more implausible.

[8] According to Kriegel, phenomenal states involve both a qualitative character and a subjective character (e.g. being bluish for me); see also Levine (2001).

stimulus, do have qualitative character. However, they lack subjective character, and this is why they cannot be accessed.

This is not to deny that we could have information about our unconscious perceptual states without making them P-conscious. For instance, we can be informed by another person that there is some subliminal stimulus appearing at time *t*, and proceed to act according to such information. This may be a way to make certain perceptual contents accessible to us without us being phenomenally conscious of them at any stage. And it is possible to suggest that there may be mechanisms in us that deliver information about perceptual contents in a way that parallels the work of an external informer. However, the point we can draw from Kriegel's idea, which we think very sensible, is that, often, if not always, A-consciousness of perceptual information is fed by P-consciousness, or, as he puts it, P-consciousness is the basis of A-consciousness. This, as we say, is also suggested by Block's discussion, even if Block and Kriegel may disagree about, for instance, the pneumatic drill example.

Another source of support for the claim that the access to perceptual information is drawn from P-consciousness can be found in some views in developmental psychology. Clément and Malerstein (2003) study the ontogenesis of consciousness and argue for two main claims: first, that some empirical observations suggest the presence of P-consciousness at a very early age, and second, and importantly for our purposes, that "the development of A-consciousness is possible only through the what-it-is-like effects peculiar to phenomenal-consciousness" (Clément and Malerstein, 2003, p. 68)[9]. The conclusion they draw from the study is that P-consciousness is a *precondition* for A-consciousness. This conclusion is about the ontogeny of A-consciousness, and, as such, it does not establish that, somehow, P-consciousness feeds A-consciousness. However, the study suggests that this is probably the case, for a model such as Kriegel's seems to be the best explanation of why P-consciousness makes A-consciousness possible in the normal development of subjects.

This is as much as defenders of cognitive phenomenology need. For now they can claim that they are in a better position than deniers. One the one hand, defenders hold that thought contents are felt in some way or another, that is, that there is no fundamental difference in experiencing between perception and cognition (at least when

[9] The authors claim that P-consciousness is the *only* possible way through which A-consciousness can be developed, but we do not want to commit ourselves to this stronger claim, as it might be that there could be other mechanisms that give raise to A-consciousness. This, however, does not undermine our main claim, that is, that normally A-consciousness draws its contents from P-consciousness.

it comes to our experiences of contents). On the other hand, defenders and deniers alike grant that we can access thought contents (i.e. that we can be aware of our thoughts: see below for discussion). This means that defenders have the upper hand in this terrain, for they can simply borrow the model holding in perception, even if its scope were limited[10], to account for our access to thought contents. How can the content of our *p*-thoughts be available for the rational control of behavior? Easy: by having the experience of thinking *p*. For instance, by experiencing a first-person perspective associated to the distinctive qualitative character of *p*-thoughts.

Of course, deniers will protest: whatever happens in perception, they will say, it cannot be exported to conceptual cognition. We do have perceptual phenomenology, but we lack cognitive phenomenology. However, this reply is question begging. The issue is rather that, if we had cognitive phenomenology, we would thereby have an explanation of how it is that we have A-consciousness of our thoughts. That is, the defender of cognitive phenomenology has an explanatory advantage here. Deniers have to provide an alternative explanation of how we have access to our thoughts. However, let us pause to see whether, in effect, both parties would agree –or have to agree, at any rate– that we can have access to thought contents, because one of the moves available to deniers is to deny as well that we access thought contents (if this was so, there is no *explanandum* for which defenders have a better explanation).

3. Access to thought contents

Until now we have been assuming that we can have access to the contents of our thoughts, and the discussion was placed in the relation between A- and P-consciousness. Our assumption has some grounds. First, Remember that Block claims that "the paradigm P-conscious states are sensations, whereas the paradigm A-conscious states are "propositional attitude" states like thoughts, beliefs and desires, states with representational content expressed by "that" clauses" (1995, 232). Second, it seems that on any characterization of A-consciousness that one tries, be it in terms of global broadcasting (Baars, 1988), in terms of System 2 processes (Frankish, 2010), or in any other terms, thought contents have to come up as being the paradigm of A-conscious information. This is, as we have said above, because thought contents drive our

[10] That is, even if we had two ways of accessing perceptual information, one via P-consciousness, and the other via some indirect unconscious mechanism. Defenders can argue that, given their belief in cognitive phenomenology, and the fact that at least some perceptual information is accessed via P-consciousness of perceptual contents, they thereby have a possible explanation of how we can access thoughts.

behavior and our thinking, and, apparently, it is impossible to monitor and have effective control over our behavior and our thinking, which is what characterizes A-consciousness, except by knowing about its causes. To the extent that, in conscious thinking, we monitor and control our behavior and our thought processes, we have to have access to what we think.

However, this assumption is not uncontroversial, since some deniers of cognitive phenomenology seem also to deny that we are A-conscious of thought contents. For instance, both Jackendoff (2007, 2012) and Prinz (2011a, 2012) want to argue that all consciousness is perceptual (or intermediate-level, in Jackendoff's words: see below). This seems to imply that there is definitely no way for thought contents to be conscious (or no sense of "consciousness" in which thought contents can be said to be conscious). However, we will try to argue that both authors have to make room for the A-consciousness of thought contents (in case they do actually deny that we can access contents)[11].

Prinz (2011a, 2012) rejects the idea that we can be conscious of "pure" thoughts, that is, thoughts that are not accompanied by any sensory element ("unsymbolized thinking", as Heavey and Hurlburt, 2008, put it), and he rejects any other form of cognitive phenomenology. The main reason is that he endorses Jackendoff's view that all consciousness is perceptual (or of intermediate-level representations: see below). Though he believes that concepts are re-enactments of perceptions, Prinz resolutely denies that conceptual contents can be experienced (Prinz, 2011b). As he explains, if you retrieve the image of a duck without having the concept of a duck, and I, who know about ducks, retrieve the same image, we both will be having the very overall phenomenological experience. That is, my having a concept that you do not have leaves no trace in phenomenology.

[11] In pages 112-113, Jackendoff (2012), after granting that theories like the global workspace account "have to work with *meaning* or *thought*" (his italics, p. 113), and so apparently conceding that we can be A-conscious of thoughts, he adds in a footnote: "A reader has suggested that the quotes above [from Baars, Chalmers, and Dehaene and Naccache on global workspace] are speaking of access consciousness in Ned Block's sense. If so, they leave the nature of phenomenal consciousness completely open, and (b) they still fall to the objection that the form of consciousness is determined by pronunciation" (ibid.). We take it that the last part of this quote implies that, in Jackendoff's view, A-consciousness is consciousness not of contents after all, but of pronunciations. However, it is not easy to know whether this is actually what he means. Prinz (2012) seems more explicit: "I reject this distinction [between A and P-consciousness]. I don't believe there is any form of access that deserves to be called consciousness without phenomenality" (p.6). "I have already argued that "consciousness" always refers more fundamentally to phenomenal experience and that any cognitive access we have to our mental states deserves to be called a form of consciousness only if those cognitive states have phenomenal qualities" (p.35).

Now, Prinz also denies that conceptual information can be accessed[12]. The question that arises, then, is: is there any difference between you and me at the level of A-consciousness? That is, does my having a concept that you do not have leave some trace in what is made available to step-by-step reasoning, conscious planning, verbal report, and controlled behavior? The answer seems to be yes. I can have thoughts about ducks which you cannot have, given that you do not have the concept of duck. These thoughts –not their perceptual associates, which you also have – are put to use in my consciously planning a duck-watching trip, the conscious inferences I draw (if there are ducks here, there are probably swans around as well), etc.[13] Therefore, it seems that we are A-conscious of the propositional contents of our thoughts, even though we are allegedly not P-conscious of them.

Let's now turn to Jackendoff. Jackendoff holds that concepts are a-modal structures, and it is precisely due to their a-modality that they have to remain forever unconscious. According to Jackendoff's "intermediate-level theory of consciousness", which Prinz borrows, information processing proceeds hierarchically, much in the way Marr's account proposes visual information is processed, i.e., starting with disparate representations of local features of the stimulus (a primal sketch) and working, step by step, towards a coherent conceptual representation. It makes sense, thus, to speak about an intermediate level of representations: these are located halfway between the primal sketch and the conceptual representation. According to Jackendoff, it is clear that our conscious perception is intimately linked to the particular perspective in which we engage the object, and this is the perspective provided by the intermediate representational level. The claim thus is that we are only conscious of these intermediate-level representations. In the case of vision, these intermediate-level representations are Marr's $2^1/_2$-D representations: we are only conscious of objects as seen from a certain viewpoint, not of 3D representations. According to Jackendoff,

[12] According to Prinz, P-consciousness is characterized in terms of accessibility: we are P-conscious of those representations that we *can* access. A-consciousness is consciousness of those representations that we *do* access (Prinz, 2011a).

[13] It is possible to claim that these cognitive differences can be explained by resorting to inner speech: the only difference between you and me at that level is that I tell myself things (e.g., 'if there are ducks here, there are probably swans around as well') that you do not. If I have the concept of duck, I can form strings of inner speech whose content is about ducks. Once I get that, I can plan, reason step-by-step, make conscious inferences, etc. Nothing in this story involves being A-conscious of contents –unless internal verbalization requires accessing contents first. We address this kind of response below in the discussion of Jackendoff's proposal. Let us just note here that inner speech will not be of any use to Prinz: two subjects could be exactly alike phenomenologically (identical images, identical emotions *and identical inner speech*), and yet, because one has the concept of duck and the other does not, be different in their duck-oriented reasoning, planning, and controlled behavior.

concepts are as invisible to consciousness as are 3D representations. Concepts are located in the end-point of the hierarchy of information processing, which means that they are too high up to be introspectable.

What is noteworthy in Jackendoff's case is that he endorses the theory that most authors working on inner speech share, namely, that inner speech is the means by which we can become aware of our thoughts (see Jackendoff, 1996). According to Jackendoff (1996), as well as to Clark (1998), language allows us to objectify thoughts, that is, it enables us to convert our own thoughts into objects we can think about (see below for a critique of this model). This kind of approach apparently provides the means to account in perceptual terms for our A-consciousness of thoughts. However, far from fulfilling that promise, the view entails that we have access to both conceptual contents and pronunciations, not that we access only pronunciations, given that inner speech precisely serves the function of making thoughts A-conscious.

That is, even if Jackendoff were to claim that we cannot be conscious (without qualifications) but of intermediate representations, it does seem that he is committed to thought contents' being A-conscious. Otherwise, his views about the cognitive role of inner speech would not make sense. We make use of pronunciations, because we cannot be P-conscious of thought contents directly, but the role of pronunciations is to bring thoughts to consciousness, i.e., to make them A-conscious.

Another author worth mentioning in this context is Peter Carruthers. Carruthers is well-known for claiming that we do not have direct access to our own propositional attitudes, an issue we will not enter into here (see Carruthers, 2011). According to him, we can only gain knowledge about the attitudes we have by a process of self-interpretation. On the other hand, Carruthers is also an opponent of cognitive phenomenology. However, unlike Prinz and (presumably) Jackendoff, Carruthers does not deny that we access the contents of our thoughts. His view about A-consciousness is that we access all and only the information that is globally broadcast. Global broadcasting, in turn, requires a sensory vehicle: a-modal contents cannot be broadcast given the way the brain works (for a quick survey of the evidence he presents, see Carruthers, 2013). This excludes the idea that we can be conscious of "pure" thoughts, as some defenders of cognitive phenomenology would want to argue (see below). Yet, contents can make it into the global workspace by being bound into the perceptual vehicles that are susceptible of being broadcast: "there is every reason to think that conceptual information that is activated by interactions between mid-level areas and the

association areas (especially temporal cortex in the case of vision) gets bound into the content of attended perceptual states and is broadcast along with the latter. Hence we don't just see a spherical object moving along a surface, but a tomato rolling toward the edge of the counter top; and we don't just hear a sequence of phonemes when someone speaks, but we hear what they are saying; and so on." (Carruthers, 2013: 8).

In sum, it seems that we do access thought contents, i.e. that what we are thinking about is available for reasoning and control[14]. Now, deniers of cognitive phenomenology want to claim that what regularly happens in perception, i.e., that perceptual contents are both P- and A-conscious, and that P-consciousness is intimately linked to A-consciousness, does not happen with conscious thoughts. But then, how can they explain the fact that we access thought contents? In the next section we will examine proposed answers.

4. Inner speech for deniers

In section 2 we mentioned that the model "P-feeds-A" seems to be a good description of what actually, and usually, happens in perception, but that there are, in principle, other ways for perceptual contents to make into A-consciousness. One of these ways is to be informed about what you perceive, either by some external device (e.g., another person) or by some internal mechanism. Now, deniers of cognitive phenomenology typically resort to this kind of alternative when it comes to conscious thinking. Basically, their strategy is to hold that we gain access to our thoughts by putting them into words (see above). In this section we will distinguish two strands within this group of authors. We will then argue that both general strategies are problematic. In the next section, we will propose an account of inner speech for defenders of cognitive phenomenology, which we think fares better on independent grounds. The overall goal is to show, on the one hand, that deniers do not have an easy explanation of how contents are accessed, and on the other hand, that defenders can

[14] That deniers of cognitive phenomenology should accept that contents can be A-conscious is interesting for another reason. Some cognitive phenomenologists, most prominently Pitt (2004), hold that the only plausible explanation for the fact that we know what we are thinking is that we have a distinctive experience of our thoughts. However, it seems that we could know what we think just by our thoughts' being A-conscious (without they *also* being P-conscious). That is, the denier of cognitive phenomenology, by accepting the A-consciousness of thought-contents, seems to have the resources to block Pitt's argument for cognitive phenomenology even granting its premises (for a reconstruction of the argument, see Jorba, 2013). There are available responses to such route, as one may wonder how we can have immediate knowledge of states that are not P-conscious, and we think that the appeal to A- but not P-conscious contents to respond to Pitt's epistemic argument is thereby blocked if, as we have argued, the contents of A-consciousness are normally also P-conscious.

have a good account for the use of the inner speech phenomenon in our conscious thinking. This section is focused on explaining and criticizing deniers' accounts of how inner speech makes thoughts A-conscious.

4.1. Objectifying

In a first approach, inner speech can be characterized as the phenomenon of silently talking to ourselves[15]. Clark (1998), Jackendoff (1996, 2012), and Bermúdez (2003) have claimed that inner speech plays an indispensable role in higher-order cognition because it enables us to objectify thoughts. By this they mean that inner speech converts thoughts in objects we can "look at". Without language, we are unable to know what we are thinking, either because the vehicle of thought is extremely context-dependent and somewhat amorphous (Clark) or because it is simply not introspectable (Jackendoff and Bermúdez). However, language, by putting thoughts into introspectable and context-independent sentences, allows us to "see" what we are thinking, and to reflect about it. This is called "second-order dynamics".

Clark (1998) presents his view as a development of Vygotsky's ideas about inner speech. However, we think this is not a good characterization of Vygotsky's own account. There is now a long tradition in the study of inner speech –and in its relation to consciousness-, which is inspired in Vygotsky's work (Vygotsky, 1987, Fernyhough, 2004). Vygotskyans highlight the role of inner speech in self-regulation and executive on-line control, as well as in planning more or less immediate actions –that is, not planning a summer trip, but planning how to solve the Tower of Hanoi task–. However, this Vygotskyan line differs from the "objectifying view" in that Vygotskyans hold that inner speech helps us focus our attention on *what we are doing*, whereas Clark *et al*., in contrast, hold that it makes possible for us to focus on *what we are thinking*.

There are some problems with the objectifying view. Clark's particular account, for instance, seems to be untenable in the light of the fact that inner speech may be very fragmentary. The meaning of a fragmentary linguistic item is extremely context-dependent, so it presumably is of little help in objectifying a thought. Jackendoff's and Bermúdez's rendering of the idea may also have problems with fragmentary inner speech, for they want to hold that language objectifies thought by encoding it, i.e., by

[15] See Vicente and Martínez Manrique, (2011) for an introduction to the issue..

carrying a certain propositional content (see Martínez-Manrique and Vicente, 2010 for development)[16].

However, here we want to focus on another problematic issue. Suppose that by talking to ourselves we are, in effect, converting our thoughts into objects. Of course, this is a metaphorical way of speaking, and it is difficult to know exactly how a sentence would convert a thought into an object. But let's say that by using sentences of our language, we are able to have some kind of object before our minds. What do we gain with that? Presumably, we gain knowledge about what we are thinking. We "see" the sentence, get its meaning, and reach the conclusion "ok, I'm thinking that *p*". This knowledge about what I am thinking may be very useful, of course, but would we say that this is what inner speech does for us? No. This is a very marginal use of inner speech, if it is a use of inner speech at all. In fact, if we gain knowledge about what we are thinking by using inner speech, it is (or it seems to be: see below) because inner speech makes *thinking consciously* possible. Once you think a thought consciously, you also have metacognition, i.e. you know that you are having that thought. What the account has to explain is how we have conscious thoughts, or how we think thoughts in the conscious mode. In this regard, this account fails.

4.2. Broadcasting

Carruthers (2011) holds that the kind of indirect metacognition we have just described applies to propositional attitudes, but not to thought contents. Knowledge of thought contents is more direct: we know what we think because we can have conscious thoughts. However, inner speech is also involved in our having conscious thoughts. As a denier of cognitive phenomenology, Carruthers believes that in order to have a conscious thought we have to have phenomenal consciousness of a perceptual vehicle. Lacking a perceptual vehicle we can be P-conscious of, there is no way to "enter in the conscious mode" of thinking.

According to Carruthers, A- and P-consciousness consist in the global broadcast of information: if your brain broadcasts information, you experience and access that information. However, when it comes to thoughts, things get more complicated. You cannot broadcast thought contents alone because our brains only broadcast perceptual

[16] An example, mentioned earlier, is an inner utterance of 'the meeting!". The content of this utterance is absolutely context-dependent, it does not even have a predicative structure, and what is pronounced encodes a minimal part of what is expressed.

vehicles. However, it is possible to get thought contents broadcasted if you attach them (or bind them) to the perceptual vehicle that your brain allows you to broadcast. So, you need inner speech to make your thoughts conscious.

Prima facie, this account fares better than the objectifying view. However, recently Langland-Hassan (2014) has shown that it is certainly difficult to explain how contents are bound to perceptual vehicles and broadcasted along with them. According to Langland-Hassan, the only content that can be bound to an episode of inner speech is of the kind: the semantic meaning of this episode of inner speech is such and so. That is, the content bound to the string of inner speech would not be about the world, as it should be, but about the very string (it would be token-reflexive). The reason is, basically, that phonological representations (which is what inner speech consists in, according to this view) represent acoustic properties, while semantic representations represent the world. There seems to be no way to fit these too different kinds of representations into a single item. If this is right, it means that thought contents are not broadcast along with perceptual vehicles because thought contents cannot be bound in the way required to the broadcasted strings of inner speech. Langland-Hassan may be wrong in his analysis, of course, but his arguments show that the broadcasting view is still in need of development. In turn, this implies that deniers of cognitive phenomenology may not have, as yet, a good explanation of how we access thought contents.

5. Inner speech for defenders

The discussion in the section 2 showed that the defender of cognitive phenomenology may be in a more advantageous position with respect to explaining access to conceptual contents. However, the issue of inner speech is *prima facie* problematic for the defender. As we have seen, deniers of cognitive phenomenology appeal to inner speech in order to explain away the intuition that we are P-conscious of thought contents. The general idea would be that we are only P-conscious of perceptual representations, and, in particular, that we are usually conscious only of phonological representations. In fact, so the story goes, the only way that we can be aware of our thinking is by putting thoughts in a linguistic format. It seems that we spend much of our conscious lives talking to ourselves. The average across subjects can be around 25% (Heavey and Hurlburt, 2008) or up to 75% (Klinger and Cox, 1987-88: see Hurlburt, *et*

al. 2013 for discussion)[17]. Those who hold that inner speech is necessary for conscious thought can easily explain these data: we make frequent use of inner speech because we need it to engage in conscious thinking. But the defender of cognitive phenomenology seems to have a problem: why should inner speech be so frequent in our conscious lives if conscious thinking does not require any kind of perceptual vehicle? The work that is normally attributed to inner speech, i.e., focusing our attention, monitoring our actions, etc., could be done without it, for what it is needed in order to perform those functions is having conscious thoughts, which can be had without inner speech (and without any other perceptual basis)[18].

We have just seen that, despite its apparent plausibility, deniers of cognitive phenomenology may have some difficulties in making their preferred account of inner speech work. However, this does not mean that defenders are in a better position regarding inner speech. In fact, they seem to be in a much worse position. In this section we want to gesture towards an account of inner speech that could serve the interests of defenders of cognitive phenomenology. At the same time, it is an account that, we think, fares better than the view of deniers, which is, as of today, the dominant account of inner speech. So, the goal of this last section is twofold: to solve a problem for defenders, and to sketch an alternative view to the currently dominant account of inner speech.

Let us begin with the problem that inner speech poses to the defender of cognitive phenomenology. Inner speech, we have said, is a pervasive phenomenon in conscious thinking. Deniers explain this by holding that inner speech is necessary for conscious thinking, given that inner speech is an expression of language, a representational system with some interesting features (context-independence, a perceptual side, etc.). Defenders of cognitive phenomenology have to avoid this kind of general account. To be sure, it is possible to claim that there is cognitive phenomenology even if all our conscious thinking has to involve the use of inner speech. One can hold that we are phenomenally conscious both of pronunciations and of contents. That is, we may need inner speech, but that does not mean that we are not

[17] Recently, Uttl et al. (2012) report a 50%.

[18] Regarding the data on inner speech, the 75% datum is more congenial to the denier's enterprise. The 25% datum leaves the issue more open. Deniers would want to say that this 25% of our use of inner speech coincides with our conscious *thinking*, the remaining 75% being dedicated to feelings, emotions, imagination, etc. However, this proposal is in need of an argument. On the other hand, while the 25% datum would be more congenial to the defender's approach than the 75%, defenders still have to explain why we use inner speech at all, if in principle we could think consciously without recruiting any kind of perceptual vehicle.

conscious of contents – it can be said that just as when we hear someone speaking we are conscious both of the sounds and of their content, when we talk to ourselves we are conscious both of pronunciations and of contents. However, the defender of cognitive phenomenology typically also wants to hold that we can entertain conscious thoughts without a perceptual vehicle (see Siewert, 1998; Kriegel, forthcoming).

At this point, it may be said that we are getting the dialectics wrong. Some defenders of cognitive phenomenology argue that we entertain conscious thoughts, which are not accompanied by inner speech just to *motivate* the idea that there is cognitive phenomenology. So, if the idea can be motivated by other means, it seems that the defender of cognitive phenomenology can just drop the claim that we experience "pure thoughts". In other words, the defender of cognitive phenomenology only wants to argue that we experience thought contents, and the role of talking about "pure thoughts" is to provide one such argument. Pointing to pure conscious thoughts would be a way of presenting a conceptual extreme case with the aim to show that also in all other and perhaps more pervasive cases (of non-pure thoughts), we are also P-conscious of contents. If this is a plausible interpretation of the strategy of appealing to pure thoughts, then there is apparently no further commitment to the existence of these bare conscious thoughts. In sum, the defender of cognitive phenomenology is someone who claims that we experience thought contents, not someone who additionally claims that we can experience bare thought contents.

This is true. The dialectics go this way. However, we think that our point remains: typically, it seems that defenders of cognitive phenomenology want to hold that inner speech is not necessary for consciousness. That is, the existence of pure thoughts is a motivation, an argument and a commitment. So, they should explain the pervasiveness of inner speech in conscious thought without appealing to its instantiating a particular format.

At the same time, it can be claimed that an alternative explanation is required in any case, given that the format view has some problems, as we have explained in the last section. An additional source of concern for the format view is related to the various uses we make of inner speech. There are a number of proposals about what inner speech is for. As we have said, a very influential, Vygotskyan, line focuses on its role in self-regulation and executive on-line control. Another line of research has focused on self-evaluation and self-knowledge (Morin, 1995). Also very influential has been Baddeley's idea that inner speech is involved in enhancing working memory via

keeping items in memory through verbal rehearsal (Baddeley and Logie, 1992). In psychology of sports, researchers have also mentioned motivation (Hatzigeorgiadis *et al*., 2011). And, as we have seen, philosophers like Clark (1998) have called attention to its use in "second-order dynamics", while Carruthers (2011), Frankish (2010) and others have given inner speech the role of making conscious thinking possible.

However, inner speech is used in even more circumstances and with different purposes from the ones listed above. For instance, we, academics, devote a good part of our inner speaking to prepare our talks or our papers, as well as, like everybody else, to imagine dialogs we will or will not have. It seems that at times we produce fragments of inner speech when engaged in a conversation: we tell ourselves what we want to say, but perhaps not as preparation, and then we either say it or we do not; or we just innerly repeat what we have just heard. Some people insert fragments of inner speech while running a mental map of a certain environment to get a better orientation. Some people report using inner speech just for the purpose of not being bored. Sometimes inner speech seems to serve no clear purpose at all…. And it may be that even 24-month-olds use inner speech to label objects, but then do not make anything out of that labeling (Kahn, 2013)[19].

If inner speech is used in so many circumstances and with so different purposes, some of which look like profound (linked to what makes us human) and some others banal, the prospects of having a unified theory of the functions of inner speech may be dim. In particular, it seems that the idea that in inner speech we recruit a representational system that enables us to be conscious of our thoughts would only explain part of the data. Giving partial explanations is not a problem in itself, but having a disunified theory is problematic. And the format view is condemned to be a disunified theory of inner speech, because some uses of inner speech have to be considered a complete distinct phenomenon.

The alternative explanation of inner speech that we want to advance develops Vygotsky's (1987) general idea that inner speech is overt speech internalized[20]. It can be said that in inner speech we do not recruit a format but an *activity*. Some of the authors

[19] See Morin. et al. 2011 for an open questionnaire where people listed uses of inner speech. Kahn (2013) holds that infants generate phonological representations as labels of objects they perceive. However, these representations do not go into working memory, and are not used later on in, e.g., a categorization task.

[20] The basic idea is that inner speech develops from outer speech via a gradual process of internalization, from young children only being able to "think out lout" to mature inner speech in which it nearly becomes just intelligible to the thinker herself. We have first to learn to do things publicly ("externally") with others before being able to do them "internally" (see Vygotsky, 1987).

we have mentioned above seem to understand the Vygotskyan position as meaning that we internalize *language* (see, e.g., Clark, 1998). But we think it is probably more in the line of Vygotsky –and more appropriate, in any case– to argue for the idea that it is *speech* what we recruit.

Overt speech serves many functions. Many of them can be captured under the umbrella of "making someone conscious of something", or "focusing someone's attention on something", although there are some other functions of overt speech that may not be categorized under that very general functional category. For instance, we play with words, we tell things just to keep a conversation alive, we shout in pain, or to support our team… As has been mentioned, inner speech researchers have pointed out, following Vygotsky, that we use inner speech to focus our (own) attention (see, e.g. Fernyhough, 2004). The specific function on which Vygotskyans have focused is on-line self-regulation and planning, although some other researchers have also talked about the role that inner speech plays in self-evaluation (Morin, 2005)[21]. Both of these specific functions fall under the general category "focus our attention": in self-regulation and planning, inner speech focuses our attention on what we are doing or on the steps we have to follow; in self-evaluation, inner speech focuses our attention in how and what we are, and how and what we should be. However, not all our inner speech episodes serve the broad function of "focusing our attention".

Interestingly, there is some correlation between the formal features that *overt* speech has according to its function, and what characteristics *inner* speech has when put to use in analogous functions. For instance, if we want to motivate our favorite athlete, we tell her 'come on!', 'you're the best!', and that kind of things, that is, the kind of things she may be telling herself. If we want to help someone to get to a certain destination, we may use a map and tell him 'you go here, then there. Go straight this way, turn here', etc. That is, we insert linguistic fragments within the background provided by the map. When we talk about ourselves, or about a certain person or event that concerns us, we instead use full sentences, and elaborate a narrative, just as we do when we get introspective about ourselves, other people, or certain events. On the other hand, our speech is condensed or fragmentary if we are regulating someone else's

[21] Vygotsky and followers have typically been concerned with the use of inner speech in self-regulation, as they have been particularly concerned with the moment kids start internalizing not just speech but social life in general. Yet, the on-line regulation of behavior is just one function of speech among many others, and it seems that there is no reason why speech should be used only for that purpose when it gets converted into inner speech.

behavior on-line: the adult that helps his kid to complete a jigsaw puzzle, tells him 'this piece here. Square there? Sure? Where is a triangle missing? No. Yes', etc. As has been long highlighted by Vygotskyans, inner speech, when put to this kind of use, is equally typically condensed. This suggests that using inner speech is, basically, innerly speaking (see also Hurlburt *et al*., 2013). In inner speech, we do nothing that is essentially different from overtly speaking, though, of course, we cannot say that in inner speech we communicate.

Now, why would we speak to ourselves at all? Maybe there is no other response to this question but the listing of the uses of inner speech: we speak to ourselves in order to monitor and control our behavior, to plan, to self-evaluate, to motivate ourselves, etc.However, if the question is why we would put in words thoughts that are already in our mind, and therefore apparently need not be expressed at all, the answer must be of a different sort. This question seems to concern those uses of inner speech related to thinking. In particular, the question seems to relate to the uses of inner speech in *conscious* thinking. In this regard, we also want to claim that inner speech makes thoughts conscious. Where we depart from the aforementioned authors is the way inner speech makes thoughts conscious. In our view, speaking to ourselves serves to focus and move our attention from one place to another. In this respect, it is not different from outer speech, again. My outer speech serves to focus and move your attention from one place to another. Thus, if we recruit speech to do many of the things we do when we speak, it should not be surprising that we use inner speech in handling attention.

Now, when we focus our attention on something by means of inner speech, we become conscious, not of our own inner speech –which is already a conscious phenomenon-, but of the *content* of our inner speech. That is, we become conscious, e.g., that the triangle should not be put in the upper left corner, that our legs should be opening now in order to stop, that *p* follows from *q*, or whatever. Inner speech, by driving our attention to contents, makes these contents conscious. And note that inner speech is used in having conscious thoughts, not in having thoughts about those thoughts. As said above, this "activity" view of inner speech is clearly more congenial to the defense of cognitive phenomenology. In fact, if all conscious information is broadcasted information, and broadcasting implies experiencing, this view may even entail cognitive phenomenology. But, in any case, the activity view is much less demanding than the format view with respect to the necessity of inner speech. The activity view leaves open the possibility that we may entertain pure thoughts in

consciousness, while it provides an account of the pervasiveness of inner speech –if it is so pervasive– that is at least as explanatory as the format view. Actually, we think that it is more explanatory, because it can be applied as well to all those uses of inner speech that are not related to conscious thinking.

6. Conclusions

In this paper we have presented two issues relevantly related to the cognitive phenomenology debate and that, to our knowledge, have not been yet properly addressed. The first issue deals with the relation of A and P- consciousness with respect to cognitive phenomenology defenders and deniers. We have argued that defenders are in a better position than deniers when it comes to explaining how we can access contents, as they have a handy answer to such question by just importing to cognition the model that is typically accepted in perception: we have access to what is already phenomenally present. In contrast, deniers of cognitive phenomenology have to provide an explanation of how we can access information that is not already in P-consciousness, given that they are committed to the claim that what regularly happens with conscious perceptual contents, i.e., that they are both P- and A-conscious, does not happen with conscious thoughts. Deniers appeal to inner speech, but we have argued that they do not have, as yet, a satisfactory explanation.

The second issue that we introduced as relevant for the debate precisely concerns the relation of inner speech and conscious thought. Defenders of cognitive phenomenology have to account for the pervasiveness of inner speech in conscious thought, given that they normally do not consider inner speech as necessary for conscious thought, contrary to some opponents. We have presented a Vygotskyan view on inner speech, the "activity view", which is more congenial to the defense of cognitive phenomenology than the format view, which implies that inner speech is necessary to conscious thinking. The activity view leaves open the possibility that we may entertain pure thoughts in consciousness, while it provides an account of the pervasiveness of inner speech that is more explanatory than the format view. In conclusion, then, we have introduced two relevant issues that participants in the cognitive phenomenology debate should address if they want to have a comprehensive view on the nature of conscious thought. Our overall conclusion is that cognitive phenomenology defenders are in an advantageous position regarding the explanation of how we have access to thought contents and, moreover, can provide a congenial view

on the relation between inner speech and conscious thought, thus dispelling one important problem for their view.

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References

Baars, B. (1988) *A Cognitive Theory of Consciousness*. New York: Cambridge University Press.

Baddeley, A. D., & Logie, R. H. (1992). Auditory imagery and working memory. In D. Reisberg (Ed.), *Auditory Imagery* (pp. 179–197). Hillsdale, NJ: Erlbaum.

Bayne, T. (2009). Perceptual Experience and the Reach of Phenomenal Content, *Philosophical Quarterly*, 59: 385-404.

Bayne, T. and Montague, M. (2011). Cognitive Phenomenology. *Cognitive Phenomenology.* Oxford and New York: Oxford University Press.

Bermúdez, J. L. (2003) *Thinking without Words.* Oxford: Oxford University Press.

Block, N. (1995) On a Confusion about a Function of Consciousness. *Behavioral and Brain Sciences* 18: 227-247.

Block, N. (2007) Consciousness, accessibility, and the mesh between psychology and neuroscience. *Behavioral and Brain Sciences,* 30, 481–99.

Carruthers, P. (2011) *The Opacity of Mind: an integrative theory of self-knowledge.* New York: Oxford University Press.

Carruthers, P. (2013) On Central Cognition. *Philosophical Studies,* on-line first: DOI: DOI 10.1007/s11098-013-0171-1.

Carruthers, P and Veillet, B. (2011) The Case Against Cognitive Phenomenology, in Bayne, T. and Montague, M. (eds.) (2011).

Clark, A. (1998) Magic words: How language augments human computation, in P. Carruthers and J. Boucher, eds. *Language and Thought: Interdisciplinary Themes.* Cambridge: Cambridge University Press, pp.162-183.

Clément, F. and Malerstein, A. (2003). 'What is it like to be conscious? The ontogenesis of consciousness. *Philosophical Psychology,* Vol. 16, No. 1, pp. 67-85.

Fernyhough C (2004). Alien voices and inner dialogue: towards a developmental account of auditory verbal hallucinations. *New Ideas in Psychology,* 22, 49–68.

Frankish, K. (2010) Evolving the linguistic mind. *Linguistic and Philosophical Investigations*, 9: 206-14.

Hatzigeorgiadis, A., Zourbanos, N., Galanis, E. and Theodorakis Y. (2011) Self-Talk and Sports Performance: A Meta-Analysis. *Perspectives on Psychological Science* 6: 348.

Horgan, T. E. and Tienson, J. L. (2002) The intentionality of phenomenology and the phenomenology of intentionality, in D. Chalmers (ed.*), Philosophy of Mind: Classical and Contemporary Readings*, Oxford University Press., pp. 520–33.

Heavey, C. L., and Hurlburt, R. T. (2008). The phenomena of inner experience. *Consciousness and Cognition*, 17: 798–810.

Hurlburt, R. T. and Akhter, S. A. (2008) Unsymbolized thinking, *Consciousness and Cognition* 17, 1364–1374.

Hurlburt R. T., Heavey C. L, and Kelsey J. M. (2013). Toward a phenomenology of inner speaking. *Consciousness and Cognition* 22: 1477–1494.

Husserl, E. (1901/1970) *Logical Investigations.* Vol. 2. London and New York: Routledge.

Jackendoff, R. (1996) How language helps us think. *Pragmatics and Cognition*, 4: 1-35.

Jackendoff, R. (2007) *Language, Consciousness, Culture: Essays on Mental Structure*. Cambridge, MA: MIT Press.

Jackendoff, R. (2012) *A User's Guide to Thought and Meaning*. New York: Oxford University Press.

Jorba, M. (2013). *Cognitive Phenomenology: A Non-Reductive Account*. PhD thesis. http://www.tdx.cat/bitstream/handle/10803/111228/MJG_PhD_THESIS.pdf?sequence=1

Jorba, M. (2010): "Is There a Specific Experience of Thinking?", *Theoria. An international Journal for Theory, History and Foundations of Science*. Vol 25, No 2, pp. 187- 196.

Kauffmann, O. (2004) Superblindsight, Inverse Anton, and tweaking A-consciousness further. *Brain and Behavioural Sciences* 18(2): 227–287.

Kahn. M. (2013) *Thinking in Words: Implicit Verbal Activation in Children and Adults* PhD thesis: http://dash.harvard.edu/bitstream/handle/1/11156823/Khan_gsas.harvard_0084L_10786.pdf?sequence=1

Klinger, E., and Cox. W. M. (1987–1988). Dimensions of thought flow in everyday life. *Imagination, Cognition and Personality* 7: 105-128.

Kriegel, U. (2006) "Consciousness: Phenomenal Consciousness, Access Consciousness, and Scientific Practice". In P. Thagard (ed.), *Handbook of Philosophy of Psychology and Cognitive Science* (pp. 195-217). Amsterdam: North-Holland,

Kriegel, U. (forthcoming) *The Varieties of Consciousness.* Oxford: Oxford University Press.

Langland-Hassan, P. (forthcoming, 2014) Inner Speech and Metacognition: In Search of a Connection. *Mind and Language.*

Levine, J. (2001) *Purple Haze. The Puzzle of Consciousness*. New York: Oxford University Press.

Lormand, E. (1996). Nonphenomenal Consciousness. *Nous*, 30, 242-261.

Martínez-Manrique, F. and Vicente, A. (2010) What the...! The role of inner speech in conscious thought. *Journal of Consciousness Studies* 17: 141-167.

Morin, A. (2005). Possible links between self-awareness and inner speech: Theoretical background, underlying mechanisms, and empirical evidence. *Journal of Consciousness Studies*, *12*, 115–134.

Morin, A., Uttl, B., and Hamper, B. (2011). Self-reported frequency, content, and functions of inner speech. *Procedia--Social and Behavioral Journal*, 30, 1714-1718.

Peacocke, C. (2007) Mental action and self-awareness, in J. Cohen and B. McLaughlin, eds. *Contemporary Debates in the Philosophy of Mind*, Oxford: Blackwell: 358-376.

Pitt, D. (2004) The Phenomenology of Cognition, or, *What Is It Like to Think That P?*, *Philosophy and Phenomenological Research*, 69: 1–36.

Prinz, J. (2007) All consciousness is perceptual, in J. Cohen and B. McLaughlin, eds. *Contemporary Debates in the Philosophy of Mind*, Oxford: Blackwell, pp. 335-357.

Prinz, J. (2011a). Is Attention Necessary and Sufficient for Consciousness? In C. Mole, D. Smithies, and W. Wu (eds.) *Attention: Philosophical and Psychological Essays* Oxford: Oxford University Press, pp. 174–203.

Prinz, J. (2011b) The Sensory Basis of Cognitive Phenomenology, in Bayne, T. and Montague, M. (eds.). (2011).

Prinz, J. (2012) *The Conscious Brain*. New York: Oxford University Press.

Siewert, C. (1998). *The Significance of Consciousness*. New Jersey: Princeton University Press.

Strawson, G. (1994/2010) *Mental Reality*. Cambridge, MA: MIT Press.

Strawson, G. (2011). Cognitive Phenomenology: Real Life, in Bayne, T. and Montague, M. (eds.). (2011).

Tye, M. and Wright, W. (2011) Is There a Phenomenology of Thought?, Bayne, T. and Montague, M.(eds.). (2011).

Uttl, B., Morin, A., Faulds, T., Hall, T., & Wilson, J. (2012). *Sampling inner speech using text messaging*. Poster presented at the Canadian Society for Brain, Behavior, and Cognitive Science conference, Kingston, ON, June 7-9.

Vicente, A. and Martínez-Manrique, F. (2011). Inner Speech: Nature and Functions, *Philosophy Compass* 6: 209- 219

Vygotsky, L. S. (1987). *Thinking and speech*. In The collected works of L. S. Vygotsky (Vol. 1). New York: Plenum (Original work published 1934).

Wittgenstein, L. (1953). *Philosophical Investigations.* Oxford: Blackwell.