Inner Speech: From Self-Knowledge to the Second-Person

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Abstract: A traditional assumption in the literature on inner speech is that inner speech allows us to have knowledge of our thoughts. I argue that inner speech cannot even be part of an explanation of how we know our propositional states. My argument turns on the existence of unsymbolized thought, and makes the case that whatever explains self-knowledge in the absence of inner speech also explains self-knowledge when inner speech is present. Inner speech is thus 'screened off' from explaining the knowledge we have of our propositional states. Nevertheless, inner speech seems to have a reflexive character: in inner speech we seem to represent aspects of ourselves. I argue that inner speech does not allow us to represent our own propositional states, as the tradition holds, but rather our own voices. In representing my own voice in inner speech, I bear a distinctively second-personal relation to myself, addressing myself as a 'you'. The paper suggests a broader reorientation in theorizing about inner speech: away from questions about how inner speech maps onto mental states and toward questions about its second-personal nature.

Keywords: inner speech; self-knowledge; metacognition; second-person

1. Introduction

For many of us, inner speech forms part of the ambient chatter of our mental life. Whether in reading, writing, focused rumination, or mind-wandering, one is often aware of a monologue running through one's head. What function or role does inner speech serve? A wide swath of philosophers adopt what I will call the *self-knowledge assumption*: that inner speech can sometimes be part of an explanation of how one comes to have knowledge or awareness of one's propositional states. The first aim of this paper is to challenge the self-knowledge assumption: inner speech cannot even be part of an explanation of how we come to know or have awareness of our own propositional states. However, the idea that inner speech explains self-knowledge does not come out of nowhere. There is, I believe, something *reflexive* about inner speech. That is, in engaging in inner speech we seem to be *representing aspects of ourselves*. However, if inner speech does not explain self-knowledge, we are left with the task of providing an alternative explanation of the reflexive character of inner speech.

The second aim of the paper is to provide such an account. In doing so, I will draw on a recent account of inner speech, *vocalism*, according to which in inner speech one represents a voice communicating information (Patel, 2021). From the perspective of vocalism, the reflexive character of inner speech simply consists in representing one's own voice. The reflexive character of inner speech is therefore not to be accounted for in terms of a relation between inner speech, on the one hand, and one's propositional states, on the other, but rather in terms of one's awareness of one's own voice. I make the case that this awareness is distinctively second-personal in nature: in inner speech I address myself, and thereby treat myself as a 'you'. The reflexive character of inner speech thus does not consist in an epistemic relation I bear to my occurrent thoughts, as the tradition holds, but in a second-personal relation I bear to myself.

In Section 2, I characterize inner speech in terms of the speech processing hierarchy. In Section 3, I distinguish three theories of how inner speech explains self-knowledge. Section 4 then explains what is common ground among these theories, namely, the assumption that inner speech can sometimes be part of an explanation of how one knows or becomes aware of one's own propositional states. In Section 5, I present an argument against the self-knowledge assumption, which turns on the existence of unsymbolized thought. Having challenged the self-knowledge assumption, in Section 6 I diagnose the attraction of the self-knowledge assumption as rooted in a misguided attempt to capture the reflexive character of inner speech. In Section 7, I provide an alternative account of reflexive character in terms of the idea that we bear a second-personal relation to ourselves. Section 8 closes by addressing broader questions regarding the functional significance of the second-personal nature of inner speech.

2. Background: Inner Speech

Researchers generally hold that speech production implicates a hierarchy of levels of processing (e.g., Levelt, 1993; Wheeldon and Konopka, 2023). According to this framework, speech production starts at the level of semantics with the selection of propositional contents. These propositional contents are then specified at the level of syntax in terms of words and their syntactic roles. This syntactic string is then populated with phonemes – sets of similar speech sounds – before being further specified in terms of particular members of those sets – phones or speech sounds. Finally, the string of phones is parsed at the motoric level in terms of the motor commands required to produce those speech sounds. The execution of those motor commands constitutes the production of speech. This top-down picture thus implicates a hierarchy of levels – semantics, syntax, phonemes, phones, motor commands – that drive the production of speech.

Many theorists believe that that inner speech involves running through this same speech production process but terminating the process prior to the actual production of speech (Perrone-Bertolotti, 2014; Alderson-Day and Fernyhough, 2015; Grandchamp et al., 2019). By truncating speech production, one comes to represent information from levels of the speech processing hierarchy – inner speech – without producing actual speech. For example, one may come to represent the semantics, syntax, phonemes, speech sounds, and motor commands associated with the utterance, "I shall go to the bank", without actually producing the utterance. There is much debate about which information inner speech comes to represent from the speech processing hierarchy. According to one view, *concretism*, inner speech represents speech sounds (e.g., Langland-Hassan, 2014; 2018), while according to another, *abstractionism*, inner speech never represents speech sounds (e.g., Gauker, 2018). In recent years, however, authors have tended to adopt *pluralism*, according to which the contents possessed by inner speech – propositional, syntactic, phonemic, phonetic, or motoric – differ depending on context (Oppenheim and Dell,

2010; Grandchamp et al., 2019; Kompa, 2023). What is important to highlight, for our purposes, is that a wide swath of the existing literature is founded on the idea that inner speech should be understood in terms of the speech processing hierarchy.

3. Inner Speech and Self-Knowledge: Three Views

Distinguishing between various content types of inner speech also puts us in a position to understand three different types of theories of how inner speech explains our knowledge of our own propositional states: *auditory views*, *syntactic views*, and *anti-interface views*. Auditory views claim that auditory features of inner speech explain our knowledge of our own propositional states, syntactic views claim that syntactic features do the explanatory work, while anti-interface views claim that although inner speech explains self-knowledge, it does not do so on the basis of such features. Of course, views that fall under a single heading may differ from one another, but these differences will not impact the argument of this paper.

3.1 Auditory Views

According to auditory views, auditory features of inner speech allow us to either infer or judge the presence of our own propositional states. Representatives of such views include Peter Carruthers and Alex Byrne, who both draw inspiration from remarks about inner speech from Gilbert Ryle (Ryle, 2000).

According to Carruthers, the same mechanism by which we attribute mental states to others is also used to attribute mental states to ourselves (2009, 2011). In the latter case, this general-purpose mechanism uses our own behavioral and sensory states to infer the presence of underlying propositional states. This mindreading mechanism sometimes makes use of inner speech. Here is Carruthers (2009, p. 124):

> The agent might, for example, have verbalized or partially verbalized his intention, in "inner speech." And then, since inner speech utilizes the same perceptual systems that are involved in the hearing of speech…this will be available as input to the mindreading system.

For example, my inner speech utterance, "I shall go to the bank", is used as input to the mechanism, which outputs a judgment that I intend to go the bank. Although inner speech possesses both auditory and propositional contents on Carruthers's view, it is the auditory character of inner speech that (at least sometimes) explains how we know our own propositional states.

Alex Byrne puts auditory inner speech to similar use. According to Byrne (2018), knowledge of our own perceptions, beliefs, and occurrent thoughts all involve following epistemic rules. When it comes to occurrent thoughts, Byrne (2011) claims that we would be in good epistemic standing to follow what he calls *Think*: if the inner voice speaks about *x*, believe that you are thinking about *x*. Thus, on Byrne's view, if the inner voice utters, "I shall go to the bank", it is safe for me to infer that I am thinking about going to the bank. One distinctive feature of Byrne's view is that, according to him, in following *Think* we believe that there is an actual inner voice that produces actual speech sounds in our heads. Although controversial, this aspect of the view shows that, according to Byrne, it is the auditory features of inner speech that are crucial to it explaining knowledge of our own propositional states.

3.2 Syntactic Views

There are two central differences between auditory and syntactic views. First, according to syntactic views, it is the syntactic features of inner speech, not the auditory features, that allow inner speech to explain knowledge of our own propositional states. Second, where auditory views think of auditory features as a kind of *evidence* for the presence of some propositional state, syntactic views treat syntactic features as enabling a *mental grasp* of our own propositional states. Representatives of syntactic views include Andy Clark and José Bermúdez.

Clark (2010) claims that the syntactic structure of inner speech allows us to "fix our ideas" or "freeze" our thoughts so that we can evaluate them:

> By 'freezing' our own thoughts in the memorable, context-resistant and modality-transcending format of a sentence we thus create a special kind of mental object – an object which is apt for scrutiny from multiple different cognitive angles, which is not doomed to alter or change every time we are exposed to new inputs or information, and which fixes the ideas at a fairly high level of abstraction from the idiosyncratic details of their proximal origins in sensory input. Such a mental object is, I suggest, ideally suited to figure in the evaluative, critical and tightly focused operations distinctive of second-order cognition. (p. 178)

The central idea for Clark is that inner speech is able to "freeze" our thoughts because its syntax remains constant despite fluctuations in how the subject matter of our thoughts is sensorily presented. By being "context-resistant" and "modality transcendent", the syntax of inner speech holds our thoughts fixed and steady, so that we can attend to them and subsequently evaluate them. Thus, for Clark the syntactic features of the inner speech utterance, "It might rain", serve as a way of fixing or freezing my thought so that I can maintain awareness of it despite fluctuations in how the clouds present themselves to me over time.

Bermúdez draws much from Clark's account, but focuses on cases in which we have explicit conscious awareness of our own thoughts. Central to Bermúdez's view is that in order to explicitly represent our own thoughts, we must represent the thought as possessing a canonical structure – as being built up from its constituent parts in systematic ways. And, according to Bermúdez, in order to represent the canonical structure of our thoughts we need to represent thoughts through a language-like medium – inner speech. For Bermúdez, then, since the syntactic features of inner speech mirror the canonical structure of our underlying thoughts, the syntax of inner speech makes sophisticated forms of self-knowledge possible. For example, according to Bermúdez, when we explicitly consider the major and minor premise of a practical syllogism, we must say in inner speech, e.g., "One ought to go to the bank when in financial need"; "I am in financial need"; "I shall go to the bank".

3.3 Anti-Interface Views

In contrast to both auditory and syntactic views, more recently authors have claimed that inner speech explains our knowledge of our own propositional states, but not by being *an interface* on which or through which one infers or grasps underlying mental states. On auditory views, one 'hears' one's inner speech and draws an inference about the presence of one's underlying propositional states. On syntactic views, the syntax of inner speech allows one to grasp the structure of one's underlying propositional states. Both the auditory and syntactic views thus share an assumption that inner speech explains self-knowledge by serving as a kind of interface between the subject, on the one hand, and her propositional states, on the other hand. Anti-interface views reject the idea that we know our propositional states via an interface at all. Johannes Roessler (2015) and Sam Wilkinson (2020) have offered theories on which inner speech can sometimes explain how we know our thoughts while also not being an interface between ourselves and our thoughts (see also Bar-On and Ochs, 2018; Fernández Castro, 2019).

Roessler's account is inspired by the account that Anscombe (2000) provides of our knowledge of intentional action. According to Anscombe, if I *A* intentionally, then I non-observationally and non-inferentially know that I am *A*-ing. Similarly, Roessler claims I non-observationally and non-inferentially know that I thinking that *p* if I engage in an inner utterance with an intention to assert *p*. Thus, for example, I come to non-observationally know that I am thinking that I will go to the bank if I inwardly utter, "I shall go to the bank", while intending to assert that I will go to the bank. Roessler's view counts as anti-interface because, according to his view, inner speech is neither an observational nor an inferential basis for knowing one's propositional states.

Wilkinson (2020) works from a different, expressivist conception of self-knowledge. Drawing on Bar-On (2004), Wilkinson (2020, p. 22) states:

> Self-knowledge of my belief is generated by my sincere and expressively apt assertion, not because I hear that assertion and attribute a belief to myself, but rather because, if that assertion is indeed sincere and expressively apt, it in itself exemplifies my knowledge of what I believe.

According to Wilkinson, then, my knowledge of my thoughts is exemplified by the fact that I inwardly assert the content of the thought. For example, according to Wilkinson, in inwardly uttering, "I shall go to the bank", I thereby exemplify my knowledge that I have an intention to go to the bank. For Wilkinson the inward utterance figures in an explanation of how I know my thoughts, not by being an interface between myself and my thought, but by itself being a way of knowingly thinking. Though there is little in common among anti-interface views, they are united in their opposition to the idea that inner speech is an interface through which we know underlying mental states.

4. Common Ground: The Self-Knowledge Assumption

The above views differ along a variety of dimensions. First, they differ in regard to *the feature* in virtue of which inner speech explains self-knowledge. For Carruthers and Byrne auditory features explain self-knowledge, while for Clark and Bermúdez it is syntactic features. Second, the views differ on *the role* that inner speech plays in explaining self-knowledge. For Wilkinson that role is expressive, while for Bermúdez inner speech allows us to grasp our propositional states. Finally, theorists differ concerning whether the *target states* are dispositional, as on Carruthers's view, or are merely occurrent, as on Byrne's view. Despite these differences, each view adopts the following assumption:

> **Self-knowledge Assumption**: Inner speech can sometimes be part of an explanation of how we know or are otherwise aware of our propositional mental states.

The auditory, syntactic, and anti-interface views represent so many ways of fleshing out different aspects of the self-knowledge assumption. It is important to emphasize how weak the assumption

is. The views we have discussed do not claim that inner speech is *necessary* for knowledge of our own propositional states. For example, Carruthers allows that in some cases we might know our propositional states via a combination of visual imagery and behavior without appeal to inner speech. The self-knowledge assumption captures this lack of necessity by claiming that inner speech can *sometimes* explain how we know our own propositional states. Moreover, the views do not claim that inner speech is alone *sufficient* for self-knowledge. On Roessler's view, inner speech allows for non-observational and non-inferential knowledge of thought only when accompanied by an intention to assert. The self-knowledge assumption captures this lack of sufficiency by claiming that inner speech can be a *part* of an explanation of how we know our own propositional states.

5. Screening-Off Objection

In what follows, I develop an argument whose conclusion is that inner speech cannot – even sometimes – be a part of an explanation of how we know our own propositional states.[1] My strategy is to argue that there are situations in which we know our own propositional states in the absence of inner speech, and that whatever explains self-knowledge in such cases also explains self-knowledge in the presence of inner speech.

5.1 Step 1: There is Unsymbolized Thought

I start with the claim that there exist cases in which subjects have a thought without inner speech. According to Hurlburt and colleagues, *unsymbolized thoughts* are thoughts one has in the

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[1] There already exist criticisms of the idea that inner speech explains self-knowledge, including Martínez-Manrique and Vicente (2010) and Langland-Hassan (2014). However, these criticisms either target particular explanations (as in the case of Langland-Hassan (2014)) or only target the idea that inner speech is necessary for self-knowledge (as in the case of Martínez-Manrique and Vicente (2010)). These existing criticisms thus fail to engage with the weaker and more general claim embodied by the self-knowledge assumption.

absence of the experience of words or any other sensory symbols or images (e.g., Hurlburt and Akhter, 2008). On the basis of Descriptive Experience Sampling (DES), it is estimated that unsymbolized thought is present in a quarter of our waking life (Heavey and Hurlburt, 2008). DES is an introspective protocol used to develop accurate descriptions of conscious experience while avoiding the pitfalls – biases, motivated reasoning, self-interpretation, etc. – associated with more traditional first-person methods. As a part of the protocol, subjects wear a beeper, which sounds at random times throughout the day, and describe in writing whatever was in their field of conscious awareness just before the beeper sounded. Within 24 hours of collecting their experiences, subjects undergo a collaborative interview with investigators to develop a "high-fidelity" description of their experiences (Hurlburt, Heavey, and Kelsey, 2013). Using DES, Hurlburt and colleagues have developed many vignettes of unsymbolized thought. Consider the case of Abigail:

> Abigail is wondering whether Julio…will be driving his car or his pickup truck. This wondering is an explicit, unambiguous, ''thoughty'' phenomenon: it is a thought…. But there are no words that carry any of these features—no word ''Julio'', no ''car'', no ''truck'', no ''driving''. Further, there are no images (visual or otherwise) experienced along with this thought…Abigail simply apprehends herself to be wondering this and can provide no further description of how this wondering takes place. (Hurlburt and Akhter, 2008, p. 1364)

Abigail wonders whether Julio will be driving his car or his pickup truck, but she has no experiences of words – no inner speech.[2]

Though DES suggests the existence of unsymbolized thought, much of the push back against unsymbolized thought has taken the form of criticisms of the DES protocol, in particular.

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[2] Although the description of Abigail suggests that she has a thought without inner speech, shortly after the publication of Abigail's vignette, Hurlburt reassessed his conception of unsymbolized thought in response to Carruthers's view of self-knowledge. In his commentary on Carruthers (2009), Hurlburt (2009) says that unsymbolized thought "may" involve "the apprehension of some sensory bits, so long as those sensory bits are not organized into a coherent, central, thematized sensory awareness" (p. 150). This recharacterization of unsymbolized thought is, I think, problematic. First, Hurlburt provides no additional data that would support this amendment to the characterization of unsymbolized thought. Moreover, for our purposes, even if we agree with Hurlburt's recharacterization, he does not address the question of whether the "sensory bits" involve inner speech, which is our main interest in this paper.

Tye and Wright (2011) claim that when the beeper sounds and one has to record one's experience, one might become unable to access the "imagistic vehicles" of one's thoughts, e.g., inner speech. On their view, then, inner speech might accompany thought, but the beep masks any awareness of it. However, Tye and Wright's response seems *ad hoc*: why should the beep mask mental images and not the thought contents themselves? A second criticism of the DES protocol stems from Englehart and Carruthers (2011), who are optimistic about DES providing accurate descriptions of the presence or absence of gross mental states – e.g., inner speech and visual imagery – but suggest that DES is problematic when applied to finer-grained mental states. One might think that unsymbolized thought is one such finer-grained mental state, and so DES may not be able to account for it. However, since unsymbolized thought involves the apprehension of one gross mental state – thought – and the apprehension of the lack of other gross mental states – inner speech and imagery – it seems that unsymbolized thought should itself count as a gross mental state. This is not to say that there are no issues with using DES to capture one's underlying experience (for starters, DES interviews rely on memory). Nevertheless, I believe that DES is the best introspective method we have, since it puts up guardrails against the problems associated with more traditional, first-person methods (for more discussion of these issues see also Vicente and Jorba (2019)).

A different kind of criticism targets unsymbolized thought, reducing it to a condensed form of inner speech (Vicente and Martínez-Manrique, 2016; Vicente and Jorba, 2017). On this view, unsymbolized thought is identified with the top level of the speech production hierarchy, where one selects a proposition or "meaning" without selecting information from lower levels of the hierarchy (Vicente and Martínez-Manrique, 2016, p. 181). This might suggest that unsymbolized thought is an abstract form of inner speech, which in turn would entail that there are no instances

of unsymbolized thought without inner speech. However, this view fails to respect first-person reports of unsymbolized thought, which do not report a speech-like phenomenology. Moreover, even if unsymbolized thought is identified with the selection of a proposition, this would not mean that unsymbolized thought is *itself* a form of inner speech. After all, simply selecting a proposition does not seem to implicate features that would distinguish the occurrence as specifically speech-like as opposed to thought-like or writing-like (Patel, 2021).

5.2 Step 2: There is a Sufficient Factor for Knowledge of Unsymbolized Thought

Having made the case there are at least some instances of unsymbolized thought – thought without mental imagery or inner speech – I now present the next stage of the argument against the self-knowledge assumption. There is a subset of cases of unsymbolized thought in which one also has knowledge of one's own unsymbolized thought. This subset includes, for example, those cases where subjects are engaged in DES and become aware of their unsymbolized thoughts. Thus, Abigail not only has an unsymbolized thought – wondering whether Julio will be driving his car or his pickup truck – but she also knows that she has that thought. Now, in such cases of knowledge of unsymbolized thought, there is some sufficient factor, *F*, that explains such knowledge. That is, there is some sufficient factor that explains how one comes to have knowledge of the unsymbolized thought. As a conceptual claim, I don't think this is controversial, but the controversy arises when we turn to what *F* might be.

There are a variety substitution instances for *F* depending on one's general background theory concerning how we know our own propositional states. For those sympathetic to transparency theories of self-knowledge, *F* will implicate attention to the epistemic grounds for one's thought (Fernandez, 2013); for those sympathetic to inner sense theories, *F* will be inner scanning of thought (Armstrong, 1993); for those sympathetic to agentialist views, *F* will be

specified in terms of being the author of thought (Boyle, 2009); and so on. I am not suggesting that some particular substitution instance for *F* ought to serve as an explanation of knowledge of our unsymbolized thoughts. We can thus avoid controversies that surround self-knowledge, while also committing ourselves to an otherwise non-controversial claim, that there is *some* sufficient factor, *F*, that explains knowledge of unsymbolized thought. My focus, rather, is on the fact that when it comes to knowledge of unsymbolized thought, inner speech cannot be part of *F* or entailed by *F*, since, by definition, inner speech is not present when one knows unsymbolized thought.

5.3 Step 3: *F* Screens Off Inner Speech

I will now argue that whichever *F* one prefers, *F* will "screen off" inner speech from explaining knowledge of thought when *F* and inner speech are both present (inspiration for this stage of the argument comes from Kim's (1988) causal exclusion argument). First, whichever *F* one chooses, *F* will still be present when inner speech is present. In other words, there is no reason to think that inner speech blocks the presence of *F*. For example, one would count as the author of one's thought even if inner speech is present; the inner scanning mechanism would still be active; one could still attend to the grounds of one's thought; and so on. Second, the presence of inner speech does not block *F* from being sufficient for knowledge of thought. For example, being the author of one's thought will still be sufficient for knowledge of thought even if inner speech is present; inner scanning will still be sufficient for knowledge of thought; transparency methods will still be sufficient for knowledge of thought; and so on. Finally, when inner speech and *F* are both present, it cannot be that if *F* is sufficient for knowledge of thought, then inner speech *also* explains knowledge of thought. This amounts to a rejection of overdetermination: if *F* is sufficient for knowledge of thought, there is no leftover explanatory work for inner speech to do with regard to such knowledge. It follows that when inner speech accompanies thought, *F* explains knowledge

of thought, not inner speech. We can thus conclude that inner speech is redundant in an explanation of knowledge of thought: whenever inner speech and *F* are present, it is *F*, and not inner speech, that explains such knowledge.

One might allow that inner speech is redundant when inner speech and *F* are *both* present, but claim that there are situations – call them *breakdown situations* – in which inner speech is present, *F* is absent, and one has knowledge of thought. According to this objection, in such situations inner speech can come to the rescue and explain how one gains knowledge of one's thoughts. The result would be that the self-knowledge assumption remains intact: inner speech can sometimes – during breakdown situations – be part of an explanation of how we know our own propositional mental states. Although many accounts of self-knowledge allow for breakdown situations, these situations are often not thought to involve the distinctive, first-personal form of awareness we have when we know our own thoughts. According to these accounts, when some relevant *F* breaks down and we are relegated to using inner speech to come to know our thoughts, we no longer have the distinctive, first-personal form of awareness that *F*, e.g., a transparency method, was meant to capture (e.g., Moran, 2001). Thus, if self-knowledge is taken to involve a distinctive, first-personal form of awareness, then there is a sense in which breakdown situations are impossible: there could not be a situation in which one has the kind of first-personal awareness distinctive of self-knowledge while *F* is not present.

But even if we allow for the possibility of breakdown situations, and thereby keep the self-knowledge assumption intact, the victory would turn out to be a hollow one. Underlying the specific views discussed in Section 3 – the auditory, syntactic, and anti-interface views – is not only the self-knowledge assumption – that inner speech can sometimes explain self-knowledge – but also a neighboring assumption – that *whenever inner speech is present*, inner speech can

explain self-knowledge. Consider the views in turn: whenever inner speech is present, it can serve as grist for the mindreading mechanism (Carruthers); whenever inner speech is present, it can serve as a basis for inferring one's propositional states (Byrne); whenever inner speech is present, it can (and does) help to fix one's thoughts (Clark and Bermúdez); whenever inner speech is present, it can be a way of gaining non-observational knowledge of one's thoughts (Roessler and Wilkinson). Auditory, syntactic, and anti-interface views thus all assume that whenever inner speech is present, inner speech can explain self-knowledge. However, the argument of the current Section implies that this neighboring assumption is false: whenever inner speech is present *alongside F*, inner speech cannot be part of an explanation of self-knowledge. Thus, even if we do allow for breakdown situations it will turn out that in a vast number of cases – whenever *F* is present – inner speech will be redundant in explaining the knowledge we have of our thoughts.

The argument of this Section motivates a search for an alternative account of the functional significance of inner speech, one that does not put self-knowledge at the forefront. There are a variety of other uses which inner speech might have: it could be that our thoughts are sometimes formulated in inner speech (Kompa, 2023), and that inner speech facilitates memorization (Baddeley, 1992), task-switching (Emerson and Miyake, 2003), and motivation (Hardy, 2006), among a variety of other functions (see, e.g., Alderson-Day and Fernyhough, 2015). In Section 8, I will address the question of the functional significance of inner speech if it should not be unpacked in terms of self-knowledge. However, before coming to an understanding of the functional significance of inner speech, we need to step back and ask first about the nature of the inner speech itself.

6. Towards an Account of the Reflexivity of Inner Speech

Having criticized the self-knowledge assumption, I now diagnose why so many theorists have been attracted to it. The assumption that inner speech can provide knowledge of our own propositional states is informed by an inchoate sense that there is something *reflexive, second-order*, *higher-order*, or '*meta*' about inner speech. I will understand such *reflexive character* as the idea that in engaging in inner speech, we *represent aspects of ourselves*. This does not mean that when we engage in inner speech, we are aware of ourselves engaging in inner speech. That might well be true, but that does not capture the phenomenon of reflexive character. Rather, inner speech is reflexive in that it points to *something else* about ourselves: in engaging in inner speech, we represent some *other* aspects of ourselves. The question, of course, is: which aspects of ourselves does inner speech make us aware of? Those who claim that inner speech plays a role in self-knowledge answer that inner speech allows us to represent – and so come to know or be aware of – our own propositional states. I have just argued that that answer is not correct: the reflexivity of inner speech is not captured by appeal to knowledge of our own propositional states, since inner speech is "screened-off" from explaining such knowledge. So how did theorists get from the idea that inner speech has reflexive character to the idea that inner speech explains self-knowledge? In what follows, I will suggest that the leap derives from a mistaken view of the content of inner speech, and that correcting it will present us with an alternative account of the reflexive character of inner speech.

6.1 Informationalism and Reflexive Character

The traditional view concerning the content of inner speech is *informationalism*, according to which inner speech exclusively represents information from the speech processing hierarchy. Recall from Section 2 that the speech processing hierarchy consists in a hierarchy of levels of information – semantic, syntactic, phonemic, phonetic, motoric – that are implicated during speech

production, and which are also exploited in inner speech. Informationalism is the view that inner speech exclusively represents information from that hierarchy. As also mentioned in Section 2, there are several versions of informationalism: concretism, the view that all inner speech represents auditory contents (e.g., Langland-Hassan, 2018), abstractionism, the view that inner speech never represents auditory contents (e.g., Gauker, 2018), and pluralism, the view that inner speech can represent any variety of contents from the speech processing hierarchy (e.g., Grandchamp, 2019). What these views have in common is that the contents of inner speech are only those derived from the speech processing hierarchy.

The idea that inner speech explains self-knowledge becomes attractive once we adopt informationalism. If inner speech is a matter of representing information from the speech processing hierarchy, then it is natural to think that the reflexive character of inner speech can be accounted for only by relating us to our other mental states – beliefs, intentions, desires, thoughts, and so on. This is because, on the informationalist picture, there is nothing *intrinsically* reflexive about inner speech. For example, if in inner speech I represent speech sounds, then I am not representing anything about myself, but only speech sounds; if in inner speech I represent syntactic contents, then I am not representing anything about myself, but words and their syntactic relations; if in inner speech I represent a semantic content, then I am not representing anything about myself, but something about the world. The reflexive character of inner speech must therefore be accounted for in terms of an *external relation* between inner speech and some *other* aspect of ourselves. A natural option for how to characterize this external relation is in terms of self-knowledge: inner speech allows us to know or become aware of our own propositional states. Thus, by antecedently adopting an informationalist picture of the representational content of inner

speech, authors put themselves in the position of unpacking the reflexive character of inner speech in terms of self-knowledge.

6.2. An Alternative: Vocalism

We can see our way to a different view of the reflexive character of inner speech if we reject informationalism. The first step is to see that speech processing is only one aspect of a broader, more encompassing kind of processing, *voice* processing. As Pascal Belin and colleagues (2004) note, "the voice not only contains speech information, it can also be viewed as an 'auditory face', that allows us to recognize individuals and emotional states" (p. 129). By conceiving of speech processing as only one aspect of voice processing, we can come to grasp an alternative to informationalism, according to which inner speech not only represents information from the speech processing hierarchy, but also voices. That inner speech represents voices is backed by the empirical evidence as well. The 'temporal voice area' (TVA) is an area of the temporal cortex sensitive to voices (Belin et al., 2000). Using fMRI, Yao et al. (2019) found that TVA is active during inner speech, suggesting that inner speech involves the representation of voices. Moreover, Kurby et al. (2009) have shown that silent reading in the voice of a particular character primes identification of that voice, also suggesting that inner speech involves the representation of voice.

Drawing on this research, (Patel, 2021) argues for *vocalism*, according to which inner speech involves representing a voice communicating contents from the speech processing hierarchy. Unlike informationalism, which holds that the content of inner speech is exhausted by the contents of the speech processing hierarchy, according to vocalism, inner speech has a broader content, implicating *a voice* communicating contents from the speech processing hierarchy. Thus, for example, in inner speech I represent a *voice* communicating speech sounds, not just speech sounds; in inner speech I represent *a voice* communicating a syntactic string, not just a syntactic

string; in inner speech I represent *a voice* communicating a proposition, not just a proposition. On this alternative view, information from the speech processing hierarchy makes up only one aspect of a more expansive, complex content. Whereas informationalist approaches to inner speech view its content as comprising a single component, an information type from the speech processing hierarchy, the vocalist view takes the content of inner speech to comprise three components, a voice communicating an information type from the speech processing hierarchy.

7. Vocalism and Reflexive Character

Vocalism puts into view an alternative account of the reflexive character of inner speech. This alternative will bring into focus the distinctively second-personal nature of inner speech in one's own voice.

7.1. Representing One's Own Voice

From the perspective of vocalism, the reflexive character of inner speech consists solely in representing *one's own voice*. Thus, in representing my own voice communicating "I shall go to the bank", what is reflexive is not that the inner speech allows me to know or otherwise be aware of my own intention to go to the bank. Rather, according to the vocalist alternative, the reflexive character consists solely in the fact that I represent my own voice when I represent my own voice communicating, "I shall go to the bank". This account gains traction if we can show that our intuitions about the reflexive character of inner speech track our intuitions about inner speech occurring in one's own voice. To this end, consider the following cases:

> (1) I engage in inner speech in the voice of Margaret Thatcher communicating, "Society does not exist".
>
> (2) I engage in inner speech in my own voice communicating, "Society does not exist".

I submit that we have the intuition that (1) does not involve reflexive character, but that (2) does: that is, in (1) I do not represent some aspect of myself, while in (2) I do represent some aspect of myself.

Which account, the informationalist or vocalist account of reflexive character, would best capture this pattern of intuition? The informationalist account claims that the reflexive character of inner speech derives from the occurrence of the words, "Society does not exist", which allows us to know that we have the thought that society does not exist. The problem is that both (1) and (2) involve the words, "Society does not exist", and in some sense both (1) and (2) involve having the occurrent thought that society does not exist. As a result, both (1) and (2) would have reflexive character by the lights of the informationalist. But this just means that the informationalist view fails to capture the pattern of intuition that (2) but not (1) has reflexive character. In contrast, this pattern is explained by the vocalist account, since (2) but not (1) involves a representation of my own voice. When I engage in inner speech in Margaret Thatcher's voice, as in (1), I am not representing any aspect of myself but am representing some other person's voice. In contrast, when I engage in inner speech in my own voice, as in (2), I am representing my own voice. On the vocalist view, then, (2) has reflexive character, but (1) does not. The intuition that (2) but not (1) has reflexive character is therefore not a matter of whether speech processing contents correspond to a propositional state of mine, but derives simply from the fact that I represent my own voice. The reflexive character of inner speech is vocalic, not speech-centric. This gives us some positive reason to favor the vocalist view of reflexive character over the informationalist one.

7.2. The Second-Personal Nature of Inner Speech

But what, exactly, is involved in representing one's own voice? I claim that I bear a *second-personal relation* to myself when I represent my own voice in inner speech. The second-

personal encompasses ways of thinking or representing someone that treats them as a 'you'. The second-personal perspective is supposed to be irreducible to the first-personal and the third-personal perspectives. The first-personal perspective marks the kind of awareness I have of myself and my own mental states when I represent them as being mine. For example, when I take myself to have a conscious experience of car keys, I bear a distinctively first-personal relation to my conscious experience. The third-personal perspective marks the kind of awareness I have of another when I represent her in the third-person as a subject, a human being, or simply as Jane or Joan. For example, if I happen to be spilling sugar along the aisles of the grocery store, but do not know it is me who is doing that, then I may think of someone (who happens to be myself) in the third-person as *that person spilling sugar* (Perry, 1979).

In contrast to these perspectives, the second-personal marks out the distinctive relation I bear to someone when I treat them as a 'you'. There are a number of different accounts of the second-personal relation (see, e.g., Darwall, 2006; Haase, 2014; Heal, 2014; Elian, 2024). However, all authors agree that standing in a relation of *address* to another is sufficient for bearing a second-personal relation to them (e.g., Heal, 2014; Elian, 2024). Though the notion of address is difficult to unpack, we can follow Elian (2024) in thinking of address as an activity internal to verbal or non-verbal communication, which involves "a kind of communicative connectedness" (p. 1109). Given that address is sufficient for standing in a second-personal relation, we can now see why inner speech in my own voice involves bearing a second-personal relation to myself. Central to inner speech is the concept of address: when we engage in inner speech in our voices, we address ourselves (see also Geurts, 2018; Deamer, 2021). This means that when I represent my own voice communicating, "Society does not exist", I am treating myself analogously to the way that I treat you when you address me with the claim, "Society does not exist". The difference

is that in the case of inner speech in my own voice I am *both* addresser *and* addressee. But this just means that when I engage in inner speech in my own voice, I treat myself as a 'you' who is addressing myself, and so bear a second-personal relation to myself. Given that the addresser-address-addressee structure is inherent in the structure of inner speech in one's own voice, inner speech in one's own voice intrinsically implicates a second-personal relation to oneself.[3]

One might object that I do not bear a second-personal relation to myself when I engage in inner speech in my own voice. According to the objection, the relation I bear to myself in such situations is either third-personal or first-personal. Thus, one might claim that when I engage in inner speech in my own voice, I represent myself third-personally in just the way that I represent Thatcher third-personally when I represent her voice communicating, "Society does not exist". This seems problematic, however. When I engage in inner speech in Thatcher's voice, I represent Thatcher's voice as being the voice of some *other* person, namely, Margaret Thatcher. When I engage in inner speech in my own voice, however, I do not represent my own voice as being the voice some *other* person. Rather, I represent my voice as *my own*. Therefore, when I engage in inner speech in my own voice, I do not represent myself third-personally.

Alternatively, one might claim that when I engage in inner speech in my own voice, I represent myself first-personally, since I represent my own voice *as my own*. There is no doubt that I represent my voice as my own. But this does not meet the bar for first-personal awareness. The first-personal perspective encompasses the way I relate to my own *representations* – conscious experiences, thoughts, and feelings, and so on. However, in general, the way I relate to a

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[3] Some authors have argued that inner speech is sometimes purely propositional in nature and devoid of auditory contents (see, e.g., Vicente and Martínez-Manrique (2016)). This may seem to present a problem for vocalism, since it might be thought that the representation of voice is always the representation of something auditory. If this were so, then purely propositional cases of inner speech could not have a second-personal aspect. However, there is evidence that not all vocal representation is auditory, but that some is amodal (Hasan et al., 2016). Thus, on a vocalist view, it is possible to represent one's own voice amodally in purely propositional inner speech, and so stand in a second-personal relation to oneself (for more discussion see Patel (2021)).

representation of *x* is different from the way I relate to the *x* represented. For example, the sense in which I take the *conscious experience* of car keys to be mine is very different from the sense in which I take the *car keys* so represented to be mine. So too the sense in which I take a *representation* of my own voice to be mine is different from the sense in which I take *the voice* so represented to be mine. Thus, when I engage in inner speech in my own voice, I do not represent *my voice* first-personally even if I do have first-personal awareness of the *representation* of my own voice.

A more general way of objecting to the second-personal view of inner speech targets the connection between the second-personal perspective and representing one's *own* voice. According to this objection, I might represent the voice of *another* person in a second-personal manner. For example, I may be so enamored with Margaret Thatcher that throughout the day I imagine her voice imparting words of encouragement, addressed directly to me. Since I am representing Thatcher's voice addressing me, I seem to also stand in a second-personal relation to Thatcher, treating her as a 'you'. This would sever the link between representing one's *own* voice, in particular, and the second-personal perspective. I agree that there is a second-personal flavor to what I am representing in the revised Thatcher case – I am treating Thatcher as a 'you' in some sense. However, I am not *actually* standing in a second-personal relation to Thatcher, since there is no actual person, Thatcher, who is addressing me. Instead, I am simply *imagining* holding a second-personal relation to Thatcher. In contrast, when it comes to inner speech in my own voice, I am *actually* standing in a second-personal relation to myself, since there is an actual person – me – addressing an actual person – me: I actually stand before myself as both addresser and addressee.

8. Functional Significance: Charting Conceptual Space

I started the paper with a claim about the *functional significance* of inner speech, the idea that inner speech can explain the knowledge or awareness we have of our own propositional states (Section 2-4). Section 5 then criticized that idea, arguing that inner speech is "screened-off" from explaining self-knowledge. Sections 6 and 7 then reoriented the discussion away from the functional significance of inner speech and toward the *nature* of inner speech, in particular, its representational content and reflexive character. In Section 6, I argued that theorists attracted to the self-knowledge assumption marry a problematic account of the representational content of inner speech, informationalism, with the innocuous idea that inner speech is reflexive. If this diagnosis is correct, it shows that the self-knowledge assumption derives, in part, from views about the nature of inner speech. One lesson of this paper, then, is that we need to get straight on the nature of inner speech before we make sweeping claims about the functional role of inner speech.

The paper has not been entirely negative, however. In Section 7, I argued that once we adopt vocalism about the representational content of inner speech, we can see our way to a novel view of the reflexive character of inner speech. According to this view, inner speech in my own voice involves me standing in a second-personal relation to myself. Does the second-personal nature of inner speech suggest anything about the functional significance of inner speech? I now sketch at least two possible views of the functional significance of the second-personal nature of inner speech.

The first alternative is deflationary in character, and claims that the second-personal nature of inner speech has no functional significance whatsoever. At the end of Section 5, I noted that rejecting the idea that inner speech explains self-knowledge is consistent with inner speech serving a variety of other functions in our cognitive lives, including memorization (Baddeley, 1992), task-switching (Emerson and Miyake, 2003), and motivation (Hardy, 2006), among others. What these

other functions have in common is that they are all *task-dependent*: within a memorization task, inner speech aids memorization; within a task-switching protocol, inner speech aids in task switching; within a challenge task, inner speech aids in motivation; and so on. These are all functions that inner speech serves in the context of a given task. In contrast to these task-dependent functions, theorists who adopt the assumption that inner speech provides for self-knowledge see that function as *task-independent*: whether or not one is presented with some more specific cognitive task – memorization, task switching, challenge tasks, and so on – inner speech is supposed to provide one with knowledge or awareness of one's own propositional states.

One way of taking the argument of Section 5 is that inner speech possesses no task-independent function, since self-knowledge is the only such function inner speech could possess. According to this deflationary reaction, empirical investigation into inner speech has been fruitful in discovering a variety of task-dependent functions, and will continue to make more precise the specific contexts in which inner speech possesses certain uses. From this perspective, however, it is simply a dogma of philosophical thought about inner speech that it has some additional, task-independent function. The implication is that the second-personal nature of inner speech has no functional significance whatsoever, but instead just shows up as a basic feature of inner speech in one's own voice. Thus, on this deflationary view, though inner speech serves various task-dependent functions, it does not possess a task-independent function.

The second alternative is inflationary in character. According to this alternative, a lesson of this paper is that although inner speech does possess a task-independent function, it should not be understood in terms of self-knowledge, but rather can be found in the second-personal nature of inner speech in one's own voice. One strategy for unpacking this inflationary view is to first find a function of second-personal relations in general, and then apply that same function to the

second-personal relation present in inner speech in one's own voice. Geurts (2018) and Fernández-Castro (2019) execute this kind of strategy. Geurts claims that one of the main functions of communication between two parties is for them to establish commitments, obligations, duties, and responsibilities toward one another. Given that inner speech involves self-address, Geurts concludes that at least one function of inner speech is that it gives rise to private commitments that are binding on ourselves.

Of course, Geurts' specific proposal represents only one possible way of bestowing functional significance on the second-personal nature of inner speech. Another way of building out the inflationary alternative is by appeal to Christine Korsgaard's concept of *reflective distance* (Korsgaard, 1996). Reflective distance does not concern our capacity to know our own propositional states, but our capacity to normatively assess our own thoughts, beliefs, and desires. Korsgaard claims that reflective distance presupposes that an agent "stands…in a second-personal relation to herself – [that] she has a second-personal voice within" (Korsgaard, 2007, p. 11). If reflective distance does require standing in a second-personal relation to oneself, then inner speech in one's own voice might be one way in which such distance is realized. Thus there are various options for bestowing a task-independent function on inner speech without appeal to self-knowledge.

One might argue that, by virtue of explaining commitment generation and reflective distance, inner speech in one's own voice also explains one's knowledge of one's commitments, beliefs, and desires. According to this view, the second-personal aspect of inner speech in one's own voice – representing oneself as a 'you' in inner speech – is explanatory of self-knowledge. There are at least two reasons to resist this kind of view. First, knowledge that I myself have a commitment, belief, or desire seems to be grounded in a first-personal perspective on myself, not

a second-personal perspective. After all, the first-personal perspective involves the kind of awareness I have of myself and my own mental states when I represent them as being mine. Moreover, the central takeaway of Section 5 is that inner speech is redundant in explaining self-knowledge in the presence of F. There is thus considerable pressure to not treat the second-personal aspect of inner speech in one's own voice as explanatory of self-knowledge.

I will not take sides between the deflationary and inflationary alternatives. The aim of this paper is not to provide a complete account of the functional significance of inner speech. Rather, it is to lay the groundwork for us to further explore the functional significance of inner speech by providing an account of its reflexive character. I believe that philosophers have been too quick to make strong claims about the functional significance of inner speech without yet understanding the nature of inner speech itself. This paper has hopefully gone some way in clarifying the latter so as to put us in a better position to start thinking about the former.[4]

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