

# On the ignorance, knowledge, and nature of propositions

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**Abstract** Deploying distinctions between ignorance of  $p$  and ignorance that  $p$  (is true), and between knowledge of  $p$  and knowledge that  $p$  (is true), I address a question that has hitherto received little attention, namely: what is it to have knowledge of propositions? I then provide a taxonomy of ontological conceptions of the nature of propositions, and explore several of their interesting epistemological implications.

**Keywords** Knowledge of · Knowledge that · Ignorance of · Ignorance that · Ontology of propositions

## 1 Introduction

A central concern of contemporary epistemology has been the nature of what is widely called “propositional knowledge,” and among the most frequently used expressions in the field we find for instance ‘ $S$  knows that  $p$ ,’ ‘ $S$  believes that  $p$ ,’ ‘ $S$  is justified in believing that  $p$ ,’ ‘ $S$  doubts that  $p$ ,’ and the like, where  $p$  is supposed to be some proposition or other. While epistemologists have tended to make rather liberal use of the notion of propositions, it’s fair to say that we typically do so while sidestepping the metaphysical question of their nature.<sup>1</sup> This sidestepping has gone hand in hand with another sidestepping, namely of the epistemological question of our knowledge

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<sup>1</sup> As Zagzebski perceptively notes: “The nature of truth, propositions, and reality are all metaphysical questions. For this reason epistemologists generally do not direct their major effort to these questions when writing as epistemologists, and so discussions of knowledge normally do not center on the object of knowledge, but on the properties of the state itself that make it a state of knowing” (1999, p. 93).

of propositions themselves, and this even though we epistemologists talk and write at length of *propositional* knowledge.

You will not find such sidestepping here. On the contrary, my aim is to squarely address these epistemological and metaphysical questions. My plan is as follows. In Sect. 2, I will discuss, as a preliminary matter, an equation between (i) knowledge **that**  $p$  (is true) with (ii) knowledge **of**  $p$ , where  $p$  is some proposition. In Sect. 3, I will lay the groundwork for arguing that (i) and (ii) are not equivalent. I will do so by considering what it is to be ignorant of propositions, for considering this question sheds light on what it is to have knowledge of propositions. In this light, I will delineate what it is to have such knowledge in Sect. 4, showing in effect that the conditions for knowledge of  $p$  are distinct from the conditions for knowledge that  $p$ . In Sect. 5, I will taxonomize leading conceptions of the ontology of propositions, my aim in doing so being not to argue for *the* correct such conception, but rather to set the stage for exploring interesting epistemological implications of each. I will explore these implications in Sect. 6, and conclude in Sect. 7.

## 2 The that/of knowledge equation

Is knowledge **that**  $p$  (is true) equivalent to knowledge **of**  $p$ ? Let's call taking them to be equivalent the "that/of knowledge equation." As a representative example of this equation (with others to be found in the Appendix to this paper), consider the following:

There are many kinds of knowledge. I may know that Paris is the capital of France, or know how to bake a cake, or know where my keys are, or know who was the inventor of the zip fastener, and so on. To keep matters simple, we will focus on a particular kind of knowledge which is of central importance, what is known as *propositional* knowledge. Propositional knowledge is, as the name suggests, knowledge of a proposition. A proposition is, roughly, what is expressed by a sentence which says that something is the case—e.g., that Paris is the capital of France, or that the earth is flat. In focusing on propositional knowledge, then, we are focusing on *knowledge that* such-and-such is the case, rather than, say, on *knowing-how* to do such-and-such, or *knowing where* such-and-such is, and so on. Pritchard (2009, p. 24) [Italics in original]

Notice that there is no argument in this passage to the effect that knowledge **of** a proposition  $p$  is knowledge **that**  $p$  is true; rather, they are just equated.<sup>2</sup> As I shall argue, however, while knowledge **that**  $p$  entails knowledge **of**  $p$ , knowledge **of**  $p$  does not entail knowledge **that**  $p$ , and so knowledge **that**  $p$  is not equivalent to knowledge **of**  $p$ . In fairness to Pritchard, this non-equivalence may make no difference to his immediate point of differentiating knowledge **that** from knowledge **how** and knowledge **where**. My purpose is not to take Pritchard (or anyone else) to task, but is much

<sup>2</sup> One could say that Pritchard only has in mind *true* propositions. As I shall argue in the next section, however, it's important to distinguish between **knowledge of a proposition that is true**, and **knowledge that a proposition is true**.

broader: namely, to argue that the distinction between knowledge **that**  $p$  and knowledge **of**  $p$  is a distinction that makes a difference in having important epistemological implications that have hitherto gone largely unnoticed. To lay some groundwork for my case, I consider in the next section an issue that has received little attention in the literature, namely: what it is to be ignorant of a proposition.<sup>3</sup>

### 3 Ignorance of propositions

As presupposed by the use of such well-worn epistemological expressions as ‘ $S$  knows that  $p$ ’, ‘ $S$  believes that  $p$ ’, ‘ $S$  is justified in believing that  $p$ ’, ‘ $S$  doubts that  $p$ ’, and so on, propositions have truth-conditions.<sup>4</sup> Notice that these truth-conditions themselves can be distinguished from their satisfaction. Propositions are true when their truth-conditions are satisfied, but false when not. The following propositions serve to illustrate this distinction:

- $p_1$ —The White Nile is longer than the Blue Nile.
- $p_2$ —Sulphur is soluble in water.
- $p_3$ —There are infinitely many primes  $x$  such that  $x + 2$  is also prime.

The first of these propositions is true, and the second false. As for the third, it is presumably either true or false; unfortunately, we do not, at least yet, know which.<sup>5</sup>

Now in order to know that, believe that, think that, or doubt that a proposition’s truth-conditions are satisfied, one cannot be ignorant of the proposition itself and its concomitant truth-conditions. Take (say) Hypatia of Alexandria some 1600 years ago in relation to the following two propositions, the first of which is true and the second false:

- $p_4$ —Team Canada won the 2012 Women’s World Hockey Championship.
- $p_5$ —Team USA won the 2012 Women’s World Hockey Championship.

Hypatia was in no position to have any propositional attitude at all relative to  $p_4$  and  $p_5$ , whether that of believing or doubting or even entertaining them. She was ignorant not just that  $p_4$ ’s truth-conditions are satisfied and  $p_5$ ’s truth-conditions are not, but in the even deeper sense of being ignorant of  $p_4$  and  $p_5$  themselves and their respective truth-conditions.

Worth noting is that ignorance of propositions is not restricted to true propositions, for one can be ignorant of false ones as well; my 4-year old son, for instance, is not just ignorant of true proposition  $p_4$ , but of false proposition  $p_5$  too. Moreover, one can be ignorant of a proposition (whether true or false) if one lacks the conceptual wherewithal to even consider it. Relative to  $p_4$  and  $p_5$ , this was the case with Hypatia, and is the case with my 4-year old son. One can also be ignorant of a proposition if one has not deployed the concepts requisite for having an attitude to it despite having the

<sup>3</sup> As we’ll see in what follows, considering what ignorance of a proposition consists in sheds light on what knowledge of propositions consists in.

<sup>4</sup> It seems pretty clear that, whatever they are, propositions have truth-conditions. Whether they are nothing but their truth-conditions is more controversial and I think untenable, but I shall not address that issue here.

<sup>5</sup> This is because  $p_3$  (the Twin Prime Conjecture) remains an unsolved problem in number theory.

conceptual wherewithal for doing so. Take for example the following true proposition (a.k.a. Fermat’s Last Theorem):

$p_6$ —No three positive integers  $a$ ,  $b$ , and  $c$  can satisfy the equation  $a^n + b^n = c^n$  for any integer value of  $n$  greater than 2.

Suppose for the sake of argument that, given her impressive mathematical training, Hypatia had (unlike my 4-year old son) the conceptual wherewithal requisite for having an attitude in relation to this proposition but also had not deployed this wherewithal in such a way as to have one. If so, she was ignorant of  $p_6$ .<sup>6</sup>

#### 4 Knowledge of propositions

So far we have discussed ignorance of propositions, and a natural question emerges: What is the complement or opposite of ignorance of a proposition? It’s natural to take knowledge to be the complement of ignorance, but in doing so two points need to be borne in mind.<sup>7</sup> First, although one can be non-ignorant of true propositions (e.g., I am not ignorant of  $p_1$ ), one can also be non-ignorant of false ones (e.g., I am not ignorant of  $p_2$ ). Second, one can be non-ignorant of propositions one does not believe (e.g., I am not ignorant of  $p_3$  even though I do not believe it). Thus non-ignorance of a proposition  $p$  does not share the necessary conditions of knowledge that  $p$  as the latter is standardly understood; to wit: in terms of believing that  $p$ ,  $p$ ’s being true, and satisfaction of what we may call the “+ condition” (whatever else is required for true belief that  $p$  to be knowledge that  $p$ ).

In light of the reasoning above and the standard three-fold distinction between (i) knowledge **that**  $p$ , (ii) knowledge **how** to  $A$  (where  $A$  is some activity or procedure), and (iii) knowledge **of** (or acquaintance with)  $x$  where  $x$  is some person or entity, we can conclude that the complement of ignorance **of** a proposition is not (i). We are thus left with (ii) and (iii). It seems implausible for this complement to be a form of know-how as in (ii).<sup>8</sup> So this leaves us with (iii): the complement of ignorance of a proposition is best understood as acquaintance with or knowledge of an entity, where the entity in question is a proposition. Such knowledge should not be equated with knowledge that  $p$  (i.e., knowledge that a proposition is true) because, although knowledge that  $p$  entails knowledge of  $p$  (knowledge of  $p$  is a necessary condition for

<sup>6</sup> These examples help to illustrate a distinction between what we may call “preconceptual” and “post-conceptual” ignorance of a proposition: one is preconceptually ignorant of a proposition if one lacks the conceptual wherewithal requisite for having an attitude relative to it, whereas one is postconceptually ignorant of a proposition if, though having this conceptual wherewithal, one has not deployed it so as to have such an attitude. To be sure, one can be preconceptually ignorant relative to some propositions without being preconceptually ignorant relative to others, and one can be postconceptually ignorant relative to some propositions without being postconceptually ignorant relative to others.

<sup>7</sup> For a defense of the complementariness of knowledge and ignorance, see [Le Morvan \(2010, 2011, 2012, 2013\)](#). For an alternative view, see [Peels \(2010, 2011, 2012\)](#). Taking knowledge and ignorance to be complements has considerable lexicographical support. For instance, the OED’s definition 1a of ‘ignorance’ is as follows: “The fact or condition of being ignorant; want of knowledge (general or special).”

<sup>8</sup> As a general point (that is, one that extends beyond the question of the knowledge of propositions), knowledge **how** and knowledge **of** seem to be different kinds of knowledge, and it is far from evident that knowledge **of** can be reduced to knowledge **how**. In fact, I think that one cannot have knowledge **how** without knowledge **of**, but I shall not argue for that point here.

knowledge that  $p$ )<sup>9</sup>, knowledge of  $p$  does not entail knowledge that  $p$  (knowledge of  $p$  is not a sufficient condition for knowledge that  $p$ ).<sup>10</sup> Thus it is a mistake to equate knowledge **that**  $p$  with knowledge **of**  $p$ .<sup>11</sup>

Accordingly, on the intuitive idea that knowledge and ignorance are complements, the complement of ignorance of a proposition  $p$  is not knowledge **that**  $p$  but rather knowledge **of**  $p$ —an acquaintance with or knowledge of an entity, where the entity in question is a proposition. Such acquaintance or knowledge may be occurrent (as when one is conscious of it) or dispositional (as when one retains it in memory). It requires the deployment of concepts in the grasping or comprehension (whether occurrent or dispositional) of a proposition. Knowledge of  $p$  is required to have—and is therefore entailed by, and a precondition of—any propositional attitude in relation to  $p$  such as believing that  $p$ , considering that  $p$ , doubting that  $p$ , hoping that  $p$ , or knowing that  $p$ .

But *what* are we acquainted with when we have knowledge of propositions? This question leads us to the ontology of propositions, a question we take up next.

## 5 A taxonomy of ontological conceptions of propositions

While the vast literature on propositions cannot be addressed here in full, I can address in an overarching manner key features of leading representative conceptions of their ontology, and I shall do so with an eye to their epistemic implications.<sup>12</sup>

Toward this end, I offer below a taxonomy. Although neither exhaustive nor complete, I think it is representative nonetheless of conceptions of the ontology of propositions of particular interest to epistemology. I will begin with an overview and then address key features of the taxonomized conceptions. In the next section, I will explore their epistemic implications.

Conceptions of the ontology of propositions can be divided into two broad kinds: realist conceptions and anti-realist ones.

Realist conceptions take propositions to be genuine relata of propositional attitudes such as belief, doubt, and knowledge, and so quantify over propositions.<sup>13</sup> We may distinguish between two main species of these conceptions: those on which propositions are (non-Fregean) thoughts, and those on which propositions are abstract entities. The latter species may be further subdivided into conceptions that take propositions to be inherently intentional and those that take them to be derivatively intentional.

<sup>9</sup> Someone who is ignorant **of**  $p$  cannot know **that**  $p$ . For instance, since Hypatia was ignorant **of**  $p_4$ , she was in no position to know **that**  $p_4$  is true.

<sup>10</sup> Just because I know **of**  $p$ , it does not follow that  $p$  is true, or that I believe that  $p$ , or that my believing that  $p$  (if I do so) meets the + condition.

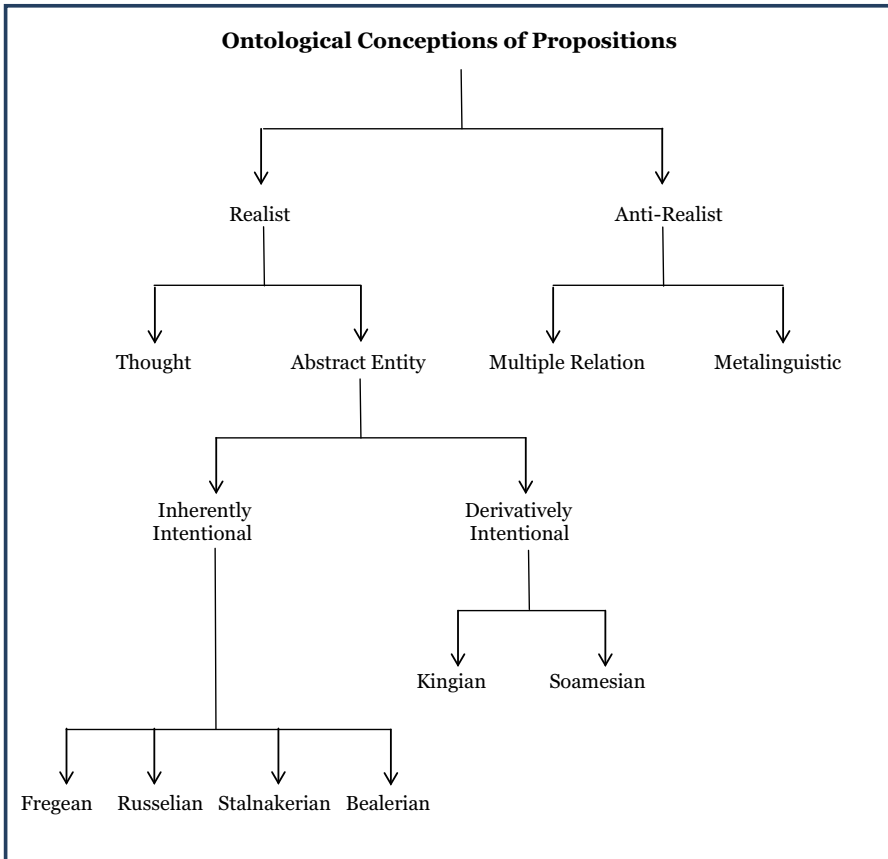
<sup>11</sup> This is a mistake even if  $p$  is true, for even in such a case, knowledge of  $p$  is necessary but not sufficient for knowledge that  $p$ . Accordingly, knowledge **that** a proposition is true should not be conflated with knowledge **of** a proposition that is true.

<sup>12</sup> Recall that I shall not be arguing that any of these accounts *are* true; I am only interested for the purposes of this paper in what follows epistemologically *if* they are true.

<sup>13</sup> I am classifying as a *realist* theory of propositions any account that quantifies over propositions. This sense of ‘realism’ is orthogonal to the sense according to which a realist theory is one that holds that propositions exist independently of propositional attitude holders. A theory can thus be realist in one sense and not in the other, be neither, or both.

Anti-realist conceptions do not take propositions to be genuine relata of propositional attitudes such as belief, doubt, and knowledge, and so do not quantify over propositions.<sup>14</sup> The two main kinds we will consider here are the Multiple Relation Account and the Metalinguistic Account.

The diagram below provides an overview of our taxonomy:



### 5.1 Realist accounts of propositions

Accounts of this kind conceive of propositional attitudes as binary relations between propositional attitude holders and propositions. These accounts thus quantify over propositions as genuine relata of propositional attitudes.

<sup>14</sup> I am classifying as an *anti-realist* theory of propositions any account that does not quantify over propositions. This sense of ‘anti-realism’ is orthogonal to the sense according to which an anti-realist theory is one that holds that propositions do not exist independently of propositional attitude holders. A theory can thus be anti-realist in one sense and not in the other, be neither, or both.

### 5.1.1 Propositions as (non-Fregean) thoughts

On this historically long-lived conception, propositions are primarily thoughts that exist in the mind of the propositional attitude holder and not apart from this mind.<sup>15</sup> Sometimes one expresses them verbally or in words, but one's thoughts need not be so expressed in order to exist. Although thoughts or *mental propositions* can be distinguished from *linguistic propositions*, the latter express or convey the former and the former are the primary bearers of truth-values. So conceived, propositions are not abstract or timeless, but rather concrete occurrences in some mind as are mental propositions, or else concrete inscriptions or utterances as are linguistic propositions which express mental propositions.

### 5.1.2 Propositions as abstract entities

Accounts of this kind have in common a conception of propositions as abstract entities. These accounts may be divided into two main categories, those that take the existence and intentionality of propositions to be independent of propositional attitude holders, and those that take their existence and intentionality to be dependent on them.

*5.1.2.1. Propositions as inherently intentional abstract entities* As their name suggests, conceptions of this kind take propositions to be abstract entities that are inherently intentional in that their existence and intentionality do not depend on propositional attitude holders. Two prominent conceptions of this kind are the Fregean and Russellian conceptions. The difference between them may be illustrated with the “Mont Blanc” proposition: the Mont Blanc is over 4000 m high. The early Russell (1904) and Frege (1904) famously disagreed about the nature of this proposition in particular, and the nature of propositions more generally.

On the Russellian conception, there are singular propositions constituted by particular objects and their properties and relations; they are in effect states of affairs—structured complexes of objects and their properties and relations. They thus depend for their existence on the contingent beings that are among their constituents, even though propositions themselves are abstract and do not depend for their existence on their being believed or even considered by propositional attitude holders. On this conception, then, the Mont Blanc proposition has as constituents the Mont Blanc itself and the property or relation of being more than 4000 m high, a claim that Frege famously took to be absurd.

On the Fregean conception, by contrast, propositions are composed not of particular objects and their properties and relations, but rather of senses (or modes of presentation or concepts). Such senses are objective and exist independently of think-

<sup>15</sup> They are thus *not* thoughts in the Fregean sense of the term. This conception of propositions as thoughts in the mind is suggested by Aristotle in the sixth book of *Metaphysics* where he writes that the true and false are in the soul. See Aristotle (1941). It can be found in the work of scholastic philosophers such as Jean Buridan. For a helpful discussion of Buridan's conception, see Hughes (1982). It is also found in the works of non-scholastics such as Locke and other figures in modern philosophy. On Locke's view, mental propositions are nothing but a bare consideration of ideas. See Sect. 1 of Chap. V of Book IV of Locke (1975).

ing agents, and propositions are necessary and not dependent on any contingent beings.<sup>16</sup>

While the Russellian and Fregean conceptions of the nature of propositions remain prominent, there are two other conceptions of propositions as inherently intentional abstract entities worth mentioning as well. On Stalnaker's conception, propositions are sets of possible worlds; the Mont Blanc proposition is accordingly the set of possible worlds where the Mont Blanc is more than 4000 m high.<sup>17</sup> On Bealer's conception, propositions are *ante rem* universals: eternal, metaphysically simple entities that exist independently of the mind and of their instances; the Mont Blanc proposition is thus such a universal.<sup>18</sup>

Notice that despite their differences, on each of these four conceptions, propositions are abstract entities whose intentionality is inherent and therefore independent of propositional attitude holders, and are the sources from which sentences and propositional attitudes inherit their intentionality.

*5.1.2.2. Propositions as derivatively intentional abstract entities* Instead of taking propositional attitudes (and sentences) to be intentional in virtue of their relations to inherently intentional propositions, accounts in this category take propositions to be intentional in virtue of their relations to inherently intentional sentences or to inherently intentional propositional attitudes. So far in the literature, two main accounts fall under this category: King's and Soames's.

King (2007) takes the existence and intentionality of propositions to be derived from, and so dependent on, the prior existence and intentionality of sentences expressing them. On this view, propositions are abstract entities in the sense of being types of the semantic content of inherently intentional sentences.

Soames (2012) takes the existence and intentionality of propositions to be derived from, and so dependent on, the prior existence and intentionality of propositional attitudes (or cognitive states as he puts it)—including perception and non-linguistic belief both of which he takes to be the basis of more complex, linguistically mediated, thought. On this view, propositions are abstract entities in the sense of being types of the semantic content of inherently intentional propositional attitudes (or cognitive states).

On these accounts then, propositions are abstract entities whose existence and intentionality are dependent on either inherently intentional sentences or propositional attitudes. They are thus dependent on propositional attitude holders themselves inasmuch as the latter produce sentences or hold propositional attitudes.

## 5.2 Anti-realist accounts of propositions

On the realist accounts of propositions we have considered so far, propositional attitudes such as doubt and belief are conceived of as binary relations between holders of

<sup>16</sup> See David (2009) for an excellent discussion of the distinction between the Russellian and Fregean conceptions of the nature of propositions.

<sup>17</sup> See Stalnaker (1976, 1984).

<sup>18</sup> See Bealer (1993, 1998).



the attitudes and propositions. The anti-realist accounts we will consider next do not take propositional attitudes to be relations of this kind, and therefore do not quantify over propositions as genuine relata of propositional attitudes.

### 5.2.1 *The multiple relation account of propositional attitudes*

Russell (1912, 1913, 1918) advanced an account that eschewed propositions and on which propositional attitudes are not binary but rather multiple relations between propositional attitude holders and the objects (particulars or universals) with which they are acquainted.<sup>19</sup> For instance, in the case of Sarah's doubting that Abraham is happy, a three-place doubt relation obtains between Sarah, the property of being happy, and Abraham. In the case of Sarah's believing that Abraham loves Isaac, a four-place belief relation obtains between Sarah, the loving relation, Abraham, and Isaac. On this account, then, propositional attitudes do not require propositions, but rather particulars and universals with which we are acquainted. Thus, one can have the propositional attitude that  $p$  only if we are multiply related by acquaintance to various particulars and universals.

### 5.2.2 *The metalinguistic account of propositional attitudes*

While the Metalinguistic Account comes in a number of species, the fundamental idea of their genus is to explain propositional attitudes by eschewing propositions in favor of sentences. As an exemplar of this approach, consider Sellars's account that exploits the convention of dot quotation around complete sentences to create a common sentence functionally equivalent across languages to the quoted sentence.<sup>20</sup> For instance, instead of supposing that, as on a realist account of propositions, the sentences "It is raining" and "Il pleut" and "Es regnet" each express the same proposition, we can instead create a linguistic expression • It is raining • true of such expressions across languages. Invoking an idea that goes back to Plato and Ockham, propositional attitudes are accordingly understood as a kind of inner speech where thinking is tantamount to talking to oneself. Dubbing the language of thought "Mentalese," Sellars construed propositional attitudes such as belief and doubt to be tokenings of Mentalese expressions. For instance, Sarah's believing that Abraham loves Isaac is understood as Sarah's tokening (or being disposed to token) in the affirmative the Mentalese • Abraham loves Isaac • and Sarah's doubting that Abraham is happy is understood as Sarah's tokening (or being disposed to token) in the negative the Mentalese • Abraham is happy •. According to the Sellarsian Metalinguistic account, insofar as Mentalese is a kind of inner speech, and insofar as inner speech is dependent on public speech and public speech dependent on public language, Mentalese is ontologically dependent on public language.

<sup>19</sup> This view has been revived by others, for instance Moltmann (2003).

<sup>20</sup> Quine (1960) and Prior (1971) among others provide prominent metalinguistic approaches to propositional attitudes. An anonymous reviewer of this journal has suggested to me that the intensional isomorphism of Carnap (1947) may fit into this category as well. By my lights, the metalinguistic approach developed by Sellars (1963) is the richest and most powerful of these approaches.

On the Metalinguistic account then, propositional attitudes do not require propositions, but rather tokenings of Mentalese expressions of inner speech which themselves ontologically depend on public speech and public language.

## 6 Epistemological implications

Before we explore some of the interesting epistemological implications of the conceptions of propositions delineated above, it will be helpful to first take stock of our principal findings. They may be summarized as follows:

- (1) Ignorance of  $p$  should be distinguished from ignorance that  $p$  is true, because although ignorance of  $p$  entails ignorance that  $p$ , ignorance that  $p$  does not entail ignorance of  $p$ .
- (2) It is possible to be ignorant of  $p$  in cases were  $p$  is true, false, or where  $p$ 's truth value is not known.
- (3) Knowledge of  $p$  should be distinguished from knowledge that  $p$  is true, because although knowledge that  $p$  entails knowledge of  $p$ , knowledge of  $p$  does not entail knowledge that  $p$ . It is thus a mistake to equate knowledge of  $p$  with knowledge that  $p$ .
- (4) Ignorance of  $p$  is incompatible with having any propositional attitude that  $p$ .
- (5) Having a propositional attitude that  $p$  requires knowledge of  $p$ .
- (6) It is possible to have knowledge of  $p$  in cases were  $p$  is true, false, or where  $p$ 's truth value is not known.
- (7) Knowledge of  $p$  is acquaintance knowledge of  $p$ .
- (8) *What* we are acquainted with when we have knowledge of  $p$  will be answered in significantly different ways by rival accounts of the ontology of propositions.

In connection with these findings, let's now explore some of the interesting epistemological implications of these accounts.

Consider first scepticism about knowledge; that is, the thesis that we are ignorant.<sup>21</sup> Given our distinction between ignorance **of**  $p$  and ignorance **that**  $p$ , two forms of knowledge scepticism can be distinguished: (i) the thesis that we are ignorant **of**  $p$ , and (ii) the thesis we are ignorant **that**  $p$ . For ease of reference, let's call (i) and (ii) "scepticism<sub>of</sub>" and "scepticism<sub>that</sub>" respectively.<sup>22</sup> Scepticism<sub>of</sub> is stronger than scepticism<sub>that</sub>, for the former entails the latter but the latter does not entail the former.<sup>23</sup>

Worth noting in this connection is that, if we have knowledge of  $p$ , then scepticism<sub>of</sub> modulo  $p$  is false.<sup>24</sup> And, as noted above, knowledge of  $p$  is required to have—and is

<sup>21</sup> I am simplifying matters in using "we" here; to be more precise, one could write for any  $S$ ,  $S$  is ignorant (or, in a weaker form, for some  $S$ ,  $S$  is ignorant). This precision will not matter for my purposes.

<sup>22</sup> Global Scepticism<sub>of</sub> holds that, for any  $p$ , we are ignorant of  $p$ , whereas Local Scepticism<sub>of</sub> holds that, for some  $p$ , we are ignorant of  $p$ . Global Scepticism<sub>that</sub> holds that, for any  $p$ , we are ignorant that  $p$  is true, whereas Local Scepticism holds that, for some  $p$ , we are ignorant that  $p$ . These distinctions will not matter for the purposes of the paper.

<sup>23</sup> Scepticism<sub>of</sub> entails scepticism<sub>that</sub> because, as I argued earlier, being ignorant of  $p$  entails being ignorant that  $p$ , but being ignorant that  $p$  does not entail being ignorant of  $p$ .

<sup>24</sup> If we have knowledge that  $p$ , then scepticism<sub>that</sub> modulo  $p$  is false.

therefore entailed by, and a precondition for—any propositional attitude that  $p$  such as believing that  $p$ , considering that  $p$ , doubting that  $p$ , hoping that  $p$ , or knowing that  $p$ . Thus, having such propositional attitudes entails the falsity of scepticism<sub>of</sub> modulo  $p$ . This is quite interesting in itself, for consider that engaging in an attitude of doubt, whereby one doubts that  $p$ , can occur only if one has knowledge of  $p$ , and inasmuch as knowledge of  $p$  counts as a kind of knowledge, engaging in such doubt requires the falsity of any kind of global skepticism that denies all knowledge. In brief, one's engaging in an attitude of doubt that  $p$  presupposes that one has at least some knowledge, namely of  $p$  itself.

But consider moreover what follows if we accept (as is widely held *pace* Intentionalists) the thesis that acquaintance knowledge is *de re* such that to have knowledge of  $x$  entails that  $x$  exists: since having a propositional attitude that  $p$  requires knowledge of  $p$ , and if knowledge of  $p$  is *de re* and therefore entails the existence of  $p$ , then having a propositional attitude that  $p$  entails the existence of

- a concrete truth-value bearing occurrence in one's mind, or else a concrete inscription or utterance that expresses such a thought, if we accept the non-Fregean Thought theory;
- an inherently intentional and abstract state of affairs—a structured complex of objects and their properties and relations, if we accept the Early Russellian theory;
- an inherently intentional abstract entity composed of objective senses, if we accept the Fregean theory;
- an inherently intentional abstract set of possible worlds, if we accept the Stalnakerian theory;
- an inherently intentional abstract *ante rem* universal, if we accept the Bealerian theory;
- a derivatively intentional abstract type of the semantic content of inherently intentional sentences, if we accept the Kingian theory;
- a derivatively intentional abstract type of the semantic content of inherently intentional propositional attitudes or cognitive states, if we accept the Soamesian theory;
- particulars and universals with which we are in a relation of acquaintance, if we accept the Multiple Relation theory;
- tokenings of Mentalese expressions of inner speech which themselves ontologically depend on public speech and public language, if we accept the Metalinguistic theory.

Now take what we may call “Extra-Mental Scepticism”: scepticism about the existence of anything beyond the mind. This can take the form of Cartesian Scepticism about the existence of anything physical beyond the mind, and it can also take the form of Nominalist Scepticism about anything abstract existing beyond the mind. In light of our distinction between scepticism<sub>of</sub> and scepticism<sub>that</sub>, we can distinguish between Extra-Mental Scepticism<sub>of</sub> (we are ignorant **of** any existent beyond the mind) and Extra-Mental Scepticism<sub>that</sub> (we are ignorant **that** anything exists beyond the mind). Similarly, we can distinguish between Cartesian Scepticism<sub>of</sub> (we are ignorant **of** any physical existent beyond the mind) and Cartesian Scepticism<sub>that</sub> (we are ignorant **that** anything physical exists beyond the mind), and between Nominalist Scepticism<sub>of</sub> (we are ignorant **of** any abstract existent beyond the mind) and Nominal-

ist Scepticism<sub>that</sub> (we are ignorant **that** anything abstract exists beyond the mind).<sup>25</sup> Focusing on Cartesian Scepticism<sub>of</sub> and Nominalist Scepticism<sub>of</sub>, consider the following (where “PA-knowledge” is an abbreviation for “knowledge of  $p$  required to have a propositional attitude that  $p$ ”). If knowledge of  $p$  is *de re*, and any propositional attitude that  $p$  (including doubt that  $p$ ) entails knowledge of  $p$ , then we have the following results:

If the (non-Fregean) Thought theory is true, PA-knowledge (of a concrete truth-value bearing occurrence in one’s mind, but not of something extra-mental whether abstract or physical) does not entail the falsity of Cartesian Scepticism<sub>of</sub> and Nominalist Scepticism<sub>of</sub>.

If the Russellian theory is true, PA-knowledge (of an inherently intentional and abstract state of affairs—a structured complex of objects and their properties and relations) entails the falsity of Nominalist Scepticism<sub>of</sub>, and entails the falsity of Cartesian Scepticism<sub>of</sub> depending on whether the objects in question are mind-independent.<sup>26</sup>

If the Fregean theory is true, PA-knowledge (of an inherently intentional abstract entity composed of objective senses—modes of presentation or concepts) entails the falsity of Nominalist Scepticism<sub>of</sub> but is in principle consistent with Cartesian Scepticism<sub>of</sub>.

If the Stalnakerian theory is true, PA-knowledge (of an inherently intentional abstract set of possible worlds) entails the falsity of Nominalist Scepticism<sub>of</sub> but is in principle consistent with Cartesian Scepticism<sub>of</sub>.

If the Bealerian theory is true, PA-knowledge (of an inherently intentional abstract *ante rem* universal) entails the falsity of Nominalist Scepticism<sub>of</sub> but is in principle consistent with Cartesian Scepticism<sub>of</sub>.

If the Kingian theory is true, PA-knowledge (of a derivatively intentional abstract type of the semantic content of inherently intentional sentences) entails the falsity of Nominalist Scepticism<sub>of</sub>; whether it is consistent with Cartesian Scepticism<sub>of</sub> depends on whether inherently intentional sentences must be physically realized.

If the Soamesian theory is true, PA-knowledge (of a derivatively intentional abstract type of the semantic content of inherently intentional propositional attitudes or cognitive states) entails the falsity of Nominalist Scepticism<sub>of</sub>; whether it is consistent with Cartesian Scepticism<sub>of</sub> depends on whether propositional attitude holders themselves are physical.

If the Multiple-Relation theory is true, PA-knowledge (of particulars and universals with which we are in a relation of acquaintance) entails the falsity of Nominalist Scepticism<sub>of</sub>; whether it is consistent with Cartesian Scepticism<sub>of</sub> depends on whether particulars themselves are physical.

<sup>25</sup> Parallel to how, more generally, scepticism<sub>of</sub> is stronger than scepticism<sub>that</sub> in entailing but not being entailed by the latter, so too Extra-Mental Scepticism<sub>of</sub> is stronger than Extra-Mental Scepticism<sub>that</sub>, Cartesian Scepticism<sub>of</sub> is stronger Cartesian Scepticism<sub>that</sub>, and Nominalist Scepticism<sub>of</sub> is stronger than Nominalist Scepticism<sub>that</sub>.

<sup>26</sup> The early Russell held that these objects are sense-data and therefore not mind-independent. If one divorces the Russellian theory from the early Russell’s commitment to sense-data and takes the objects in question to be physical and mind-independent, then such PA-knowledge does entail the falsity of Cartesian Scepticism<sub>of</sub>.

If the Metalinguistic theory is true, PA-knowledge (of tokenings of Mentalese expressions of inner speech which themselves ontologically depend on public speech and public language) entails the falsity of Nominalist Scepticism<sub>of</sub> depending on whether such knowledge is only of Mentalese tokenings but not of types, and entails the falsity of Cartesian Scepticism<sub>of</sub> depending on whether Mentalese tokenings are physical.

The following table summarizes these results:

	Nominalist scepticism <sub>of</sub> false?	Cartesian scepticism <sub>of</sub> false?
Thought theory	No	No
Russellian theory	Yes	Maybe
Fregean theory	Yes	No
Stalnakerian theory	Yes	No
Bealerian theory	Yes	No
Kingian theory	Yes	Maybe
Soamesian theory	Yes	Maybe
Multiple relation theory	Yes	Maybe
Metalinguistic theory	Maybe	Maybe

Given these results, it's interesting to note that, of all the ontological conceptions of the nature of propositions we have considered, the (non-Fregean) Thought theory has the least in terms of anti-sceptical implications; to the extent that one may find it extravagant or bizarre to suppose that having a propositional attitude itself (including even that of doubting that  $p$ ) could have such implications, one has reason to prefer, all other things being equal, that conception of propositions over the others we have considered. Conversely, to the extent that one welcomes such anti-sceptical implications, one has reason to prefer rival accounts.

## 7 Conclusion

An important lesson emerging from our discussion is that epistemological questions concerning our knowledge of propositions cannot be neatly separated from ontological ones concerning their nature. Another important lesson can be put as follows: Whereas Descartes famously contended that *cogito ergo sum*, another cogito-type tenet deserves to be taken seriously in light of what I have argued here, namely: *cogito ergo scio*—I think therefore I know. And this is so because I cannot think (or doubt, or believe, or even consider) that  $p$  without knowledge of  $p$ .

## Appendix

The following are some other representative examples of the equation of knowledge **that**  $p$  and knowledge **of**  $p$  that can be found in the literature:

(1) In Iannone (2013, p. 176) we find:

Philosophers distinguish various kinds of knowledge. One is *propositional* knowledge—i.e., knowledge of propositions—or knowledge *that*, e.g., of the proposition  $2 + 2 = 4$ .

Notice here how Iannone—in a *dictionary* of world philosophy no less—equates without argument knowledge **of** propositions to be knowledge **that** (they are true).

(2) In Steup (2005, p. 1) we find:

There are various kinds of knowledge: knowing how to do something (for example, how to ride a bicycle), knowing someone in person, and knowing a place or a city. Although such knowledge is of epistemological interest as well, we shall focus on knowledge of propositions and refer to such knowledge using the schema ‘*S* knows that *p*’, where ‘*S*’ stands for the subject who has knowledge and ‘*p*’ for the proposition that is known.

Notice here how Steup, in the widely consulted *Stanford Encyclopedia of Philosophy*, equates knowledge of *p* with knowledge that *p*.

(3) In Zagzebski (1999, p. 92) we find:

While directness is a matter of degree, it is convenient to think of knowledge of things as a direct form of knowledge in comparison to which knowledge *about* things is indirect. The former has often been called *knowledge by acquaintance* since the subject is in experiential contact with the portion of reality known, whereas the latter is *propositional knowledge* since what is known is a true proposition about the world. Knowing Roger is an example of knowledge by acquaintance, while knowing that Roger is a philosopher is an example of propositional knowledge (p. 92).

In this passage, Zagzebski takes knowledge **of** a proposition (that is true) to be equivalent to knowledge **that** it is true.

(4) In DeRose (2009, p. 14) we find:

I depict knowledge of *p* as requiring that *p* be true and that the subject’s belief as to whether is true match the fact of the matter, not only in the actual world, but in the ‘sphere of epistemically relevant worlds’ centered on the actual world...

DeRose in effect equates knowledge of *p* with knowledge that *p* by taking the conditions he specifies for the latter to be necessary for the former.

(5) In Plantinga (1993, p. 49) we find:

*S* has incorrigible knowledge of a proposition *p* if and only if it is not possible that *p* be false and *S* believe it, and not possible that *p* be true and *S* believe—*p*.

Plantinga’s bi-conditional is presumably really about incorrigible knowledge **that** *p*; but, in equating knowledge **that** *p* with knowledge **of** *p*, he gives the bi-conditional in terms of incorrigible knowledge **of** *p*.<sup>27</sup>

<sup>27</sup> In fact, characterizing incorrigible knowledge **of** a proposition *p* in terms of this bi-conditional is a bad idea, for it is possible to have knowledge of a proposition that is false.

(6) In Pritchard (2006, p. 4), we find:

Think of all the things you know, or at least that you think you know, right now. You know, for example, that the earth is round and that Paris is the capital of France. You know that you can speak (or at least read) English, and that two plus two is equal to four. You know, presumably, that all bachelors are unmarried men, that it is wrong to hurt people just for fun, that *The Godfather* is a wonderful film, and that water has the chemical structure H<sub>2</sub>O. And so on. (...) In all of the examples of knowledge just given, the type of knowledge in question is called propositional knowledge, in that it is knowledge of a proposition. A proposition is what is asserted by a sentence which says that something is the case.

Pritchard goes on to take truth and belief to be necessary conditions of propositional knowledge which he equates with knowledge of a proposition. He thereby equates knowledge of a proposition with knowledge that it is true, a distinction obscured by his use of the term ‘propositional knowledge.’<sup>28</sup>

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