Act-type theories of propositions*

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Abstract

Many philosophers believe in things, propositions, which are the things that we believe, assert etc., and which are the contents of sentences. The act-type theory of propositions is an attempt to say what propositions are, to explain how we stand in relations to them, and to explain why they are true or false. The core idea of the act-type theory is that propositions are types of acts of predication. The theory is developed in various ways to offer explanations of the important properties of propositions. I present the core idea of the theory, and some developments of it. I discuss the relationship between the theory and the content–force distinction. I also present an important type of objection that has been raised to the explanations offered by the act-type theory.

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1 Introduction

The sentence (1) means something, or, in terms some philosophers prefer, has a *content*.

(1) The Earth is flat.

The content of (1) is false. Some people believe the content of (1) and assert it. So, many philosophers have concluded, there is some thing, *that the Earth is flat*, which is the content of a sentence, is false, and can be believed and asserted. More generally, those philosophers conclude, there is a class of things which are contents of sentences, bearers of properties like *true* and *false*, and which are believed, asserted, etc. Such things are called *propositions*.[1] It is reasonable to ask whether there are propositions, and what they are. Recently, some philosophers have defended the theory that propositions are types of action such as, e.g., the act of predicating *flat*, the property of being flat, of the Earth. In section 2 I describe the core of the theory. In section 3 I present some ways in which the core of the theory is developed. In section 4 I introduce the *content–force distinction*; what the theory says about this distinction is one way in which versions of the theory depart in various ways from traditional theories of propositions. In section 5 I present an important type of objection to the claims that the theory makes about the relationship between acts and the truth and falsity of propositions.

The act-type theory is particularly associated with the work of Hanks and Soames. I focus on the versions of the theory presented in Hanks (2015) and King et al. (2014, Chapters 6, 9, 12); Soames (2015).[2] I do this because their versions are the best developments of the idea that propositions are types of acts. There are similar ideas discussed in contemporary work on propositions. Davis proposes that propositions are types of mental event (Davis, 2002, pt. 3; 2005, Chapter 2; 2021b).[3] Moltmann proposes that products of mental acts play many of the roles of propositions (Moltmann, 2013b; 2013a, Chapters 3–4; 2017b). Duží and Jespersen propose that propositions are abstract procedures (Duží, 2019; Jespersen, 2012, 2019). Crawford, Johnston, and Jubien discuss versions of the act-type theory as replacements for a theory of propositions (Crawford, 2014; Johnston, 2009; Jubien, 2001).[4] There are related ideas in the history of philosophy, discussed in Moltmann & Textor (2017). Hanks and Soames present their theories as responding to work by Frege, Russell, and Wittgenstein.[5]

[1] This is an example of what Schiffer (2003, pp. 12–15) calls a 'face value' argument for propositions. For surveys of work on propositions see Hanks (2009); Jespersen (2012); King et al. (2014, Chapters 1–3); King (2017); McGrath & Frank (2020); Murray & Tillman (forthcoming). The act-type theory must be assessed by comparison with the alternative theories discussed there.

[2] Hanks and Soames have both written extensively about the act-type theory; see Hanks (2011); Hanks (2013b); Hanks (2013a); Hanks (2017a); Hanks (2019a); Hanks (forthcoming); Soames (2010); Soames (2013); Soames (2017); Soames (2018a); Soames (2019). See also the symposium on Soames (2015): Soames (2016b); Caplan (2016); Schiffer (2016); Soames (2016c). Soames' version of the theory develops within King et al. (2014); I discuss what I take to be his final view.

[3] This was Soames' view at one time, influenced by an argument made by Cartwright (Cartwright, 1962; Davis, 2021a, sec. 2; King et al., 2014, pp. 240–241).

[4] Crawford cites Burge (2009); Burge (2010) as inspiration for an act-type theory; Felappi (2014, p. 303) attributes the theory to Burge (2007).

[5] See Hanks (2007b); Hanks (2007a); Hanks (2015, Chapter 1); Hanks (2019b); Soames

2 The core act-type theory

The core of the act-type theory is that propositions are types of act, and that the properties of propositions are ultimately to be explained by what thinkers and speakers do. Predicating a property, e.g., the property *flat* of an object, e.g., the Earth, is something that someone can do in the course of their thinking and talking about the Earth and its shape. Each individual occurrence of the act is a *token* of that act; token acts happen at a time and are done by a particular agent. Each of these token acts is a token of a *type* of act; types do not occur at particular times and are not done by a particular agent. According to the act-type theory, these types are propositions.[6]

The act-type theory is partly motivated by rejecting the view that propositions are things that are true or false independently of the activities of thinkers and speakers (Hanks, 2015, Chapters 1–3; Soames, 2015, Chapter 1).[7] The act-type theory is supposed to be an improvement because, while act types are abstract objects, that they are true or false is explained by properties of their tokens which are then explained by the activities of the agents who perform those tokens.

An important question to ask is whether the act-type theory has an explanation of propositions having the properties that they must have to play the roles in our theories that they play. Consider the following property of propositions: being *true* or *false*. The act-type theory will say that a (type) of act of predication of a property of an object is true if and only if the object has the property predicated of it. So, the proposition *that the Earth is flat* is true if and only if the Earth has the property *flat* (and false if and only if it does not). Hanks and Soames differ slightly in how they develop their explanation of why this is so. Hanks says that the act tokens are true or false and that the types inherit those properties (Hanks, 2015, Chapter 3). Hanks draws an analogy with physical properties, saying that, e.g., the Union Jack, a type, has properties such as *partly red* because any token of the type would have that property (Hanks, 2015, p. 74). Soames says that the act tokens are such that those who perform them represent something as being some way; the tokens then have a related property which the types inherit and which entails being true or false (Soames, 2015, Chapter 2). I will discuss a criticism of this part of the act-type theory in section 5.

Another question is the relation that holds between someone who, e.g., believes that the Earth is flat and the proposition *that the Earth is flat*. Both Hanks and Soames say that there is some fundamental propositional attitude such that performing a proposition is necessary and sufficient for standing in that attitude to that proposition. This presupposes a distinction between predicating *flat* of the Earth, which is a relation to a property and object, and a relation to

(2010, Chapters 2, 4); Soames (2014, Chapters 1–2, 7–12); Soames (2016a); Soames (2018b, Chapters 1–4); Soames (forthcoming).

[6]For an introduction to the distinction between types and tokens see Wetzel (2018). Hanks says that we refer to types in order to classify tokens which are similar in ways that we are interested in (Hanks, 2015, pp. 7–8).

[7]Hanks and Soames both associate this kind of view with Frege. A contemporary, but not Fregean, version is Merricks (2015), which is discussed by Hanks (2017b); Merricks (2017, sec. 2) responds. See also Speaks (2019); Speaks (2020); Reiland (forthcoming), and on the second question discussed below, Felappi (2016); Brigham (2017).

the proposition which is the type of such acts of predication. For Soames, this fundamental attitude is *entertaining*. *Judging* is then defined as entertaining combined with acceptance, and *believing* as judging or being disposed to judge (King et al., 2014, p. 97; Soames, 2015, p. 23). For Hanks, this fundamental attitude is *judging*. *Believing* is then defined in a similar way to Soames although with the additional idea that acting as if one judges can be sufficient for believing (Hanks, 2015, pp. 163–166). Both Hanks and Soames take this sort of answer as an improvement over the view that propositions are things that we stand in relations to as a result of representing things to be the same way as they do. A similar line of thought can be applied to sentences. Someone who utters (1) performs the act type of referring to the Earth, expressing *flat*, and predicating *flat* of the Earth. This is what it is for that proposition to be the content of that sentence (Hanks, 2015, p. 77; 2017a, sec. 3; King et al., 2014, pp. 104–105, 240–241). These views take propositions to be a kind of *complex* act, with other acts as *constituents*.[8]

As well as answering the questions just discussed, a fully developed act-type theory must describe propositions assigned to sentences with a more complicated structure than (1). This requires some further developments. *Quantifier sentences*, such as (2), can be treated as predications of properties to properties.[9]

(2) Every planet is flat.

Hanks puts this in terms of a function, $F_{\forall}$, which maps properties to properties of properties; in particular, each property is mapped to the property of being a property had by everything that has the former property. For example, $F_{\forall}$ takes *planet* to the property of being a property such that every planet has it; this can then be predicated of *flat*. The whole proposition is then the complex act of applying the function to one property, and predicating the result of another (Hanks, 2015, pp. 87–89). Soames makes a similar proposal (King et al., 2014, p. 100; Soames, 2015, p. 35).[10]

Property negation, as in (3), can also be theorised as an operation, which in this case takes a property to a property which holds of those things which that property does not hold of (Hanks, 2015, p. 101; Soames, 2015, pp. 29–30).

(3) The Earth is not flat.

Relational sentences, such as (4), suggest that relations can be predicated of collections of objects.

(4) The Earth is wetter than Mars.

[8]The act-type theory will need a theory of what such 'complex' acts are; see Speaks (2019); Speaks (2020); Reiland (forthcoming). Some alternative theories of propositions take them to be complexes of objects and properties, and use 'constituent' to refer to these objects and properties (King, 2019).

[9]This is a standard way to think about quantifiers, as both Hanks and Soames note. Hanks cites Keenan (1996). As Soames notes, there are several ways to capture this idea which seem to be equivalent (King et al., 2014, p. 100). Hanks' full account involves some extra details, such as distinguishing between predications directed at objects and at properties (Hanks, 2015, pp. 88–89). Collins (2018) criticises the act-type theory treatment of quantifiers.

[10]Both Hanks and Soames propose that applying a function to an object is among the things that we do when we believe or assert certain propositions. An alternative would be taking the act performed to be the predication of a relation of a pair of properties.

Hanks says that a relation is predicated of some objects in some order (Hanks, 2015, pp. 80–86).[11] Soames proposes a different view, according to which a relation is first combined with one object and 'reduced' before the resulting relation is predicated of another (King et al., 2014, pp. 123–124). For example, the complex act identified with *that John loves Mary* can be thought of as reducing *loves* by combining it with Mary, and predicating the resulting property, *loves Mary* of John.[12]

Compound sentences, such as (5), are treated in different ways by Hanks and Soames.

(5) The Earth is flat or Mars is wet.

Their different theories of compound sentences, along with some other differences between them are presented in section 3, and a consequence of these differences is presented in section 4.

3 Variations on the theme

According to Hanks, the contents of compound sentences such as (5) are predications of properties to propositions or sequences of propositions (Hanks, 2015, Chapter 4). In that case compound sentences, which have sentences as constituents, have as contents *compound propositions*, which have propositions as constituents.[13]

Some possible relations that might form compound propositions are:

- NOT-TRUE: a property which holds of A if and only if A is false[14]
- CONJ: a relation which holds of A, B if and only if A is true and B is true
- DISJ: a relation which holds of A, B if and only if A is true or B is true

So, e.g., the content of (5) is the act of predicating the relation DISJ of the propositions *that the Earth is flat* and *that Mars is wet*. It is also part of Hanks' version of the view that the agent who performs the compound proposition performs the propositions that the relations are predicated of (Hanks, 2015, pp. 98–103).[15]

This approach requires those who entertain the contents of compound sentences to predicate properties of propositions. This places a requirement on the cognitive sophistication of those who entertain those propositions: they must be able to

[11] For discussion of the order of predication in relation to the act-type theory, see Collins (2018); Ostertag (2013); Ostertag (2019).

[12] This feature of Soames' view is criticised by King and Båve (Båve, 2019, forthcoming; King et al., 2014, pp. 131–133). Soames has responded to King's criticism (King et al., 2014, pp. 236–238). Båve takes this to be a general problem for act-type theories. Hodgson (forthcoming) responds to that criticism. See also Jespersen (2015); Jespersen (2020).

[13] I take the term 'compound proposition' from Hanks (2015, p. 32).

[14] NOT-TRUE is the result of applying an operation which transforms properties to their complements to the property TRUE. As noted in section 2, both Hanks and Soames use the idea of such operations.

[15] In order to develop this theory, Hanks introduces his notion of 'target shifting'. An alternative line of thought allows for the predication of a property to a proposition which is not performed (Reiland, 2019, secs 5–7).

predicate properties, including NOT-TRUE, of propositions. Soames says that we should allow for the possibility of agents without sufficient sophistication entertaining the contents of compound sentences (Soames, 2015, pp. 30–31). Soames proposes an alternative treatment of compound sentences according to which a relation is predicated of objects and properties, not propositions (King et al., 2014, Chapter 6; Soames, 2015, Chapter 2).[16] The relations predicated in conjunctions and disjunctions are:

- R&: a relation which holds of a, F, b, G if and only if a is F and b is G
- RV: a relation which holds of a, F, b, G if and only if a is F or b is G

So, the proposition *that the Earth is flat or Mars is wet* is the predication of the relation RV of the Earth, *flat*, Mars, and *wet*. On this view, compound sentences such as (5) do not express compound propositions.

Another important choice that act-type theorists must make is about predication. According to Soames, the act of predication is neutral, not committal. Someone can predicate a property of an object, an act which is representational and is therefore, in a derivative sense, true or false depending on whether the object has the property or not, without being committed to the object having the property. Soames treats this act of neutral predication as the common core of various propositional attitudes. We identify this common core through our familiarity with the more specific acts of believing, asserting, etc. (Soames, 2015, pp. 22–25).

Hanks thinks of predication as sorting: an act of predicating *flat* of the Earth is sorting the Earth with the flat things (Hanks, 2015, pp. 64–66). This has some advantages: sorting is something we already understand, and it is plausible that acts of sorting are either accurate or inaccurate. It is a short step to calling the accurate acts of sorting 'true' and the inaccurate acts of sorting 'false'. Hanks says that acts of sorting, and, therefore, predication, are committal in the sense that someone who sorts an object a certain way is committed to it being that way. If it is not, the sorter has made a mistake. This is important for Hanks' account of propositions. Hanks argues that it is because acts of sorting are committal that they are accurate or inaccurate, and it is because they are inaccurate or inaccurate that they are true or false. This choice about predication has consequences for the *content–force distinction*, discussed in section 4.[17]

Another way in which Hanks and Soames develop the act-type theory differently is that they propose alternative applications of the theory to familiar questions in philosophy of language. If the act-type theory allows us to make progress on these questions, it is a significant advance.[18] These are optional extension of the core theory, but both Hanks and Soames motivate their theories in part by the usefulness of the extensions.

The key idea, for both Hanks and Soames, is that there are propositions which

[16] Hanks also suggests a similar alternative to his own view (Hanks, 2015, pp. 106–107).

[17] Hanks has argued, against Soames, that neutral predication is incoherent (Hanks, 2015, pp. 37–39). See Hodgson (2019) for discussion of Hanks' argument.

[18] For introductions to the questions see Caplan (2006); Ninan (2010); Nelson (2019). The example that I will discuss in most detail is a version of one of *Frege's puzzles* (Frege, 1948). See Mahant (2021) for a criticism of Soames' treatment of them.

are *representationally identical* but *cognitively distinct*.[19] Two propositions are representationally identical when they represent the same object as having the same property; two propositions are cognitively distinct when it is possible to stand in a propositional attitude, such as belief, to one and not the other. Both Hanks and Soames extend their theories, in different ways, to allow for the possibility that there are pairs of propositions which are representationally identical but cognitively distinct, such as:

- *that Hesperus is a star/that Phosphorus is a star*
- *that John is making a mess/that I am making a mess* (performed by John)

Soames also discusses pairs such as:

- *that the meeting is at noon on 13 June 2013/that the meeting is now* (performed at noon on 13 June 2013)

This allows Hanks and Soames to offer accounts of some otherwise difficult to understand phenomena, including the apparent possibility of correctly reporting that a speaker believes one of such a pair but not the other (Hanks, 2015, Chapters 5, 7, 8; King et al., 2014, pp. 106–113; Soames, 2015, Chapters 3–4, 7).[20]

I will illustrate this feature of the act-type theory by noting a puzzle that arises for theories which do not allow for representationally identical but cognitively distinct propositions.

(6) Hesperus is a star.

(7) Phosphorus is a star.

(8) Mary believes that Hesperus is a star.

(9) Mary believes that Phosphorus is a star.

'Hesperus' and 'Phosphorus' are both names for the planet Venus. So, the contents of (6) and (7) are representationally identical (and both false). If they are also cognitively identical, then (8) is true if and only if (9) is true. But, many people think, it is clearly possible for, e.g., (8) to be true while (9) is false. For example, Mary might believe that there are two distinct objects: one planet visible in the morning called 'Phosphorus', and one star visible in the evening called 'Hesperus'. One natural response is to say that the contents of (6) and (7) are cognitively distinct, despite being representationally identical.

Hanks gives the following account of the cognitive distinctness of the contents of (6) and (7) (Hanks, 2015, Chapter 5). The contents of 'Hesperus' and 'Phosphorus' are not merely the acts of referring to an object, in this case Venus, but are *semantic reference types*. Two acts of reference are of the same semantic reference type if and only if linguistic competence is sufficient for knowing that all of the tokens of that type refer to the same object. In our example, we take Mary to be competent with both 'Hesperus' and 'Phosphorus', but not to know that the acts of reference performed with them are to the same thing. So, 'Hesperus' and 'Phosphorus' have distinct contents and make distinct contributions to

[19] I take these terms from Soames (2015, p. 24).

[20] Speaks criticises these extensions (Speaks, 2019, 2020). See also Brogaard (2013).

the contents of (6) and (7), respectively. Not only are the contents of (6) and (7) distinct, according to Hanks, it is possible to perform one while not even being disposed to perform the other. According to Hanks' theory of belief, it is therefore possible to believe one and not the other.[21] So, (6) and (7) have cognitively distinct contents, and (8) can be true while (9) is false.

Soames gives a different account of this kind of example. According to Soames, we should not distinguish the content of (6) and (7): the content of both is a proposition that predicates the property of being a star of Venus. Instead, Soames says that reports such as (8) and (9) can be used to report that the subject believes one or other cognitively distinct proposition. The propositions in question require the believer to refer to Venus with different names in order to perform them. This allows Soames to say that one report might be true and the other might be false (Soames, 2015, pp. 73–79).

4 The content–force distinction

Many philosophers endorse the *content–force* distinction. One way to frame the distinction is to say that propositions are the common contents of various mental states (judgement, desire, etc.) and speech acts (assertion, denial, etc.), and also the contents of a range of sentences including declaratives, interrogatives, and imperatives. As Hanks notes, there are two distinct ideas in the content–force distinction. The first is that sentences of various types have the same things, propositions, as their contents. This is the *taxonomic* content–force distinction (Hanks, 2015, p. 19). The second is that contents are essentially forceless in the sense that there is nothing assertive about the content of an assertion, or judgemental about the content of a judgement, and the same content can therefore also be the content of a denial, a rejection, or another sort of mental state such as a desire. This is the *constitutive* content–force distinction (Hanks, 2015, p. 19). Hanks rejects both versions of the content–force distinction: as described in section 3, he takes propositions to be acts of predication which are committal, and he says that different sorts of sentences have different sorts of contents (Hanks, 2015, Chapter 9). Soames accepts the constitutive content–force distinction, but rejects the taxonomic content–force distinction (Soames, 2019, p. 1382). Both Hanks and Soames posit three sorts of contents corresponding to assertions, questions, and orders. These correspond to the three possible ways that contents might 'fit' with the world.[22]

[21] Hanks (2015, Chapter 7) extends this kind of solution to some other puzzles by defining other kinds of type of acts of reference.

[22] Hanks says that the three grammatical moods, declarative, interrogative, and imperative, are common to all human languages (Hanks, 2019a, pp. 1401–1402). For more on the content–force distinction see Recanati (2013); Recanati attributes the view to Searle (1969). The distinction can be found in Frege (1948); Frege (1956), although, as noted by Hanks (2015, p. 9), Frege only identified the contents of some classes of sentences. Hanks (2007b) argues against the context–force distinction. Textor (2021) defends Frege's distinction. Schwartz & Hom (2021) raise an objection to Hanks' version of the act-type theory related to the content–force distinction. The content–force distinction is connected to the *Frege–Geach problem* (Geach, 1965; Schroeder, 2008); this is discussed in the context of the act-type theory by Hom & Schwartz (2013) and Reiland (2012); Reiland (2019). Philosophers sympathetic to the act-type theory have offered alternative accounts of the phenomena that Hanks' theory of cancellation, discussed below, is supposed to explain (Bronzo, 2020; Recanati, 2019; Reiland, 2019; Schwartz & Hom, 2021). Schiller (2019) criticises the act-type theory applied to desires.

There is an apparent tension between rejecting the constitutive content–force distinction and accepting the view of compound propositions, presented in section 3, according to which they are complex acts which involve predications directed at other acts of predication which the agent also performs. The problem is that those who believe or assert *it is not true that the Earth is flat* or *that the Earth is flat or Mars is wet* would, according to that combination of views, have predicated *flat* of the Earth and would therefore be committed to that predication.

Hanks must resolve the apparent tension between the components of his view. He does this by introducing the notion of *cancellation* (Hanks, 2015, Chapter 4). The idea is that the force of predication can be cancelled. This does not remove the predication or destroy the unity created by it, but it does mean that the person who made the predication is not themselves committed.

Hanks' strategy for defending cancellation starts with an argument that cancellation is a familiar thing. Hanks argues that actors, for example, predicate when they utter sentences, but do not assert (Hanks, 2015, pp. 92–95).[23] Being on stage is a *cancellation context*, according to Hanks. In such a context, the act of predication does not count as an act of assertion. The same applies to other examples, such as considering a hypothesis.

Cancellation is not simply the removal of the force which comes with predication; a cancelled predication is still a predication (Hanks, 2015, pp. 94–95). This allows Hanks to say that cancelled predications are true or false. Hanks extends this idea by saying that some compound sentences create cancellation contexts for their constituents. This happens, Hanks says, for disjunctions, and negations, but, not for conjunctions.

5 Inheritance

Proponents of the act-type theory reject other theories on the basis that they offer no explanation of the fact that propositions are true or false, or that the explanations they offer are unsuccessful. They offer an alternative explanation: propositions inherit these properties from their tokens. I will consider three related objections to that explanation, which all in different ways target the idea that propositions inherit being true or false from token acts of predication. Firstly, that it does not make sense to say that token acts of predication are true or false. Secondly, that it does not make sense to say that types of act inherit truth or falsity from their tokens. Thirdly, that the explanation does not guarantee the existence of all the propositions that we want; this is sometimes called the *scarcity objection*.[24]

The first objection is based on the idea that it is a mistake to think of act tokens

[23]Hanks attributes this way of framing the issue to Frege (1956, pp. 294–295) (Hanks quotes a different reprint) and Dummett (1981, pp. 308, 311). Cancellation is discussed by Reiland (2012); Reiland (2019); Hom & Schwartz (2013); Recanati (2019); Bronzo (2021); Schwartz & Hom (2021); García-Carpintero (forthcoming). Hanks has recently said more about cancellation (Hanks, 2019a, forthcoming).

[24]The term is used by Keller (2017).

as true or false.[25] For example, according to the act-type theory, anybody who asserts that the Earth is flat has done something: predicate *flat* of the Earth. But, it has been claimed, it is absurd to say that when someone has asserted something false they have done something false.

One response is to deny that it is relevant that such reports sound unusual or strange; this might be supported by the observation that the act-type theory is supposed to give a metaphysical theory, rather than just be sensitive to the way we use words.[26] While we might not always find it natural to say that acts are true, acts of predication are in fact sometimes true, because what it means for such an act to be true is for the object to have the property. Hanks and Soames make versions of this response when they introduce their favoured accounts of predication and judging/entertaining.

Another response is to say that there are examples of referring to acts as true or false which do not sound absurd; Hanks gives the example of the adverbs 'truly' and 'falsely', as in (10) (Hanks, 2015, p. 68).[27]

(10) Mary falsely asserted that the Earth is flat.

To see the force of the second objection, consider the relationship between the properties of tokens and types. It seems clear that not every type inherits every property of its tokens. For example, every token of type T has the property *being a token of T*, but T itself does not.[28] This suggests a challenge to the act-type theory: is there a principled explanation of why a type of act of predication inherits the properties from its tokens that the act-type theory requires?[29]

As described in section 2, Hanks and Soames have different views about which properties are inherited by act types from act tokens, and how this works. However, both offer a similar response to the objection: both Hanks and Soames deny that there is any need for a principle about which properties are inherited and which are not. Hanks makes this point using the analogy between physical properties of types and tokens: it is true that the Union Jack has some physical properties because its tokens do, and we do not need a principle about which

[25] See Hanks (2015, Chapter 3) and the references discussed there. See also Moltmann (2013a, Chapter 4); Moltmann (2013b); Moltmann (2017a); Felappi (2014).

[26] Soames responds in this way to King's version of this objection, and also in response to the second objection discussed below (King et al., 2014, pp. 239–241; Soames, 2016c). This response can also be made to several related objections based on the idea that we cannot freely substitute expressions denoting propositions, such as 'that the Earth is flat' and those denoting act types of predication such as 'predicating being flat of the Earth' and preserve meaning, or truth, or even grammaticality. For a discussion of the complex issues these questions raise see King (2002); Moltmann (2013a, Chapter 4) as well as King's and Soames' discussions in King et al. (2014, pp. 134–140, 239–241).

[27] On the attribution of truth to acts, as opposed to products, see Bronzo (2020).

[28] I take this example from Caplan, Tillman, McLean, & Murray's counterexample to what they call 'Universal Inheritance' (Caplan et al., 2013, pp. 578–579).

[29] This objection is made against both Hanks' and Soames' versions of the act-type theory in Caplan et al. (2013), and is also made against Soames' version specifically by King, and by Speaks, who attributes it to Caplan (King et al., 2014, pp. 136–137, 164–165). See also Caplan (2016). Soames responds in King et al. (2014, pp. 234–235, 239–241); Soames (2016c). Soames uses the terms 'transfer' or 'project', rather than 'inherit'. As Soames notes, earlier presentations of his theory suggested an idea of inheritance similar to Hanks' (King et al., 2014, p. 234). Hanks responds to the objection in Caplan et al. (2013) in Hanks (2013b, endnote 12).

properties are inherited in order to accept that.[30] Soames makes this point by analogy with predicates such as 'thoughtful' applied to act types: there is a property, *thoughtful* that the agents who perform tokens of that type have, so, there is then a, distinct, derivative, property *thoughtful** that these tokens have, and that the type inherits, which is what is ascribed to the type by using 'thoughtful'. Soames says that such an extension is reasonable with 'representational', but that there is no general principle deciding when such extensions are reasonable; this is partly a question about whether they are useful for our theories (Soames, 2015, pp. 16–18; 2016c).

I will now discuss the third objection, scarcity. Like any theory of propositions, an act-type theory will entail claims about what propositions there are. This may fall short of the propositions that we take ourselves to have independent reasons to believe that there are.

Firstly, consider the example of 'Vulcan', introduced by Urbain Le Verrier in an attempt to name a planet between Mercury and the Sun, and the sentence (11).

(11) Vulcan is hot.

One might think that there is a proposition, *that Vulcan is hot* that Le Verrier believed, and that is the content of (11). But, one might also think, the act-type theory cannot say that there is such a proposition because there is no act of referring to be a constituent of the complex act. This is a version of the *problem of empty names*, which is a familiar objection to several theories of propositions. The problem is posed with names such as 'Vulcan', and also with names from fiction, e.g., 'Hamlet', and with names of the dead, e.g., 'Socrates'.[31]

One response is to deny that there is any such proposition, and, therefore, that Le Verrier had any such belief or (11) any such content. This response accepts that propositions are scarce, while maintaining that there are as many as are needed for our theories. This response raises the difficult question of just how many and which propositions are needed, which is a question that different theories answer in different ways.

Another response is to reject the claim that propositions are scarce, and deny that the act-type theory entails that there is no such proposition as *that Vulcan is hot*. Hanks and Soames both propose a version of the second response.[32]

According to Hanks, there can be an act of referring to Vulcan even though there is no object that is referred to. This allows him to say that there is such a proposition as *that Vulcan is hot* (Hanks, 2015, Chapter 6). Hanks' proposal is an extension of his application of the act-type theory to co-referring names, discussed in section 3.

Soames offers two complementary responses to the problem of empty names. Firstly, Soames says that many names taken to be empty nonetheless refer; a name such as 'Socrates' refers to Socrates even though Socrates does not exist. Secondly, Soames says that it is sufficient for a proposition, such as *that Socrates*

[30] I thank Peter Hanks for clarifying this point in personal communication.

[31] See Salmon (1998); Braun (1993); Braun (2005); Cumming (2019, sec. 2.9).

[32] Soames also suggests a version of the first response when he says that, if there are no propositions which could not conceivably be entertained, this would not be a problem (King et al., 2014, p. 103). Keller (2017) argues that this would be a problem for an act-type theory.

is wise, to exist that there have been acts of referring to Socrates and acts of predicating *wise* of something (King et al., 2014, pp. 236–237; Soames, 2015, pp. 228–230). Soames can then conclude that there are acts of referring to Socrates, performed by using the name 'Socrates', and, given that there are also acts of predicating *wise*, that the proposition *that Socrates is wise* exists. Soames accepts that, in the case of 'Vulcan', there is a problem for the act-type theory, because there is no referent; Soames concludes that there is no such proposition as *that Vulcan is hot* (King et al., 2014, pp. 101–103, 236–237; Soames, 2015, pp. 228–230).

A second version of the scarcity objection is based on considering a *deprived world*, one in which there are not (and have never been) thinking beings.[33] There are no token acts of predication in a deprived world, and never have been. No proposition meets Soames' sufficient condition for existence in such a world. One might conclude that no propositions exist in a deprived world. It might then be objected that certain things are true in that world. For example, it might be true that electrons have mass. But, it is not the case that *that electrons have mass* is true, because there is no such proposition. Soames' response is to deny that propositions can be true only if they exist (King et al., 2014, pp. 102–103, 236–237). Soames adds to this the idea that a merely possible proposition can be (actually) true. Combined with Soames' sufficient condition for the existence of a proposition, it follows that if an act of reference is possible and an act of predication is possible, a corresponding proposition is possible (and can be true). So, Soames can say that *that electrons have mass* does not exist in the deprived world, but it is true there.

Hanks' makes a different response to the problem of deprived worlds. Firstly, Hanks says that propositions, as types, can exist without tokens (Hanks, 2015, p. 27). Secondly, Hanks says that types, such as the Union Jack, can inherit properties from their possible tokens even if they have no actual tokens, provided that it is the case that, if there were tokens of the type, then they would have the property (Hanks, 2015, pp. 74–75). So, *that electrons have mass* can exist, and be true, at deprived worlds even though it has no tokens in such worlds.

References

Båve, A. (2019). Acts and alternative analyses. *The Journal of Philosophy*, *116*(4), 181–205. https://doi.org/10.5840/jphil2019116412

Båve, A. (forthcoming). Problems for Russellian act-type theories. *Inquiry*. https://philarchive.org/archive/BVEPFRv1

Braun, D. (1993). Empty names. *Noûs*, *27*(4), 449–469. https://doi.org/10.2307/2215787

Braun, D. (2005). Empty names, fictional names, mythical names. *Noûs*, *39*(4), 596–631. https://doi.org/10.1111/j.0029-4624.2005.00541.x

Brigham, D. (2017). Analysing attitudes: how cognitive realists meet Felappi's challenge to propositionalism. *Analysis*, *77*(3), 498–501. https://doi.org/10.1

[33] I take the term 'deprived' from King's discussion of a related objection to his alternative theory of propositions (King, 2007, pp. 80–86). King's defence of his theory is different to Soames' defence of his, but could be adapted to it. Speaks and Radulescu have criticised King's and Soames' responses to the scarcity objection (King et al., 2014, pp. 151–155, 161–163; Radulescu, 2017). Speaks' criticisms of Soames would also apply to Hanks.

093/analys/anx084
Brogaard, B. (2013). An empirically-informed cognitive theory of propositions. *Canadian Journal of Philosophy*, *43*(5-6), 534–557. https://doi.org/10.1080/00455091.2013.870722
Bronzo, S. (2020). Actions, products, and truth-bearers: a critique of Twardowskian accounts. *Canadian Journal of Philosophy*, *50*(3), 297–312. https://doi.org/10.1017/can.2019.42
Bronzo, S. (2021). Propositional complexity and the Frege–Geach Point. *Synthese*, *198*, 3099–3130. https://doi.org/10.1007/s11229-019-02270-1
Burge, T. (2007). Predication and truth. *The Journal of Philosophy*, *104*(11), 580–608. https://doi.org/10.5840/jphil2007104112
Burge, T. (2009). Five theses on *de re* states and attitudes. In J. Almog & P. Leonardi (Eds.), *The philosophy of David Kaplan* (pp. 246–316). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195367881.003.0015
Burge, T. (2010). Steps toward origins of propositional thought. *Disputatio*, *4*(29), 39–67. https://doi.org/10.2478/disp-2010-0010
Caplan, B. (2006). On sense and direct reference. *Philosophy Compass*, *1*(2), 171–185. https://doi.org/10.1111/j.1747-9991.2006.00014.x
Caplan, B. (2016). Soames's new conception of propositions. *Philosophical Studies*, *173*(9), 2533–2549. https://doi.org/10.1007/s11098-016-0633-3
Caplan, B., Tillman, C., McLean, B., & Murray, A. (2013). Not the optimistic type. *Canadian Journal of Philosophy*, *43*(5-6), 575–589. https://doi.org/10.1080/00455091.2013.870731
Cartwright, R. L. (1962). Propositions. In R. J. Butler (Ed.), *Analytical philosophy* (pp. 81–103). Basil Blackwell.
Collins, J. (2018). The redundancy of the act. *Synthese*, *195*(8), 3519–3545. https://doi.org/10.1007/s11229-017-1382-3
Crawford, S. (2014). Propositional or non-propositional attitudes? *Philosophical Studies*, *168*(1), 179–210. https://doi.org/10.1007/s11098-013-0126-6
Cumming, S. (2019). Names. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Fall 2019). Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/fall2019/entries/names/
Davis, W. A. (2002). *Meaning, expression, and thought*. Cambridge University Press. https://doi.org/httdoi.org/10.1017/CBO9780511498763
Davis, W. A. (2005). *Nondescriptive meaning and reference: an ideational semantics*. Oxford University Press. https://doi.org/10.1093/0199261652.001.0001
Davis, W. A. (2021a). Cognitive propositions and semantic values. *Inquiry*, *64*(4), 383–423. https://doi.org/10.1080/0020174X.2018.1562375
Davis, W. A. (2021b). Propositions as structured cognitive event-types. *Philosophy and Phenomenological Research*, *102*(3), 665–692. https://doi.org/10.1111/phpr.12690
Dummett, M. (1981). *Frege: philosophy of language* (2nd ed.). Duckworth.
Duží, M. (2019). If structured propositions are logical procedures then how are procedures individuated? *Synthese*, *196*(4), 1249–1283. https://doi.org/10.1007/s11229-017-1595-5
Felappi, G. (2014). On product-based accounts of propositional attitudes. *Thought*, *3*(4), 302–313. https://doi.org/10.1002/tht3.146
Felappi, G. (2016). Objects of thought? On the usual way out of Prior's objection

to the relational theory of propositional attitude sentences. *Analysis*, *76*(4), 438–444. https://doi.org/10.1093/analys/anw064

Frege, G. (1948). Sense and reference (M. Black, Trans.). *The Philosophical Review*, *57*(3), 209–230. https://doi.org/10.2307/2181485

Frege, G. (1956). The thought: a logical inquiry (P. T. Geach, Trans.). *Mind*, *65*(1), 289–311. https://doi.org/10.1093/mind/65.1.289

García-Carpintero, M. (forthcoming). Pretense, cancellation, and the act theory of propositions. *Inquiry*. https://philarchive.org/archive/GARPCA-9v1

Geach, P. T. (1965). Assertion. *The Philosophical Review*, *74*(4), 449–465. https://doi.org/10.2307/2183123

Hanks, P. W. (2007a). How Wittgenstein defeated Russell's multiple relation theory of judgment. *Synthese*, *154*(1), 121–146. https://doi.org/10.1007/s11229-005-0195-y

Hanks, P. W. (2007b). The content–force distinction. *Philosophical Studies*, *134*(2), 141–164. https://doi.org/10.1007/s11098-007-9080-5

Hanks, P. W. (2009). Recent work on propositions. *Philosophy Compass*, *4*(3), 469–486. https://doi.org/10.1111/j.1747-9991.2009.00208.x

Hanks, P. W. (2011). Structured propositions as types. *Mind*, *120*(477), 11–52. https://doi.org/10.1093/mind/fzr011

Hanks, P. W. (2013a). First-person propositions. *Philosophy and Phenomenological Research*, *86*(1), 155–182. https://doi.org/10.1111/j.1933-1592.2011.00546.x

Hanks, P. W. (2013b). What are the primary bearers of truth? *Canadian Journal of Philosophy*, *43*(5-6), 558–574. https://doi.org/10.1080/00455091.2013.870723

Hanks, P. W. (2015). *Propositional content*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199684892.001.0001

Hanks, P. W. (2017a). Propositions, synonymy, and compositional semantics. In F. Moltmann & M. Textor (Eds.), *Act-based conceptions of propositional content: contemporary and historical perspectives* (pp. 235–253). Oxford University Press.

Hanks, P. W. (2017b). The explanatory role of propositions. *Analysis*, *77*(2), 370–379. https://doi.org/10.1093/analys/anw075

Hanks, P. W. (2019a). On cancellation. *Synthese*, *196*(4), 1385–1402. https://doi.org/10.1007/s11229-016-1260-4

Hanks, P. W. (2019b). Soames on the *Tractatus*. *Philosophical Studies*, *176*(5), 1367–1376. https://doi.org/10.1007/s11098-019-01269-1

Hanks, P. W. (forthcoming). The varieties of cancellation. In G. Mras & M. Schmitz (Eds.), *Force, content, and the unity of the proposition*. Routledge. https://sites.google.com/a/umn.edu/peter-hanks/research/papers/The%20Varieties%20of%20Cancellation.pdf

Hodgson, T. (2019). Neutral predication. *Erkenntnis*. https://doi.org/10.1007/s10670-019-00159-6

Hodgson, T. (forthcoming). Grammar constrains acts of predication. *Inquiry*.

Hom, C., & Schwartz, J. (2013). Unity and the Frege–Geach problem. *Philosophical Studies*, *163*(1), 15–24. https://doi.org/10.1007/s11098-012-0079-1

Jespersen, B. (2012). Recent work on structured meaning and propositional unity. *Philosophy Compass*, *7*(9), 620–630. https://doi.org/10.1111/j.1747-9991.2012.00509.x

Jespersen, B. (2015). Should propositions proliferate? *Thought*, *4*(4), 243–251.

https://doi.org/10.1002/tht3.184
Jespersen, B. (2019). Anatomy of a proposition. *Synthese*, *196*(4), 1285–1324. https://doi.org/10.1007/s11229-017-1512-y
Jespersen, B. (2020). First among equals: co-hyperintensionality for structured propositions. *Synthese*. https://doi.org/10.1007/s11229-020-02987-4
Johnston, D. K. (2009). Propositions and propositional acts. *Canadian Journal of Philosophy*, *39*(3), 435–462. https://doi.org/10.1353/cjp.0.0056
Jubien, M. (2001). Propositions and the objects of thought. *Philosophical Studies*, *104*(1), 47–62. https://doi.org/10.1023/A:1010361210072
Keenan, E. (1996). The semantics of determiners. In S. Lappin (Ed.), *The handbook of contemporary semantic theory* (pp. 39–63). Blackwell.
Keller, L. J. (2017). Against naturalized cognitive propositions. *Erkenntnis*, *82*(4), 929–946. https://doi.org/10.1007/s10670-016-9851-5
King, J. C. (2017, January 10). *The metaphysics of propositions*. Oxford Handbooks Online. https://doi.org/10.1093/oxfordhb/9780199935314.013.26
King, J. C. (2002). Designating propositions. *The Philosophical Review*, *111*(3), 341–371. https://doi.org/10.2307/3182547
King, J. C. (2007). *The nature and structure of content*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199226061.001.0001
King, J. C. (2019). Structured propositions. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Summer 2019). Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/sum2019/entries/propositions-structured/
King, J. C., Soames, S., & Speaks, J. (2014). *New thinking about propositions*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199693764.001.0001
Mahant, N. (2021). Frege's puzzle and act-based propositions. *Acta Analytica*. https://doi.org/10.1007/s12136-021-00475-z
McGrath, M., & Frank, D. (2020). Propositions. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Winter 2020). Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/win2020/entries/propositions/
Merricks, T. (2015). *Propositions*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198732563.001.0001
Merricks, T. (2017). Replies to Glick, Hanks and Magidor. *Analysis*, *77*(2), 393–411. https://doi.org/10.1093/analys/anx031
Moltmann, F. (2013a). *Abstract objects and the semantics of natural language*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199608744.001.0001
Moltmann, F. (2013b). Propositions, attitudinal objects, and the distinction between actions and products. *Canadian Journal of Philosophy*, *43*(5-6), 679–701. https://doi.org/10.1080/00455091.2014.892770
Moltmann, F. (2017a). Attitude reports, cognitive products, and attitudinal objects: A Response to G. Felappi *On Product-Based Accounts of Attitudes*. *Thought*, *6*(1), 3–12. https://doi.org/10.1002/tht3.228
Moltmann, F. (2017b). Cognitive products and the semantics of attitude verbs and deontic modals. In F. Moltmann & M. Textor (Eds.), *Act-based conceptions of propositional content: contemporary and historical perspectives* (pp. 254–289). Oxford University Press.
Moltmann, F., & Textor, M. (Eds.). (2017). *Act-based conceptions of proposi-*

tional content: contemporary and historical perspectives. Oxford University Press.

Murray, A., & Tillman, C. (Eds.). (forthcoming). *Routledge handbook of propositions*. Routledge.

Nelson, M. (2019). Propositional attitude reports. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2019). Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/spr2019/entries/prop-attitude-reports/

Ninan, D. (2010). *De se* attitudes: ascription and communication. *Philosophy Compass*, *5*(7), 551–567. https://doi.org/10.1111/j.1747-9991.2010.00290.x

Ostertag, G. (2013). Two aspects of propositional unity. *Canadian Journal of Philosophy*, *43*(5-6), 518–533. https://doi.org/10.1080/00455091.2013.870725

Ostertag, G. (2019). Structured propositions and the logical form of predication. *Synthese*, *196*(4), 1475–1499. https://doi.org/10.1007/s11229-017-1420-1

Radulescu, A. (2017). Three views on propositions: King, Soames and Speaks. *Analysis*, *77*(1), 189–197. https://doi.org/10.1093/analys/anw053

Recanati, F. (2013). Content, mood, and force. *Philosophy Compass*, *8*(7), 622–632. https://doi.org/10.1111/phc3.12045

Recanati, F. (2019). Force cancellation. *Synthese*, *196*(4), 1403–1424. https://doi.org/10.1007/s11229-016-1223-9

Reiland, I. (2012). Propositional attitudes and mental acts. *Thought*, *1*(3), 239–245. https://doi.org/10.1002/tht3.42

Reiland, I. (2019). Predication and the Frege–Geach problem. *Philosophical Studies*, *176*(1), 141–159. https://doi.org/10.1007/s11098-017-1009-z

Reiland, I. (forthcoming). Reference, predication, judgment and their relations. *Inquiry*. https://philarchive.org/archive/REIRPJv1

Salmon, N. (1998). Nonexistence. *Noûs*, *32*(3), 277–319. https://doi.org/10.1111/0029-4624.00101

Schiffer, S. (2003). *The things we mean*. Oxford University Press. https://doi.org/10.1093/0199257760.001.0001

Schiffer, S. (2016). Cognitive propositions. *Philosophical Studies*, *173*(9), 2551–2563. https://doi.org/10.1007/s11098-016-0634-2

Schiller, H. I. (2019). Acts of desire. *Inquiry*. https://doi.org/10.1080/0020174X.2019.1667864

Schroeder, M. (2008). What is the Frege–Geach problem? *Philosophy Compass*, *3*(4), 703–720. https://doi.org/10.1111/j.1747-9991.2008.00155.x

Schwartz, J., & Hom, C. (2021). Embedding speech-act propositions. *Synthese*, *198*, 10959–10977. https://doi.org/10.1007/s11229-020-02763-4

Searle, J. R. (1969). *Speech acts: an essay in the philosophy of language*. Cambridge University Press. https://doi.org/10.1017/CBO9781139173438

Soames, S. (2010). *What is meaning?* Princeton University Press. https://doi.org/10.1515/9781400833948

Soames, S. (2013). Cognitive propositions. *Philosophical Perspectives*, *27*(1), 479–501. https://doi.org/10.1111/phpe.12030

Soames, S. (2014). *The analytic tradition in philosophy: the founding giants* (Vol. 1). Princeton University Press. https://doi.org/10.2307/j.ctt5vjv99

Soames, S. (2015). *Rethinking language, mind, and meaning*. Princeton University Press. https://doi.org/10.2307/j.ctt21668hs

Soames, S. (2016a). Propositions, the *Tractatus*, and 'the single great problem of philosophy'. *Crítica*, *48*(143), 3–19. https://doi.org/10.22201/iifs.187049

05e.2016.215
Soames, S. (2016b). Rethinking language, mind, and meaning. *Philosophical Studies*, *173*(9), 2529–2532. https://doi.org/10.1007/s11098-016-0635-1
Soames, S. (2016c). Yes, the search for explanation is all we have. *Philosophical Studies*, *173*(9), 2565–2573. https://doi.org/10.1007/s11098-016-0636-0
Soames, S. (2017). For want of cognitively defined propositions: a history of insights and lost opportunities. In F. Moltmann & M. Textor (Eds.), *Act-based conceptions of propositional content: contemporary and historical perspectives* (pp. 181–208). Oxford University Press.
Soames, S. (2018a). Cognitive propositions in realist linguistics. In C. Behme & M. Neef (Eds.), *Essays on linguistic realism* (pp. 235–254). John Benjamins Publishing Company. https://doi.org/10.1075/slcs.196.09soa
Soames, S. (2018b). *The analytic tradition in philosophy: a new vision* (Vol. 2). Princeton University Press. https://doi.org/10.2307/j.ctvc77c10
Soames, S. (2019). Propositions as cognitive acts. *Synthese*, *196*(4), 1369–1383. https://doi.org/10.1007/s11229-016-1168-z
Soames, S. (forthcoming). Cognitive propositions, truth functions, and the *Tractatus*. *Inquiry*. https://dornsife.usc.edu/assets/sites/678/docs/Cognitive_Propositions_Truth_Functions_Tractatus.pdf
Speaks, J. (2019). Act theories and the attitudes. *Synthese*, *196*(4), 1453–1473. https://doi.org/10.1007/s11229-016-1219-5
Speaks, J. (2020). Cognitive acts and the unity of the proposition. *Australasian Journal of Philosophy*, *98*(4), 646–660. https://doi.org/10.1080/00048402.2019.1686530
Textor, M. (2021). 'The nature of the question demands a separation': Frege on distinguishing between content and force. *Australasian Journal of Philosophy*, *99*(2), 226–240. https://doi.org/10.1080/00048402.2020.1742748
Wetzel, L. (2018). Types and tokens. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Fall 2018). Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/fall2018/entries/types-tokens/