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Article

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THE ACT-TYPE THEORY OF PROPOSITIONS AS A THEORY OF COGNITIVE DISTINCTNESS[1]

SUMMARY: Soames and others have proposed that propositions are types of acts of predication. Soames has extended the act-type theory by proposing a distinction between direct and mediate predication. He does this in order to distinguish between the propositions expressed by sentences containing complex singular terms and those expressed by sentences containing proper names which denote the objects that those complex singular terms denote. In particular, he uses his extension to account for the cognitive distinctness of such propositions. I argue that Soames' extension of the act-type theory is not the best way to do so. I propose an alternative version of the act-type theory, which makes the distinctions that Soames wants to make without Soames' extension.

KEYWORDS: propositional content, act-type theories of propositions, structured propositions, predication.

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1. Introduction

There are good reasons to believe in propositions, one of which is that our best theories of language make use of them. The best reason not to believe in propositions is that it is mysterious what they are. One way to dispel this worry is to develop a theory of what propositions are, thereby solving this foundational problem. A promising proposal is that propositions are types of acts of predication. Soames' theory of what he calls "cognitive propositions" is a prominent example of this kind of *act-type theory of propositions* (Soames, 2015). Soames presents his theory as both a solution to the foundational problem and as offering resources to make distinctions between propositions that other theories lack. I will make an objection to Soames' theory which targets the resources used to make the distinctions. I will also suggest an alternative way to develop the act-type theory which makes the same distinctions. I will rely on an argument for an alternative way to develop the act-type theory which is interesting independently of the question of distinguishing between propositions. Hanks is the other main proponent of an act-type theory of propositions (Hanks, 2015). I focus on an objection to Soames' version of the theory, but I will note connections to Hanks' when they are relevant (for a survey of arguments for propositions, see King, Soames, Speaks, 2014, pt. 1; for a survey of the act-type theory, see Hodgson, 2021).

I distinguish between a *theory of content* and a *theory of expression*. A theory of content is a theory of what contents, i.e., propositions, are. A theory of expression is a theory of which propositions are expressed by particular sentences. I will use claims about the best way to develop a theory of expression to motivate claims about the best theory of content. The conclusions I draw apply to act-type theories in general, not just to Soames' theory.

In Section 2, I describe the features of the act-type theory that are important for my argument. In Section 3, I describe the distinctions between propositions that Soames wants to make. In Section 4, I describe the extension to the act-type theory that Soames uses to make those distinctions. In Section 5, I describe and motivate a version of the act-type theory which I will compare with Soames'. In Section 6, I argue against Soames' way of making the distinctions between propositions that he wants to make. In Section 7, I show that the theory from Section 5 can make the distinctions between propositions that Soames wants to make. In Section 8, I apply the theory to reports about the meanings of expressions, which Soames also uses to motivate his version of the act-type theory.

2. Cognitive Propositions

Soames has written extensively about his theory. I will describe the theory as it is presented in Soames (2015, Chapter 2), which I take to be his considered view. I will also make use of Soames' presentation in King, Soames, and Speaks (2014, Chapter 6). The central idea of Soames' theory is that a proposition is an act of predication. The proposition *that Mary is tall* is the act of predicating the property *tall* of Mary. More specifically, it is that type of act, rather than any of

the individual tokens. Soames says that anyone who performs tokens of that act type, which I will represent as "**predicating *tall* of Mary**", represents Mary as being tall. So, in an extended sense, the type represents Mary as being tall. From this it follows that the act type is true if and only if Mary is tall. This gives an account of what propositions are and explains why they are true or false. This is a solution to the foundational problem. I agree with Soames and Hanks that this solution is more promising than that of any other theory.

Solving the foundational problem counts in favor of the act-type theory. Further support can be given by noting that the act-type theory gives a better account of the roles that propositions play in our theories. I will now note two, which both Hanks and Soames appeal to. They will be important to my argument, because they impose constraints on the act-type theory.

The first role is that, according to many theories, propositions are the objects of attitudes, e.g., belief. This raises another foundational problem: why should belief be thought of as a relation to an abstract object, and what kind of relation is belief? Both Hanks and Soames say that this is a problem for other theories of propositions (Hanks, 2015, Chapter 1; Soames 2015, Chapter 2).

Soames gives the following account of believing a proposition, e.g., *that B is red*:

> To *entertain* a proposition is *not*, as Frege or the early Russell would have you believe, to think of it in a special way; it is to perform it. This is the attitude on which other propositional attitudes are based. To *judge* that *B* is red is [to] perform the predication in an affirmative manner, which involves accepting it as a basis for possible action. To affirm or accept that *B* is red is not to predicate any property of the act, or to make *it* an object of cognition, but for one's performance of it to involve forming, or activating already formed, dispositions to act, both cognitively and behaviorally, toward *B* in ways conditioned by one's attitudes toward red things. In short, to *judge* that *B* is red is for one's predicating redness of *B* to involve one's forming or activating certain dispositions. To *believe that B is red* is (very roughly) to be disposed to judge that it is. (Soames, 2015, p. 18)

According to Soames' theory, the relation between a believer and a proposition holds partly because the believer is disposed to perform that proposition. This solves the foundational question about relational theories of belief, and it could be extended to other attitudes. For the purposes of my discussion, the important thing about Soames' theory is one of its consequences: necessarily, anyone who believes a proposition is disposed to perform it.[2]

A *theory of meaning* for a language is a theory which says, for each expression of the language, what the meaning of that expression is. The second role for the act-type theory of expression is to be a theory of meaning. Both Soames and

[2] Hanks gives a different account, but his account shares with Soames' the central idea about the relation between a believer and a proposition believed (Hanks, 2015, Chapter 7). Hanks' theory does not distinguish judging from entertaining. He also says that, while judging and being disposed to judge are sufficient for belief, they are not necessary. This is because acting as if one is so disposed is also sufficient (Hanks, 2015, p. 165).

Hanks say that it is an advantage of the act-type theory that its theory of expression can be a theory of meaning, in the sense just described, and that this is an improvement over traditional theories of propositions (Hanks, 2017; Soames, 2015, Chapter 1). Both Hanks and Soames make this claim in response to Davidson's objection to theories of meaning which take propositions to be the meanings of sentences (Davidson, 1967).[3]

These claims about belief and theories of meaning are optional: someone could propose the act-type theory as a solution to the foundational problem and not make these additional claims. If they are made, these claims bring with them some commitments. These will be important to my argument later. The account of the objects of belief brings with it a commitment to psychological plausibility. If believing P entails being disposed to predicate F of o, someone who defends that claim about belief is committed to defending the claim that anybody who believes P is disposed to predicate F of o. And similarly for any other cognitive acts required to perform P. The claim about theories of meaning imposes two constraints on a theory of propositions. The first is on the theory of expression: it must be a theory that can be a theory of meaning. The second is on the theory of content: it must be compatible with a theory of expression that can play that role.

3. Representational Identity

Different theories of content say that different propositions exist. These theories can be tested by considering whether they make enough distinctions between propositions. This can be done be finding pairs of sentences which, our best judgement suggests, express different propositions and noting that some theory would not allow for the existence of suitable propositions. There are two ways to carry out this test. The *truth test* considers a pair of sentences S_1 and S_2 and observes that it is possible that S_1 is true and S_2 is false. The conclusion is then drawn that S_1 and S_2 have different contents. The *belief test* considers a pair of sentences S_1 and S_2 embedded in *belief reports* of the form "A believes that S". If it is possible that such a report embedding S_1 is true and one embedding S_2 is false, this is evidence that it is possible to believe the content of S_1 and not to believe the content of S_2. From this, it follows that the contents of S_1 and S_2 are different.

[3] Davidson was skeptical about meanings as a useful part of theories of language. He preferred to think of a theory of meaning as a theory of truth. For a development of that idea, see Larson and Segal (1995). For a summary of the debate between propositional and non-propositional theories of meaning, see King, Soames, and Speaks (2014, Chapter 2). Both Hanks and Soames use the term "theory of meaning", and are happy to identify the contents of expressions with their meanings. This identification of meaning and content is controversial. Soames discusses Cartwright's objection to the claim that the meaning of a sentence is the proposition that it expresses (Cartwright, 1962; King, Soames, Speaks, 2014, pp. 240–241; Soames, 2015, pp. 26–27). I will not address this controversy, and I use the term "content" rather than "meaning" partly to avoid it.

Both tests provide a sufficient condition for difference of content. They do not provide necessary conditions. For example, the truth test does not tell us that two sentences that are true in all the same circumstances express the same proposition, which is something that many theories of propositions, including Soames', are designed to avoid. I also note that both tests rely on substantial claims. For example, the belief test relies on the claim that a belief report expresses the proposition that the subject of the report stands in the belief relation to the content of the embedded sentence. And both tests rely on the assumption that judgements about the possible truth or falsity of sentences are good evidence about the possible truth or falsity of their contents. These assumptions might be challenged, but I will not do so.

I will apply the belief test to one particular kind of example considered by Soames: complex singular terms. One of Soames' examples of complex singular terms is the expressions "6 cubed", "14 squared", and "2 + 2" (Soames, 2015, pp. 36–38). The others are "Fregean definite descriptions", i.e., definite descriptions understood as singular terms (Soames, 2015, p. 37). As Soames notes, it is commonly suggested that definite descriptions in English are Russellian, rather than Fregean, i.e., that they are quantifiers (Soames, 2015, p. 37). However, Soames proceeds as if definite descriptions are complex singular terms in order to explain his theory of complex singular terms (for a discussion of the Russellian and Fregean approaches, see Hawthorne, Manley, 2012, Chapter 5; for a textbook presentation of the Fregean approach, see Heim, Kratzer, 1997, pp. 73–76).

I note an important consequence of treating the expressions as complex singular terms. It is a background assumption of my discussion that sentences express propositions and that propositions have truth conditions. Substitution of coreferring singular terms, whether simple or complex, does not affect the truth conditions of the proposition expressed, unless those terms occur outside extensional contexts. This claim about truth conditions follows from the standard claim that the truth or falsity of a proposition depends on whether or not some object has some property (or some objects stand in some relation). This claim about truth conditions follows from the standard claim that the truth or falsity of a proposition depends on whether or not some object has some property (or some objects stand in some relation). This is, of course, compatible with the claim that sentences that differ by substituting singular terms express different propositions, because distinct propositions might have the same truth conditions.[4]

[4] I note here a possible source of confusion. Suppose we are interested in the truth conditions of a sentence. One natural thought is that a sentence is true if and only if its (actual) content is, and its truth conditions are the same as the proposition that it actually expresses. But some sentences express different propositions in different contexts. The truth conditions of a sentence might alternatively be understood as whether the proposition that would be expressed by that sentence in a context is true at that context. The different ways of understanding the truth conditions of a sentence make a difference when comparing a simple singular term, e.g., a name, and a complex singular term, e.g., a Fregean definite description. According to the second way of understanding truth conditions,

(1) 6 cubed is greater than 14 squared.

(2) 216 is greater than 196.

It seems that (1) and (2) have different contents, because it seems that it is possible to believe, e.g., *that 216 is greater than 196* and not believe *that 6 cubed is greater than 14 squared*. This is because it seems that the following pair of belief reports can differ in truth value.[5]

(3) John believes that 6 cubed is greater than 14 squared.

(4) John believes that 216 is greater than 196.

The same point can be made about the following example:[6]

(5) The chief of police is tall.

(6) Mary is tall.

(7) John believes that the chief of police is tall.

(8) John believes that Mary is tall.

It is a problem for a theory if it cannot say that (1), (2), (5), and (6) express distinct propositions. On this point, Soames compares his theory to the neo-Russellian theory of content, which says that propositions are complexes of objects and properties (King, 2019b, Section 3.1). This is the kind of theory that Soames previously defended (Soames, 2002). These complexes can be represented as tuples of objects and properties, e.g.:

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sentences that differ only in the substitution of coreferring singular terms might have different truth conditions. My claim in the text is about the first way of understanding truth conditions, i.e., the way that identifies them with the truth conditions of the proposition actually expressed by a sentence.

[5] Soames uses these examples. Soames does not appeal to the belief test here, but it is a helpful way to see why we should want to distinguish the contents of these sentences. Soames also does not put the point using example sentences, although he does do that for other examples, and, again, it is helpful to do so.

[6] I take the example of "Mary"/"the chief of police" from King, Soames, and Speaks (2014, p. 101). Soames there discusses the distinction between "Bill is looking for Mary" and "Bill is looking for the chief of police". I am using belief reports to discuss a different point. Soames also discusses "Mary believes that Russell tried to prove (the proposition) that arithmetic is reducible to logic"/"Mary believes that Russell tried to prove logicism" in the context of theories which take "logicism" to be a proper name for *that arithmetic is reducible to logic* (Soames, 2015, pp. 40–41). Soames connects his discussion to Richard (1993) and Soames (2007); Soames also discusses names for propositions in his (1989), which Richard is responding to. The belief test would also suggest that *Russell tried to prove logicism* and *Russell tried to prove that arithmetic is reducible to logic* are distinct.

- ⟨Mary, *tall*⟩,
- ⟨⟨216, 196⟩, *greater*⟩.

With only these propositions, the neo-Russellian theory cannot distinguish between the contents of (1), (2), (5), and (6). The same problem will arise for the act-type theory if it only allows for the following propositions:

- **predicating *tall* of Mary**
- **predicating *greater* of 216 and 196**

To solve this problem, Soames introduces a distinction between *representational* and *cognitive* identity. Propositions represent objects as having properties. If two propositions represent the same object as having the same property, then they are representationally identical. Propositions are cognitively identical if and only if they are the same act (type); otherwise, they are cognitively distinct (Soames, 2015, pp. 23–24). According to the neo-Russellian theory, a proposition is composed of an object that is represented as having some property, and the property that it is represented as having (or, some objects that are represented as standing in some relation). It follows that representationally identical propositions are identical. Soames claims that the act-type theory can solve the problem by positing cognitively distinct propositions to be the contents of (1), (2), (5), and (6). I describe Soames' version of that solution in Section 4.[7]

4. Mediate Predication

In order to solve the problem presented in Section 3, Soames extends his theory. The first part of Soames' extended theory is the distinction between representational identity and cognitive identity described in Section 3. The second part is a distinction between different sorts of predication. Soames defines *direct* and *mediate* predication as follows:[8]

[7] Hanks also uses his theory to make distinctions between propositions. Hanks makes different distinctions than Soames and in a different way (Hanks, 2015, Chapter 5). One important difference is that Hanks' theory distinguishes between the propositions *that Cornwell is a novelist* and *that Le Carré is a novelist*, even though Cornwell is Le Carré. Hanks' theory is therefore more Fregean than Soames', which is more Russellian, as these terms are often used when discussing the contents of names. The arguments for the distinctions that Soames wants to make could also be used to motivate the distinction that Hanks makes. I will not try to answer the question of whether that distinction ought to be made.

[8] Soames also defines *indirect* predication as follows:

> Instances of the schema *A indirectly predicates P of T* (where "*P*" is replaced by a term standing for a property *P** and "*T*" is replaced by a complex singular term) express the claim that the agent mediately predicates *P** of the propositional content of "*T*". (Soames, 2015, p. 36)

Soames' Direct Predication: "To *directly predicate* a property P of x is to have x in mind as the thing represented as having P" (Soames, 2015, p. 36).

Soames' Mediate Predication: "To *mediately predicate* P of the complex *f-plus-y* is to aim to (indirectly) represent whatever, if anything, it determines (the value of *f* at *y*) as having P" (Soames, 2015, p. 36).

Furthermore, in his theory of definite descriptions, Soames makes use of a function, ι: "the ι-function maps its argument function g onto the unique object to which g assigns a truth, if there is one, and otherwise is undefined" (Soames, 2015, p. 37). The function which is the argument for ι is a *propositional function*, i.e., a function from objects to propositions; Soames says this more explicitly in King, Soames, and Speaks' (2014, p. 100).[9] For "6 cubed" and "14 squared", Soames' theory uses functions from numbers to numbers, i.e., $\lambda x.x^3$ and $\lambda x.x^2$.

These additions to the theory can now be used to make the following response to the problem. The content of (6) is **directly predicating *tall* of Mary**. The content of (5) is **mediately predicating *tall* of ι-plus-*g***. Similarly, the content of (2) is **directly predicating *greater* of 216 and 196**. The content of (1) is **mediately predicating *greater* of $\lambda x.x^3$-plus-6 and $\lambda x.x^2$-plus-14** (Soames, 2015, p. 36).

The result of making these claims about the contents of (1), (2), (5), and (6) is that the propositions expressed are cognitively distinct. This is an improvement on the neo-Russellian theory, which lacked the resources to make such distinctions.[10]

5. Simultaneous and Stepwise Predication

I will now introduce a complication for Soames' theory, which will be part of my objection to it. The connection between this complication, the theory that I will present in this Section, and the main argument of this paper will be made clear in Sections 6 and 7.

Consider the contents of sentences such as (9):

(9) John loves Mary.

Soames also says that someone who mediately predicates of a complex thereby indirectly predicates of what that complex determines (Soames, 2015, p. 36).

[9] There, Soames uses "f_{the}" instead of "ι". Soames' proposal is similar to Heim and Kratzer's denotation for "the", and the "2nd view" described by Hawthorne and Manley (Hawthorne, Manley, 2012, pp. 183–184; Heim, Kratzer, 1997, p. 75). The difference is that Heim and Kratzer, and Hawthorne and Manley, take the argument function to be a function from objects to truth values.

[10] Some of Soames' discussion suggests that the contents of these sentences are cognitively distinct and representationally identical. However, it seems that his considered view is that the difference between direct and mediate predication is also a representational difference. In any case, the important point is that the contents are cognitively distinct.

One obvious proposal is that the content of (9) is **predicating *loves* of John and Mary**. This is not the only possibility. Another is that the content of (9) is **predicating *loves Mary* of John**. I label the first *simultaneous predication* and the second *stepwise predication*.

In King, Soames, and Speaks' book (2014, Chapter 6), Soames proposes stepwise predication:[11]

> When an *n*-place predicate is paired with *n* arguments—some of which may be Millian and some non-Millian—we must think of the predication as proceeding in stages. This technique, familiar from Montague, treats the proposition expressed by a sentence of the form
>
> [(*)] *A* loves *B*
>
> as arising first by combining the two-place relation *loves* with the content/referent of the term replacing "*B*", and then predicating the resulting one-place property of the content/referent of the term "*A*". When "*B*" is replaced by a Millian singular term, the content and referent of which is *x*, the resulting one-place property is *loving x*, which may then be predicated directly, or indirectly, of the referent or content of the term that replaces "*A*", depending on whether that term is Millian or non-Millian. (King, Soames, Speaks, 2014, p. 123)

However, in Soames (2015), he does not explicitly endorse stepwise predication. Furthermore, Soames' discussion there of complex singular terms suggests that he accepts simultaneous predication; for example, he says that the relation *greater than* is predicated of a pair of numbers when discussing the content of (1) (Soames, 2015, p. 36).

There is a good reason to accept stepwise predication, as I will now argue, whether or not Soames does so. I will present a simple theory of expression. I claim that it is a good theory, and it avoids a problem, which I will describe, that arises for an alternative theory of expression proposed by Hanks. The theory entails stepwise predication. So, if we accept the theory, we must also accept stepwise predication. The theory is the only good theory of expression that I know of. From this I conclude that we should accept the theory of expression, at least provisionally, and, therefore, stepwise predication.

One of the things that we want from a theory of expression is an account of how the contents of sentences, and other complex expressions, are determined by the contents of the simple expressions which make them up. A good theory should tell us two things, given a sentence with a particular structure and an assignment of contents to the simple expressions in that sentence. Firstly, what the contents of the complex expressions in that sentence are. Secondly, the content of the sentence itself.

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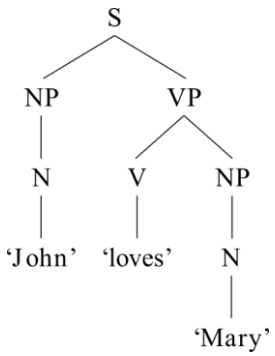
[11] Soames cites Montague (1973) for the technique described. Soames' terminology here is slightly different from that in (Soames, 2015). Here he uses "indirect predication" for what he later calls "mediate predication". Soames uses "Millian" for expressions such as proper names to distinguish them from "Fregean" complex singular terms.

I will now sketch a theory of the sort that we want. For concreteness, I take the sentence structure of (9) from the standard textbook Heim and Kratzer (1997, p. 26) (Figure 1). The philosophical point that I want to make is compatible with other theories about the structure of sentences. The only assumption required is that the structures of sentences are *binary branching*: each node has at most two daughters.[12]

The theory must assign contents to "John", "loves", "Mary", "loves Mary", and "John loves Mary". One way to do this is to say that the contents of "John" and "Mary" are **referring to John** and **referring to Mary**, respectively. I abbreviate these acts of reference as "**John**", and "**Mary**". Then, to say that the content of "loves" is the act of expressing *loves*. I represent this as "**1-loves-2**", using numerals to mark the "slots" in *loves* for a lover, 1, and beloved, 2.[13]

Figure 1

Phrase structure for "John loves Mary"



This proposal accounts for simple expressions. It can be extended to complex expressions by saying that if two expressions form a complex expression, then the content of that complex expression is a function of the contents of those simple expressions. If the contents of the simple expressions are an act of referring to an object and an act of expressing a property with an arity of greater than one, then the content of the complex expression is the act of expressing the property that results from "filling" one of the slots in the expressed property with the referred-to object. The theory should say which slot is filled. To get the right result for the content of "loves Mary", the "beloved" slot should be filled, rather

[12] This assumption is defended, in the context of theories of propositions, by Collins (2011, Chapters 5–7).

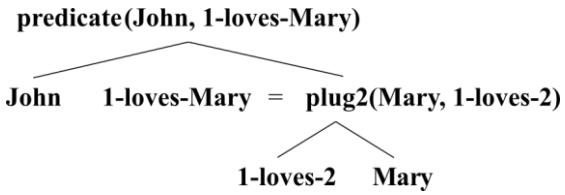
[13] My theory says that all contents are acts. Someone might ask, as did a referee for this paper, whether there is a viable alternative theory which combines the claim that the contents of sentences are acts with the claim that the contents of other expressions are not acts. I will not try to explore this option and defend my assumption that all contents are acts, except to say that a unified theory of content is appealing.

than the "lover" slot. On the assumption that 2 is the "beloved" slot, I write this as: **plug2(Mary, 1-loves-2)**. The act **plug2** is the act of filling the slot marked with "2" in a relation with an object referred to; **plug1** is the act of filling the slot marked with "1". When someone performs **plug2(Mary, 1-loves-2)** they express the property *loves Mary* which is the result of filling the "beloved" slot in the relation *loves* with Mary.[14]

If the contents of the simple expressions are an act of referring to an object and expressing a one-place property, then the content of the complex expression is the act of predicating the property expressed of the object referred to. I write this as: **predicate(John, 1-loves-Mary)**. I then represent the whole complex act, which is the content of (9), as Figure 2. This is the act of referring to Mary, expressing *loves*, expressing *loves Mary*, and predicating *loves Mary* of John.

Figure 2

The proposition that John loves Mary



This theory of expression entails stepwise predication. So, if we accept this theory of expression, we should accept stepwise predication. Someone who wants to reject stepwise predication must offer an equally good theory of expression which does not entail it.

One important consequence of the theory of expression I have proposed is that sentences with different structures will have different contents. This is a consequence of some but not all theories which take propositions to be structured. It is, for example, a consequence of King's version of the neo-Russellian theory (King, 2007; King, Soames, Speaks, 2014, Chapter 4). This has been criticized, for example, by Collins, and King has responded to the criticism (Collins, 2007; 2014; King, 2013; 2019a). I will not defend this consequence of my view here. My justification is that it has been discussed elsewhere, and that it is not relevant to the points I am making in this paper.

As well as being a good theory, my theory of expression avoids a problem that arises for Hanks' version of the act-type theory. Consider (9) and (10).

(10) Mary loves John.

[14] I take the "plug" terminology from King (2019b, Section 3.3).

If we assume simultaneous predication, as Hanks does, there are two relevant propositions that might be the contents of (9) and (10).

A. **predicating *loves* of John and Mary** (which is true if and only if John loves Mary).

B. **predicating *loves* of Mary and John** (which is true if and only if Mary loves John).

A and B are distinct propositions. The question is which of A and B is the content of (9), and which is the content of (10)? I will now describe Hanks' theory of expression and explain why his theory does not answer that question.

According to Hanks, the grammatical mood of a declarative sentence, such as (6), contributes the act of predication, and the subject and predicate contribute acts of reference and expression. Hanks proposes his theory in response to Davidson's skepticism about theories of meaning which say that propositions are the meanings of sentences. Davidson's objection, as described by Hanks, is that knowing a theory of expression which assigns propositions to sentences fora language such as English would not be sufficient for knowing English. Hanks' response is that knowledge of his theory of expression would be sufficient, and that this is a reason to accept his version of the act-type theory (Hanks, 2017, pp. 244–252).

As Hanks notes, Davidson's criticism is about sentences such as (6). Hanks therefore does not extend his idea to sentences such as (9), except to say that he discusses them in Hanks' (2015). There he proposes a theory of content rather thana theory of expression: he describes propositions which could be the contents of such sentences, but does not propose a theory which says which proposition is the content of which sentence.

Hanks' proposal is that the mood of (6) and the contents of its parts determine its content. This should apply to (9) too. But the mood of (9) and the contents of its parts do not distinguish between A and B. Both A and B are acts of predicating the content of "loves" of the contents of "John" and "Mary". Furthermore, (10) has the same mood, and parts with the same contents. So, the theory cannot tell us which of A and B is the content of which sentence. The question does not arise for (6) because, as Hanks says: "The rule does not need to say anything more about how these types are composed, because there is one and only one possible way of combining [**predicate**], [**Mary**], and [**1-tall**] into a composite type" (Hanks, 2017, p. 247).[15] But, as Hanks notes, there are many ways to combine supersets of those types (Hanks, 2017, p. 247).

The fact about Hanks' theory of expression that I have just noted leads to the following problem. As I said in Section 2, Hanks and Soames both say that a theory of expression should be a theory of meaning. The claim is that someone who knows such a theory of expression knows which proposition is expressed by each sentence of the language. The problem is that someone might know Hanks'

[15] I have changed both Hanks' example and his terminology to fit mine.

theory of expression for English and not know which proposition is the content of, e.g., (9). Or, to put the point another way, someone who knows Hanks' theory of expression for English knows which proposition is expressed by only a subset of the sentences of English, i.e., those where there is only one way to combine the contents of the simple expressions. So, Hanks' theory of expression cannot be a theory of meaning for English, because such a theory must tell someone who knows it the content of every sentence of English. The same point could be made for other natural languages, if they also have sentences such that there is more than one way to combine the contents of their simple expressions.

The theory of expression I proposed does not have this problem. This is because it follows from the theory and the structure of (9) that the content of "Mary" first combines with "loves", and in what way they combine. The theory tells us that the content of (9) is the proposition represented by Figure 2. This proposition is distinct from both A and B, and has the same truth conditions as A. Even though (10) has constituents with the same contents as those of (9), the theory entails that its content is a particular different proposition, which is distinct from both A and B, and has the same truth conditions as B.

It is important to distinguish the problem for the theory of expression from a similar sounding objection to some theories of content. An objection to a theory of content would be that it cannot distinguish between propositions with the same constituents, because it cannot make sense of the difference of the order of predication in the two propositions. If so, such a theory cannot say that there are two different propositions, *that Mary loves John* and *that John loves Mary*, even though it seems that there are. My objection is not that one. I grant that there are distinct propositions corresponding to the different "orders", and that our notation can distinguish between them, as I did with A and B.[16]

Accepting stepwise predication requires a modification of Soames' claims about the contents of (1) and (2). The content of (2) will be **directly predicating *greater than 196* of 216**. The content of (1) will be **mediately predicating *greater than whatever is the value of* $\lambda x.x^2$ *at 14* of $\lambda x.x^3$-plus-6**. Soames suggests this modification when he describes reduction, immediately after the passage quoted above:[17]

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[16] My notation is different from Hanks'; his notation is also sufficient. Hanks describes the difference between A and B as a difference of what is "targeted for the [lover] role" and what is "targeted for the [beloved] role" (Hanks, 2015, p. 85). Ordering problems have been raised for some theories of propositions, including the act-type theory (Collins, 2018; Ostertag, 2013; 2019). I note that stepwise predication avoids them, although I do not rely on that in my argument. I also note that the objection I make is not a version of the Benacerraf problem applied to the act-type theory (Benacerraf, 1965; Moore, 1999). That is a problem of having two candidate objects for the reduction of a proposition, which is not the case with A and B.

[17] In the terminology of Soames (2015), "indirect reduction" would presumably be more naturally called "mediate reduction". I have replaced "f_{the}" with "ι" to match the terminology in Soames (2015). In the quoted passage Soames says that the contents of

> When "*B*" is replaced by a Millian singular term the content and referent of which is *x*, the resulting one-place property is *loving x*, which may then be predicated directly, or indirectly, of the referent or content of the term that replaces "*A*", depending on whether that term is Millian or non-Millian. When "*B*" is replaced by a non-Millian singular term—e.g., something the content of which is a complex consisting [of] [ɪ] combined with an argument *g*—the resulting one-place property is *loving whomever is the value of [ɪ] at g*—which may, of course, also be predicated directly, or indirectly, of the referent or content of the term that replaces "*A*". Thus the operation, call it "reduction", that maps an *n*-place relation plus an argument to the relevant *n* − 1 place relation subdivides into direct and indirect reduction, on analogy with direct and indirect predication. (King, Soames, Speaks, 2014, pp. 123–124)

6. Against Mediate Predication and Mediate Reduction

I will now argue that Soames' theory of mediate predication, described in Section 4, fails to make the distinctions between propositions, described in Section 3, that he wants it to make. I have in mind the kind of distinction discussed in Section 3. I assume stepwise predication, which I argued for in Section 5.

My objection is to Soames' solution to the problem of distinguishing the contents of (5) and (6). Soames' proposal is that the content of (6) is **directly predicating *tall* of Mary**. And that the content of (5) is **mediately predicating *tall* of *ɪ*-plus-*g***. According to Soames' theory, the cognitive difference is because of the difference between mediate and direct predication.

The problem is that this solution does not generalize. Consider (9), from Section 5, and (11):

(11) John loves the chief of police.

According to Soames' theory, assuming stepwise predication as Soames describes it in the passage quoted in Section 5, the content of (9) is **directly predicating *loves Mary* of John**. And, the content of (11) is **directly predicating *loves whomever is the value of ɪ at g* of John** (where *g* is the propositional function that maps things to the proposition that they have the property *chief of police*). The difference between direct and mediate predication plays no role in the cognitive distinctness of these propositions, because in both cases the predication is direct. The predication must be direct, in both cases, because mediate predication is only defined when the target is a complex, such as *ɪ*-plus-*g*, and not when the target is an ordinary object, such as John.

If the distinction between direct and mediate predication does not explain the difference between the contents of (9) and (11), it must be explained by a differ-

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expressions such as "John", "loves", and "6 cubed" are objects, properties, and functions, rather than acts directed at such things. I have been using the term differently: the contents of these expressions are acts. Soames also uses this terminology in other places (Soames, 2015, p. 21). In any case, the different terminology does not affect my point.

ence between the property *loves Mary* and the property *loves whomever is the value of ɪ at g*. The question is what the latter property is. Båve has argued that Soames has no account of what the property is (Båve, 2021, Section 1). If that is right, then Soames' theory does not make the distinctions that he wants to make.

A natural reply would be to give an account of what the property is. I do not know whether Soames would want to make that reply, or what account he would give. I will explore one possible account, and argue that it fails for reasons that plausibly extend to other similar accounts. Take any relation R. Let R+ be the relation that something stands in to the complex *f*-plus-*y* if and only if it stands in R to the value of *f* at *y*. So, John stands in *loves* to Mary if and only if John stands in *loves*+ to *ɪ*-plus-*g*. Reducing *loves*+ with *ɪ*-plus-*g* results in the property *loves*+ *ɪ-plus-g*. This can be taken as the result of mediate reduction of *loves* and *ɪ*-plus-*g*. This property is then predicated of John, and this act of predication is the content of (11). The proposition is **directly predicating *loves*+ *ɪ-plus-g* of John**. This is an example of what I call the *alternative property response*, and I label this instance of it the *loves*+ *response*.

For any alternative property response to be successful, the alternative property must satisfy the following conditions:

1. It is psychologically plausible that anybody who believes *that John loves the chief of police* (directly) predicates the alternative property of John.
2. Necessarily, everything which has the alternative property also has *loves Mary* (and vice versa); otherwise (9) and (11) will express propositions which do not have the same truth conditions.

It is hard to find a property which meets these conditions. I will show the difficulties by explaining why the *loves*+ response does not meet the second condition, and arguably does not meet the first condition.

Consider the following claim: necessarily, anybody who believes a proposition is disposed to perform it. As I said in Section 2, Soames accepts that claim as part of his account of what makes propositions the objects of belief. If the loves+ response is correct, and the claim is true, then anybody who believes *that John loves the chief of police* is disposed to predicate *loves*+ *ɪ-plus-g* of John. The claim that anyone who believes *that John loves the chief of police* is disposed to perform acts involving *loves*+ and *ɪ*-plus-*g* is surprising. It might be objected that it is not plausible that all of those who believe the proposition are disposed to perform such acts of predication. This objection is not conclusive, for the following reason. In general, it is hard to be sure that someone is not predicating a particular property, and even harder to be sure that they are not disposed to. One reason for this is that not all acts of predicating are conscious or intentional (Soames, 2015, p. 21). So, neither introspection nor the reports of believers count against the claim that those who believe the proposition predicate the property or that they are disposed to.

One argument in support of the objection is the following. Predicating the alternative property requires a certain degree of cognitive sophistication. And someone who lacks the cognitive sophistication to do something is not disposed to do it. But someone who lacks that degree of cognitive sophistication can believe the proposition. So, someone can believe the proposition without being disposed to predicate the alternative property. The conclusion of the argument is that the proposition cannot be identical to the predication of the alternative property. This is a form of argument that Soames uses when he suggests that negations should not be thought of as predications of *not being true* of propositions (Soames, 2015, pp. 30–31).

This argument turns on the claim that the degree of cognitive sophistication required to predicate *loves+ ι-plus-g* is greater than that required to believe *that John loves the chief of police*. It does seem plausible that someone can believe the proposition without being able to predicate the alternative property. However, it is hard to conclusively establish the required claim, which is that believing the proposition requires degree of sophistication m, that predicating the alternative property requires degree of sophistication *n*, that *m* is strictly less than *n*, and some people have a degree of sophistication greater than or equal to *m* and strictly less than *n*. It is not even obvious how to measure cognitive sophistication, either of thinkers or acts, although I grant Soames that there is such a thing. So, the supporting argument is also suggestive, but inconclusive.[18]

Based on the preceding discussion, I conclude that it is hard to turn the fact that the loves+ response is surprising into a conclusive objection. However, I note that the fact that the loves+ response is so surprising is a reason to doubt it. Because the response makes a surprising claim, it would be better if a positive case could be made for it, rather than noting that it is hard to make a case against it. Furthermore, the same reasons that make it difficult to make a conclusive objection will also make it difficult to find direct evidence for the loves+ response.

The other objection to the loves+ response is that the second condition is not met. Consider a possible world *w* such that, in *w*, John loves only Mary, but Mary does not have the property *chief of police*. If *w* were actual, John would not have *loves+ ι-plus-g*. However, John would have *loves Mary*. One consequence of this is that the propositions expressed by (9) and (11) will not have the same truth conditions. As I said in Section 3, this is not an acceptable consequence for a theory which treats definite descriptions as complex singular terms.[19]

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[18] For Soames' discussion of negation, it is plausible that predicating a property such as *not being true* of a proposition does require a degree of cognitive sophistication that is not required for believing a negation. That being said, the point that it is hard to establish that can be made in response to that argument too.

[19] One natural reply is to propose the following *loves++ response*: *loves++* is a three-place relation between a person, a complex, and a world. The relation *loves++* relates John, *ι*-plus-*g*, and *w* if and only if John loves the value of *ι*-plus-*g* at *w*. The world is fixed by the world in which the predicate is used. This proposal satisfies condition 2. However, it fails to satisfy condition 1. This is because it has the very implausible conse-

I conclude from my discussion of the alternative property response that it is not easy to find a suitable alternative property. This suggests that it is difficult to develop Soames' theory of mediate predication and mediate reduction so that it solves the problems that it is intended to solve. Mediate predication and mediate reduction are proposed by Soames as a way to make certain distinctions. If they do not make the required distinctions, they should be rejected.

7. An Alternative Solution

In this Section, I propose an alternative theory of the contents of the sentences I have been using as examples, i.e., (1), (2), (5), (6), (9), and (11), from Sections 5 and 6. The theory extends the theory I proposed in Section 5. The theory makes the distinctions between propositions that Soames wants to make and which I agree should be made. The theory does not make use of mediate predication or mediate reduction. The point I use the theory to make is that neither mediate predication nor mediate reduction are necessary to make the required distinctions.

I propose that definite descriptions should be treated in the following way. The act performed with "the" is represented by "**THE**" and is the act of expressing ι. When the act of expressing a function from propositional functions to objects combines with the act of referring to a property the following act is performed. First, I say that each property is *associated* with a propositional function: this is the function that maps each object to the proposition that the object has that property. Second, the act performed is the act of referring to the object that is the value of the function, e.g., ι, when applied to the propositional function associated with the property.[20]

Using (11) as an example, **THE** combines with **1-chief of police**. The property *chief of police* is associated with the propositional function g. The act performed is referring to the object that ι maps g to, which is Mary. The proposition expressed by (9) (Figure 2) is not the same as the proposition expressed by (11) (Figure 3). The same act of reference, **Mary**, is performed as part of both. They are

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quence that, necessarily, anyone who believes that John loves Mary predicates a property of John which involves the actual world. See Soames (2002, pp. 43–49) for a discussion of a related theory, where he makes an analogous objection. This is an example of an attempt to amend the loves+ response in a way that leads to further problems with meeting the two conditions.

[20] Soames refers to ι as both a function from type e, t functions to objects and as a function from propositional functions, i.e., functions from objects to propositions, to objects. He suggests that the latter is equivalent to thinking of it as a function from properties to objects. It would be simpler to present the view if the arguments for ι were properties, not propositional functions. These two ways of thinking are interchangeable, but I have chosen to follow Soames' presentation of the view. I make the simplifying assumption that acts of reference are individuated by the object referred to, and on the strength of that assumption I write "**Mary**" for the act of reference performed with both "Mary" and "the chief of police".

cognitively distinct, because in one, but not the other, **THE** and **chief of police** are also performed. This proposal also distinguishes the contents of (5) and (6).

In order to satisfy Soames' requirements for the act-type theory, the theory must be extended to cover other examples of complex singular terms. I will present another example with (1) and (2), which will illustrate that the proposal generalizes. I posit two new acts, **CUBE** and **SQUARE**, which are the acts of expressing the cubing and squaring functions, respectively. In this case, a simpler rule is required: an act of expressing a function from objects to objects and an act of referring to an object result in an act of referring to the value of the function when its argument is the referred to object. The propositions represented in Figures 4 and 5 are the cognitively distinct contents of (1) and (2).

Figure 3

The proposition that John loves the chief of police

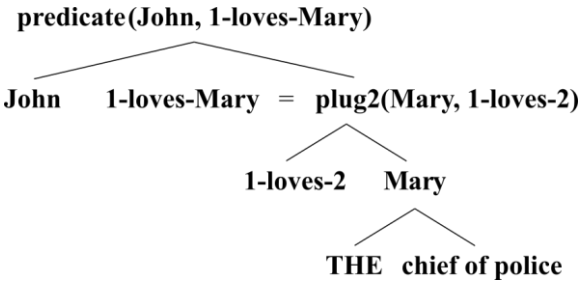


Figure 4

The proposition that 6 cubed is greater than 14 squared

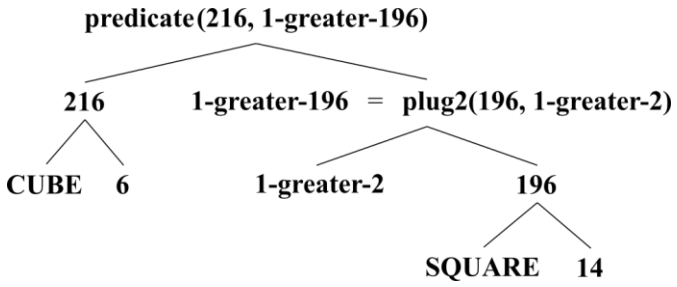
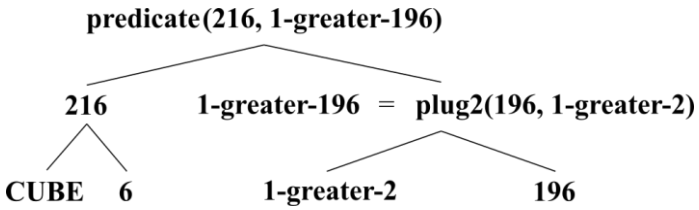


Figure 5

The proposition that 216 is greater than 196



8. Meaning Reports

I will now address a separate but related point. Soames might reject the theory proposed in Section 7 on the basis that it does not allow for a response to the following argument against the possibility of complex singular terms. Soames says that this argument is an important motivation for his version of the act-type theory, on the basis that only his theory can block the argument. Soames presents the argument as follows (Soames, 2015, pp. 37–39). Let "M" be a name for the meaning of "the first line of Gray's Elegy", which, as this expression is a definite description, will be a complex. Now consider the meaning reports (12) and (13).[21]

(12) "The first line of Gray's Elegy" means M.

(13) "The first line of Gray's Elegy" means the first line of Gray's Elegy.

According to Soames, (12) is true and (13) is false. So, according to the truth test described in Section 3, their contents must be different. Soames says that, according to a neo-Russellian theory of propositions combined with the claim that complex singular terms contribute their meanings to propositions, both express the same neo-Russellian proposition:

⟨⟨"the first line of Gray's Elegy", M⟩, *means*⟩

Soames' theory avoids this problem by making the following distinction (Soames, 2015, p. 39). The proposition expressed by (12) is an act of direct pred-

[21] These are Soames' examples 5b and 5c (Soames, 2015, p. 37). Soames' example refers to an argument that Russell makes with an example from Gray's "Elegy Written in a Country Churchyard" (Gray, 2022; Russell, 1905, p. 486). It is not easy to understand Russell's argument. Soames refers to Salmon's reconstruction (Salmon, 2005; Soames, 2015, p. 37). Salmon says, of Russell, that "the presentation is garbled and confused, almost to the point of being altogether inscrutable and incomprehensible" (Salmon, 2005, p. 1069). I make no claim about Russell's argument, and restrict my point to Soames' argument based on it.

ication targeting M. The proposition expressed by (13) is an act of mediate predication targeting M. So, the two propositions are cognitively distinct.

I propose an alternative response to the problem Soames discusses, without adistinction between direct and mediate predication. I first note that, according to Soames, the meaning of an expression can be identified with its content. According to the act-type theory of content, contents are acts like the ones described in this paper. This idea can be applied to the Gray's Elegy examples. The proposition expressed by (12), Figure 6, entails that the expression "the first line of Gray's Elegy" stands in the meaning relation to the act type M which is the meaning of "the first line of Gray's Elegy". Let "G" name the first line of Gray's Elegy, which is the expression "the curfew tolls the knell of parting day". M is a complex act of referring to G, which is the unique bearer of the property *first line of Gray's Elegy*. This proposition is true.

The proposition expressed by (13), Figure 7, entails that the expression "the first line of Gray's Elegy" stands in the meaning relation to G. This proposition is false, because the meanings of expressions are acts, not other expressions. According to my theory, the contents of (12) and (13) are cognitively distinct. I conclude from this that my version of that act-type theory can make the distinction between the contents of (12) and (13) that Soames wants to make, without a distinction between direct and mediate predication.

Figure 6

The proposition that "the first line of Gray's Elegy" means M

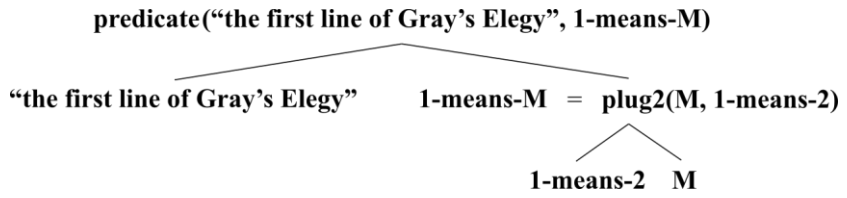
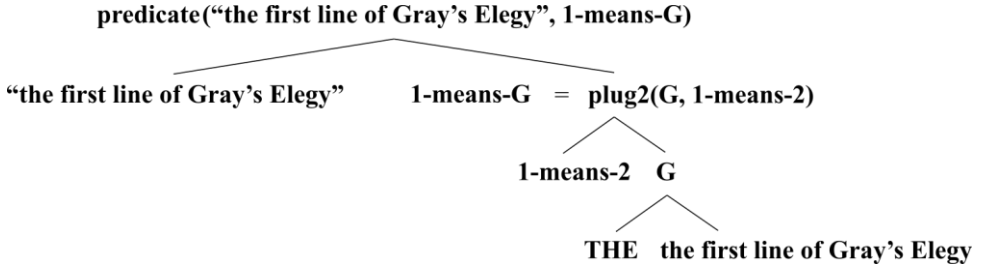


Figure 7

The proposition that "the first line of Gray's Elegy" means the first line of Gray's Elegy



Furthermore, my theory gives a result that both seems right, and is the one that Soames wants, for a related example (Soames, 2014, Chapter 8). Following Soames, let "M*e*M" denote the meaning of *e*. Now consider (14) and (15).[22]

(14) The first line of Gray's elegy is a sentence.

(15) Mthe first line of Gray's ElegyM is a sentence.

The theory that I propose entails that (14) expresses a true proposition: G is a sentence. And it entails that (15) expresses a false proposition: the meaning of "the first line of Gray's Elegy" is a complex act of referring to G, not a sentence. I conclude that my theory of expression can make the distinctions that Soames wants to make between the contents of (12), (13), (14), and (15). This avoids the objection that my theory cannot make the distinctions that Soames' theory is intended to make.

9. Conclusion

Soames proposes the act-type theory of propositions as an answer to the foundational problem of what propositions are. He extends his theory, by adding mediate predication and mediate reduction, in order to distinguish between some pairs of propositions that should be distinguished. I have argued that my alternative version of the act-type theory can make the required distinctions between propositions, without the addition of mediate predication and mediate reduction. This is a reason to accept my version of the act-type theory.

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[22] Examples 22a and 22b are from Soames (2014, p. 352). I have removed hyphens from (15). This example is like some of Russell's (1905, p. 486).

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