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Problems for Russellian Act-Type Theories

This paper presents two interrelated problems for Russellian act-type theories of propositions—particularly, that of Scott Soames (2010, 2015)—and argues that Fregean act-type theories are either better equipped to deal with them or avoid them altogether. The first problem concerns "complex singular terms", like '2+2', and the second one is King's objection from "proliferating propositions".

Act-type theories of propositions take propositions to be act types directed toward their constituents. The Russellian variety of this theory takes these constituents to be worldly particulars, properties, and relations. On Soames' theory, the proposition that Socrates is wise is the act type of *predicating* the property of wisdom of the object Socrates.

Fregean theories of propositions take them to be built up from concepts, rather than worldly entities. A simple variety of a Fregean *act-type* theory takes concepts to have a first-order syntax and posits only a single propositional mode of combination, a multigrade act of "conjoining", such that all complex concepts are act types of conjoining their immediate constituents in a certain order. Taking 'C(c_1, …, c_n)' to abbreviate 'the act type of conjoining c_1, …, c_n in that order', [*p*] to abbreviate 'the proposition that *p*', and using SMALL CAPS to refer to simple concepts, we can illustrate the theory through such identity claims as,

[Socrates is wise] = C(WISE, SOCRATES)

[Socrates is wise and Plato does not admire Socrates] =

C(AND, C(WISE, SOCRATES), C(NOT, C(ADMIRE, PLATO, SOCRATES))),

and so on. In Båve (2017: §VI), I sketch a theory on these lines, which will be further developed and defended in future work. On this theory, every concept is an act type, which is individuated by its entertaining conditions, which are to the effect that the act type plays a certain psychological role. For present purposes, however, the above minimal assumptions will suffice for the comparisons with Russellian act-type theories I will be making.

In addition to the advantages this type of theory has over Russellian act-type theories that I will highlight in this paper, there are of course several familiar reasons for preferring Fregean theories of propositions over Russellian ones. There is also a perhaps surprising benefit that the above Fregean act-type theory has over Russellian ones. A major desideratum on theories of meaning and propositions is to give an account of non-extensional constructions in purely extensional terms. That is in effect what is achieved by possible-world semantics, whose language is entirely extensional, although its object language typically is not.

It seems that Russellian act-type theorists need to take the verb that describes the central act type on propositional constituents to be intensional. It would otherwise be difficult to account for propositions expressed by sentences containing empty names, like [Pegasus is a winged horse] (ignoring noneist views, on which one may quantify over non-existents). And indeed, Soames says that the verb, 'predicate' is an "intensional transitive", like 'look for' (2014: 101). The more specific act type of "indirectly predicating" that Soames defines (more on which anon), is also clearly non-extensional.

Fregean act-type theorists, by contrast, are free to declare their proposition designators—particularly, the verb 'conjoin'—purely extensional. So if SOCRATES is the first concept I thought of this morning, then [Socrates is wise] = C(WISE, the first concept I thought of this morning). Needless to say, this does nothing to get us any closer to giving a semantics for non-extensional constructions, but the point is merely that the Fregean theory has an extensional metalanguage whereas Soames' theory does not, and that the former therefore can whereas the latter cannot (as currently stated) hope to satisfy the relevant desideratum.

Let us now consider two other accounts that have affinities with this Fregean act-type theory. Firstly, Wayne Davis (2003, forthcoming) defends a theory on which both propositions and concepts are “cognitive event types”. However, he does not adopt a Fregean act-type theory in the above sense. Firstly, he denies that propositions are act types (forthcoming: §10), and thus takes there to be significant and relevant differences between acts and events. Secondly, he expresses scepticism about the idea that theories of propositions must explain propositional “glue”, or the way in which propositional constituents are “held together” (forthcoming: §10). I interpret this as entailing that there is no act type on propositional constituents for which a substantive account can be given.

Secondly, Peter Hanks has devised a theory (2011, 2015), which is something of a hybrid Fregean-Russellian view. On his view, the proposition that Socrates is wise is a complex act consisting of three sub-acts: (i) the act of referring to Socrates, (ii) the act of expressing the property of wisdom, and (iii) the act of predicating wisdom of Socrates. This view is similar to the Fregean variant in that it can distinguish propositions about the same object, by taking them to involve distinct acts of referring. His theory differs from “pure” Fregean theories, however, in taking the act of predicating to be directed towards worldly entities rather than concepts.

Let us adopt some convenient conventions to simplify our discussion. Let us refer to constituents of propositions by enclosing subsentential expressions within brackets. We can now say that, on both Russellian and Fregean act-type theories, [Socrates is wise] is an act type directed toward [wise] and [Socrates]. For Russellians, [wise] is wisdom and [Socrates] is Socrates (the man), whereas for Fregeans, [wise] is a monadic predicative concept, and [Socrates] is an individual concept. We can now see immediately that Hanks’ theory is special in that there will be two candidates for [Socrates], namely, Socrates himself or an act of referring to him (and similarly for [wise]). This convention is therefore limited in that it does not apply in any obvious way to his propositions, but I will mostly be comparing Soames' theory with an analogous Fregean theory, and for these purposes, our notation is sufficient.

In order to describe propositions with canonical designators belonging to different theories, I will be using functors, defined in terms of whatever mode of conceptual combination that the theory postulates. Thus, if we define $f(x, y)$ as the act type of predicating x of y, we can say that, on Soames' theory, [Socrates is wise] = f([wise], [Socrates]), and so on (cf. Båve (2019b)).

1. The problem of complex singular terms

In this section, I will point to some problems with Soames' account of complex singular terms, like '2+2'. Although Soames is a Millian, and thus holds that [Phosphorus is hot] = [Hesperus is hot], he does not go so far as to identify [2+2 is even] with [4 is even]. In order to distinguish these propositions, Soames posits several different types of act types. Let me quote the relevant principles in full:

> Direct Predication
>
> To *directly predicate* a property P of x is to have x in mind as the thing represented as having P.
>
> Complex singular terms require the relation *mediate predication* holding between an agent, a property, and a function-argument pair *f-plus-y*.
>
> 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.
>
> […]

> Indirect Predication
>
> 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'. (2015: 36)

Let us refer to such "complexes" referred to in the definition of mediate predication using our brackets, so that the constituent expressed by '2+2' is [2+2].

Now, "mediate predication" is very different from direct predication. This is a disadvantage. The sentences '2+2 is even' and '4 is even' are of the same form and the propositions expressed by them should therefore differ only in regards to the parts corresponding to '4' and '2+2'. The aspect of the propositions relating to the predicate 'is even', or the mode of composition [$F(a)$] should be the same, on grounds of uniformity. But things get worse as we consider some further complications that burden this theory.

A Russellian account of propositions, it seems, *must* have the general structure of Soames' theory, if it is to treat '2+2' as a genuine singular term (rather than a Russellian description), and also accommodate certain further obvious facts. One such fact is that [2+2 is even] ≠ [4 is even]. This shows that '2+2' and '4', while having the same referent, must express different propositional constituents. In other words, [2+2] ≠ [4]. But a further fact that must be accommodated is that [2+2 is even] ≠ [[2+2] is even]. The latter proposition is *about* the complex [2+2] and is untrue, since such complexes as [2+2] are not numbers. This means that there cannot be a single mode of combination f such that [4 is even] = f([is even], [4]) and [2+2 is even] = f([is even], [2+2]). As a special case, there cannot be a single act type, φ-ing, such that [4 is even] is the act type of φ-ing [4], [even] and [2+2 is even] is the act type of φ-ing [2+2], [even]. Here is a different way of making the same point: on Russellian theories, [4] = 4, and thus, *f*([is even], [4]) is a proposition *about* the number 4. But then, *f*([is even], [2+2]) must also be a proposition *about* the complex [2+2], to the effect that it is even, and would therefore be untrue, since only numbers are even. Hence the need for two separate act types, direct and mediate predication.

By comparison, a Fregean theory will take both simple singular terms (names) and complex ones to express the same kind of entity, namely, an individual concept. '2+2' is most naturally taken to express the complex concept C(PLUS, TWO, TWO), where PLUS is a dyadic "functor" concept, i.e., one that can be conjoined with two individual concepts to form a new individual concept. This theory can therefore without further ado take [2+2 is even] and [4 is even] to be the same kind of act type on constituents, and can thus take them to differ only in having different constituents, expressed by the relevant singular terms.

The main problem for Soames' theory I want to discuss consists in the complications required for dealing with such "mixed" propositions as [2+2 is greater than 3], i.e., propositions expressed by sentences containing both simple and complex singular terms. This proposition cannot be the act type of *directly* predicating [greater than] of [2+2] and [3], for this would be a proposition representing the complex [2+2] as greater than 3, which would make it false, since [2+2] is not a number. Nor can [2+2 is greater than 3] be the act type of *mediately* predicating [greater than] of [2+2] and [3], for mediate predication is defined only for complexes like [2+2].

The obvious upshot seems to be that Soames is forced to posit a more complex account of predication in order to deal with relational propositions. It may be thought that he could say that [2+2 is greater than 3] is:

> the act type of predicating [greater than] mediately of [2+2] yet directly of 3.

But this is most naturally interpreted as entailing the false claim that [greater than] is a *property*, rather than a two-place relation, which is predicated in one way of [2+2] and in a different way of the number 3. Since this interpretation is unwanted, we would like rather to refer to the relevant act type unambiguously as an act type of predicating a relation of two objects, but where the objects are nevertheless somehow acted upon in different ways.

It is not clear what notation to use in order to achieve this, but one possibility is to say that [2+2 is greater than 3] is the act type of predicating [greater than] mediately$_1$ and directly$_2$ of [2+2] and 3, where the subscripts indicate which object is acted upon in what way. Clearly, a host of new kinds of act type is now needed, for we will also need a new act type to cover [3 is greater than 2+2] (note the reverse order), and still more kinds of act to cover propositions involving relations with more than 2 argument-places. Since there are multigrade relations among numbers, like *being the average of*, which can relate any number of objects, we will need to posit infinitely many distinct types of predication.

This account might be a coherent option, but it is still somewhat obscure. The notion of predicating *in a certain way, relative to a given argument place*, is not one that is easily anchored in any intuitive examples. The account is also unattractively complex, especially since it merely serves to identify different logically atomic propositions. These atomic propositions are those expressed by sentences of the same basic form, namely, '$F(t_1, \ldots, t_n)$' (where the terms may be either simple or formed by applying a functor to one or more terms). Propositions of this basic form should come out as more uniform. On the Fregean account, [2+2 is greater than 3] is simply C(GREATER THAN, C(PLUS, TWO, TWO), THREE), and analogously for all other propositions expressed by a sentence of the form, '$F(t_1, \ldots, t_n)$'.

It may be thought that Soames could give a simpler account by speaking of a more inclusive act type of predicating*, such that, by definition, one predicates* *x* of *y* if and only if one either directly predicates *x* of *y* or mediately predicates *x* of *y*. Could we not say, then, that

[2+2 is greater than 3] is the act of predicating* [greater than] of [2+2] and 3? No, for this would be an act type that can be performed by directly predicating [greater than] of [2+2] and 3, but the latter act type, of course, is the proposition [[2+2] is greater than 3], which is anomalous in that it represents a non-number as greater than 3. This act type of predicating* would also be performed by mediately predicating [greater than] of [2+2] and 3, but mediate predication is only defined for complexes like [2+2].

Similar remarks apply to predicating**, which, by definition, one performs iff one either directly or indirectly predicates something of something else. If we now try saying that [2+2 is greater than 3] is the act type of predicating** [greater than] of 2+2 and 3, it follows that this act can be performed by directly predicating [greater than] of 2+2 and 3. But this means that this proposition can be performed without mediately predicating anything of [2+2], contrary to Soames' intentions. Thus, appealing to more inclusive act types cannot help simplify the Russellian account of mixed propositions like [2+2 is greater than 3].

Another possibility might be to appeal to act types defined inductively, as in:

> *A* predicates*** *x* of *y* iff (either: *y* is an ordinary object (that is, not a "complex") and *A* directly predicates *x* of *y*, or: *y* is a complex and *A* mediately predicates *x* of *y*).

But this does not cover cases in which relations are predicated of several objects. And if we replace 'y' with '$y_1, \ldots, y_n$' so as to cover these cases, we end up with an account unable to deal with mixed propositions. Somehow, the manner of predication must be different for different types predication targets, as in the proposal with subscripts above.

Another problem with the definition above is that it entails that no act of predication*** can be a proposition that is *about* a complex like [2+2]. For whenever the predication target is a complex of this kind, the act or predication*** is always an act of mediate predication. But of course it should be possible—even if it is unusual—to directly predicate properties of these complexes, e.g., when theorizing about propositions. This is a distinct problem arising specifically for act types that are inductively defined in the manner above.

Here is a different account of mixed propositions that may seem like the best option for Russellian act-type theorists: we characterize a mixed proposition by first identifying a complex property or relation involving all of the direct predication targets, and then identify the proposition with the act of mediately predicating this property or relation of the remaining complex(es). Then, [2+2 is greater than 3] is the act of mediately predicating *the property of being greater than 3* of [2+2], and [3+3 is the average of 2, 4, and 7–1] is the act of mediately predicating the relation λ*xy*[*x* is the average of 2, 4, and *y*] of [3+3] and [7–1], and so on. The problem with this option is that it allows complex properties to be constituents of propositions, which engenders an implausible "proliferation of propositions". This proliferation is the topic of the next section.

In his (2014), Soames offers an account that may at first seem to be precisely the one I just sketched. He writes

> 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
>
> (17) 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. When "B" is replaced by a non-Millian singular term—e.g. something the content of which is a complex consisting [of] f_{the} combined with an argument g—the resulting one-place property is *loving whomever is the value of* f_{the} *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. (2014: 123–124)

A problem with this passage is that no account is given of the property Soames refers to as, '*loving whomever is the value of* f_{the} *at g*'. If the definite description, '*the value of* f_{the} *at g*', is understood along Russellian lines, then the kind of "complex" that Soames in other texts takes to be expressed by complex singular terms (which are non-Millian) will play no role in the proposition expressed by the sentence at all. Thus, the "reduction" proposed would then play no role accounting for which propositions are expressed by sentences containing '2+2'. (Below, I note that Soames is rather unclear about definite descriptions, but what is clear is that he does not treat such terms as '2+2' as Russellian descriptions.)

It seems, then, that the property designator, '*loving whomever is the value of* f_{the} *at g*' must rather be interpreted somehow in accordance with Soames' idea about "complexes", so that '*the value of* f_{the} *at g*' refers now to such a complex. But while Soames gives an account of how *act types* involving such complexes are to be understood, it is not clear how *properties* (or relations) are supposed to involve them. Clearly, the property referred to by the designator in question cannot be the property of loving the complex, if such there be, expressed by '*the value of* f_{the} *at g*'. For example, the property referred to by 'is greater than the smallest prime' cannot be the property of being greater than *x*, where *x* is the complex expressed by 'the smallest prime'. Again, mathematical relations are not defined for such complexes. So the proposition expressed by '4 is greater than the smallest prime' cannot be the act type of predicating that property of 4. The account of mixed propositions that I sketched is therefore preferable to Soames' account quoted above.

Let me now consider how Hanks' theory fares with respect to complex singular terms. I will try to show that although his theory at first may seem to have the means of dealing with these cases, it turns out to be committed to the same kind of complications as Soames' account. Because of the Russellian aspect of his theory, he is forced to postulate a further type of predication, whose targets will include complex entities that are expressed by complex singular terms. The other, Fregean aspect of his theory may at first seem to offer a viable account of mixed propositions. To wit, it may be thought that he could distinguish the propositions [2+2 is even] and [4 is even] by taking them to involve distinct acts of referring to the number 4: a "direct" act of reference and an "indirect" one, which could be characterized as an act of referring to the number 4 *as* the sum of 2 and 2, or some such.

The reason this will not suffice is that it leaves unanswered the question of what predication target is involved in the proposition [2+2 is even]. It cannot be the *referent* of the complex singular term '2+2', for a speaker could entertain (or judge) the proposition expressed by a sentence of the form '$f(m, n)$ is F' without the referent of '$f(m, n)$' occurring to her at all, in which case she would not be predicating anything of that object. For instance, one might wrongly believe that $m + n = i$, whereas, in fact, $m + n = j$, and thus entertain or judge the proposition that $m + n = i$ without the number j coming to one's mind at all, although it is the referent of '$m + n$'. Or one might wrongly believe that a certain expression, like '3/0', has a referent although it has none (division being undefined for 0 as divisor). There is still a proposition expressed by '3/0 is odd', which one might believe, judge, etc., but it cannot involve an act of predicating anything of the referent of the term.

Thus, even though Hanks' theory contains a complication intended to handle cases of co-referring non-synonymous singular terms, this complication will not help with cases in which one of them is complex (as opposed to the case of 'Hesperus' and 'Phosphorus'). (All of this of course assumes that Hanks does not simply treat these singular terms as Russell descriptions, in which case the problem does not arise.)

One could now complain that Hanks offers a theory which gives different accounts of different instances of the same general problem. The general problem is that of non-synonymous co-referring singular terms, and the theory offers one account of instances involving two simple singular terms, and a different account of cases in which one of the singular terms is complex. That is, the difference between [Hesperus is hot] and [Phosphorus is hot] is explained by reference to distinct acts of referring, while the difference between [2+2 is even] and [4 is even] is explained by recourse to distinct types of predicating. The purely Fregean theory, by contrast, deals with both cases in the same way, by associating different individual concepts to non-synonymous singular terms, whatever their complexity.

For completeness, we should also mention a further, obvious alternative way in which Hanks and Soames might deal with complex singular terms, namely, of taking them to be Russellian descriptions, i.e., a kind of complex quantificational expression. If they do, then the problem of mixed propositions would not arise at all, since the problem essentially involves Soames' "complexes" that are the supposed contents such singular terms as '2+2'.

If Soames were to accept this kind of approach, then he would identify [2+2 is even] with an act type of predicating a certain complex higher-order property of the property of being even, rather than an act type of predicating evenness of something. The term '2+2' would then be treated as synonymous with the description '$\iota x(\mathrm{Sum}(x, 2, 2))$', where 'Sum' is a primitive, triadic predicate (it must be primitive, since it cannot be defined as '… is the sum of …', as that *definiens* contains a definite description). Since we have seen that the problem with complex singular terms affects any Russellian theory of propositions, and not merely act-type theories, Russell's theory of descriptions would in fact come to the rescue of his own theory of propositions. I don't know whether this is incidental, or something Russell himself realized.

Soames does not accept this view of terms like '2+2', but it is unclear what he thinks of definite descriptions. On the one hand, he says that "[t]he proposition *that the G is H* is the act of taking g as argument of ι, and mediately predicating *being H* of the complex ι-*plus*-*g*" (2015: 37). Clearly, he here treats definite descriptions the same way as he treats '2+2' and the like, i.e., as expressing "complexes" rather than as quantificational. But in a footnote on the same page, he says, "I lean toward Russell in taking singular definite descriptions in English to be generalized quantifiers, I lean toward Frege in recognizing the legitimacy of complex singular terms conforming to his analysis". It is hard to reconcile his claim about the proposition *that the G is H* with the claim that "singular definite descriptions in English are generalized quantifiers".

Let me close this section by repeating its most important general lesson: given a Fregean treatment of complex singular terms like '2+2', mixed propositions present a problem for Russellian act-type theories like that of Soames. Several attempts to solve this problem turned out to be untenable or unattractive. The most promising solution consists in identifying complex properties expressed by complex predicates containing proper names, and then taking the sentence as a whole to express act types of mediately predicating such properties of "complexes" expressed by complex singular terms. Quite incidentally, however, taking complex properties to be constituents of propositions in this way, while also accepting an act-type theory of propositions, engenders an unappealing proliferation of propositions, to which we now turn.

2. The problem of proliferating propositions

Jeffrey King (2013: 131f.) argues that act-type theories are committed to an unacceptable "proliferation of propositions", which arises as we consider propositions with a polyadic predicative constituent, e.g., [Mary loves John]. This proposition can be identified both with the act type of predicating love of Mary and John (in that order), but also with the act type of predicating the property of loving John of Mary, or again the act type of predicating the property of being loved by Mary of John. But these acts are all distinct, as they are acts on distinct objects (see also Jespersen (2015, forthcoming), and Båve (2019a) for discussion).

King finds the proliferation of propositions immediately objectionable. Accordingly, he does not provide any reason why this proliferation should not be tolerated. In Båve (2019a), however, I pointed to some "awkward questions" arising for theorists committed to such proliferation:

> which of the 31 propositions expressed by '6 + 2 = 4 + 3 + 1' does one believe when, as we would naïvely put it, one "believes that 6 + 2 = 4 + 3 + 1? All of them? Could one believe one but not the others? If one can, then how do the beliefs differ? (Båve (2019a: 195f.))

(The "31 propositions" mentioned here are derived from my claim that "a sentence with *n* names has $\sum_{i=1}^{n} 2^{n-i}$ analyses" (Båve (2019a: 185)), each of which will be correlated with a distinct act type.) I also discussed some possible answers to this question and found problems with each.

The problem of proliferating propositions is not the same as my own argument against act-type theories, which rather aims to show that the latter entail massive ambiguity in sentences with alternative analyses. That argument could be neutralized, e.g., by denying that there are sentences with alternative analyses. But the proliferation problem would still remain.

The proliferation of propositions is *not* a problem that affects any Russellian theory. It affects act-type theories, because acts on different entities are distinct. More generally, act types satisfy the schema (G),

(G) If $X(x_1, \ldots, x_n) = X(y_1, \ldots, y_n)$, then each of $x_1, \ldots, x_n$ is identical with one of $y_1, \ldots, y_n$ (Båve (2019a: 202)),

where $x_1, \ldots, x_n$ are immediate constituents of logically atomic propositions and '*X*' stands proxy for some expression describing the way the constituents are combined to form propositions, e.g., 'the act type of predicating … of …'. Not all replacements of '*X*' satisfy (G), however, e.g., 'the mereological sum of …', which means that some Russellian theories may avoid the problem of proliferation.

An obvious way of avoiding the proliferation of propositions is simply to reject the existence of complex predicative propositional constituents, like [loves John] or [Mary loves]. This way out seems available to Fregeans, since there is no obvious reason why they must postulate complex predicative concepts. For the Russellian, however, the problem is more difficult, since, for them, these constituents are simply complex properties, like the property of being loved by Mary, which it seems implausible to simply reject (more on why below). We have also seen that if they opt for this response, their best (and perhaps only viable) solution to the problem of mixed propositions is no longer available.

One may object that Fregeans are not in fact in a better situation than Russellians, simply because complex predicative constituents of propositions are indispensable. One reason for thinking so is that certain generalizations over propositions that we want to state would not have their intended logical strength unless we postulate complex predicative constituents (Båve (2019a: 186f.)). For instance, the general claim that substitution of identicals is truthpreserving, considered as a claim about structured propositions, rather than sentences, requires precisely complex predicative constituents. The claim in question is,

(PI) For every x, y, P, if f_2([=], x, y) and f(P, x) are true, then f(P, y) is true.

Here, 'x' and 'y' range over the kind of propositional constituents that are expressed by names (objects, for Russellians and "individual concepts", for Fregeans), and 'P' ranges over predicative constituents. Further, f takes the semantic correlates of a monadic predicate and a name to a proposition composed by the two, and f_2 takes the semantic correlates of a dyadic predicate and two names to a proposition composed of them (Båve (2019b: 187)). The reason we must quantify over complex predicative constituents is now simply that (PI) above would not entail the instance saying that if [John = James] and [Mary loves John] are true, so is [Mary loves James], unless 'P' is taken to range over both simple and complex predicative constituents.

One might imagine someone hypothesizing that such instances could instead be generalized over using quantification into bracket-position. But such quantification does not have the effect of quantifying over propositional constituents, and is, quite generally, very problematic (see Båve (2017) and Pautz (2008)). In any case, it is reasonable that an adherent of structured propositions would also want to generalize over propositional constituents in the way we do in (PI).

There is a fairly simple response to this argument, however: even if generalizing over the relevant instances using (PI) would require quantifying over complex predicative constituents, other generalizations than (PI) could be used to cover the same instances, but without the need for complex predicative constituents. To wit, we can operate with a notion of "substitution" within propositions, and replace (PI) by, (PI2) For every x, y, p, if f_2([=], x, y) and p are true, then Sub(p, x, y) is true,

where Sub(p, x, y) is the proposition which is exactly like p except that in every place in which x occurs in p, y occurs in Sub(p, x, y). This of course requires that we can make sense of "places" in propositions. But on a structured conception of propositions, this is rather straightforward. To wit, we can individuate places by reference to ordered constituents of propositions. We thus merely need to add the further, innocuous assumption that propositions are structured as trees with ordered branches. This can easily be accommodated on the theories targeted by the argument from alternative analyses.

Taking Soames's theory as example, we could say that the act type of predicating wisdom of Socrates has wisdom and Socrates as its first and second immediate constituents, respectively. Act-type theorists could further identify logically complex propositions with acts on propositions (Soames (2015: 31)). We could then, following Polish notation, identify [p or q] with the act of "disjoining" [p] and [q] and say that the first constituent is the act of disjoining, the second is [p], and the third is [q], and so on. The ordering is arbitrary, but once the arbitrary decision has been made, we can go on to refer to places in propositions in a disciplined way.

Now, we could thus state a Fregean abstraction principle for places in propositions as follows:

(PLACE) the place of x in y = the place of z in w iff: x is the n_1th immediate constituent of … the n_kth immediate constituent of y iff z is the n_1th immediate constituent of … the n_kth immediate constituent of w.

We can now deduce such identity claims as, 'the place of [loves] in [John loves Mary and Kripke is a philosopher] = the place of [detests] in [Brutus detests Caesar and Cicero is an orator], and so on. More restrictive constraints on place identity could easily be added to (PLACE) if needed, e.g., that *y* and *w* have the same number of constituents, that their constituents have the same number of constituents, that the places of *a* and *b* are identical only if *a* and *b* are expressed by expressions of the same syntactic category, and so on. Such details do not matter for the general intelligibility of speaking of places in propositions.

Of course, Russellians could equally speak of substitution within propositions, but this is neither here nor there. For the original argument against Russellian act-type theories was that it is implausible on independent grounds *for them* to reject complex predicative constituents. The fact that a given argument for the need to postulate such constituents can be answered by Fregeans does not, of course, help Russellians with that problem.

Let us consider a different kind of response on behalf of the Russellian. They could conceivably say that although complex properties exist, there is no proposition containing them in the way propositions can contain simple properties. Thus, while there is such a proposition as the act type of predicating wisdom of Socrates, there is no such act type as the act of predicating the property of loving John of Mary. Basically, the idea is that complex properties cannot be predicated (of anything). This seems wildly *ad hoc*, however. Why can complex properties not be predicated of things, if simple properties can? (This response of course also precludes Russellians from their most plausible account of mixed propositions.) Disallowing complex properties as constituents of propositions also seems to preclude Soames' favoured account of quantification, on which 'Someone loves John' expresses the act type of predicating a higher-order property of the property of loving John. He could perhaps say that complex properties cannot be predicated *of* anything, although properties can be predicated *of them*. But this, too, seems *ad hoc*.

A further problem for this response arises as we consider primitive predicates expressing complex predicates. It seems clear that Russellian act-type theorists must take an atomic sentence containing such a predicate to express an act type of predicating the complex property of the object(s) referred to by the name(s) in the sentence. But then, they have to allow complex predicates to be predicated of objects after all.

Here, it may be objected that the same problem surely affects Fregean theories; that is, Fregeans are just as committed to allowing complex predicative constituents as Russellians, and thus the above reason for thinking that Fregeans are better equipped to deal with proliferating propositions fails. I will argue, however, that there is an independent reason why Fregeans should deny the possibility of simple predicates expressing complex predicative concepts. Hence, that denial is not *ad hoc*.

Consider 'brother', which may seem like a good candidate for a simple predicate expressing a complex predicative concept (namely, the concept MALE SIBLING). This is what Fregeans have independent reason for denying. The reason is that it seems clear that someone could doubt that all brothers are male siblings without doubting that all brothers are brothers. They might come to doubt the former, for instance, under the influence of criticisms of the "Classical theory of concepts". Also, it does not matter for the argument whether it would be rational to doubt this or not. It then follows, by ordinary cognitive significance criteria of concept identity, the concept BROTHER ≠ MALE SIBLING.

Quite generally, it seems that whenever a simple predicate is defined as true of an object iff a given complex predicate is, someone could come to doubt what is expressed by that definition. The relation between the two concepts will then have to be some relation of analytic equivalence that falls short of identity. They could, for instance, say that the two concepts are such that in order to possess the one, one must be disposed to infer between propositions involving it and propositions involving the other (in the same place). In sum, then, Fregeans have independent reason to deny that a simple predicate can ever express a complex concept, and, hence, they can stick with the original response, rejecting such complex predicates that give rise to proliferating propositions.

Note, though, that MALE SIBLING is *not* such a concept, and thus, it can be accepted by Fregeans. The kind of complex predicate that must be rejected is rather the kind formed by a *n*-place predicative concept and an individual concept to form a *n*–1-place predicative concept. For instance, assuming that 'pray' is defined as 'speak to God', Fregeans must reject the claim that 'pray' expresses the complex concept SPEAK-TO GOD, and say rather that it expresses the simple concept PRAY, which, however, may be analytically equivalent to SPEAK-TO GOD. Thus, while 'John prays' expresses C[PRAY, JOHN], 'John speaks to God' expresses C[SPEAKS-TO, JOHN, GOD]. The two are analytically equivalent but distinct. Since we do not posit any such complex predicative concepts as SPEAKS-TO GOD or JOHN SPEAKS-TO, there is no proliferation of propositions.

For Russellians to attempt an analogous response would be to postulate properties with extremely fine grain, such that the property of praying is distinct from the property of speaking to God, even when 'pray' is definitionally equivalent to 'speak to God'. This would be in contradiction with Russellians' standard strategy of accounting for differences in cognitive significance by positing differences between ways of conceiving propositions, or between ways in which propositions are presented, rather than by distinguishing between propositions. This kind of Russellianism would thus really be Fregean—in spirit, if not in letter—with respect to predicative propositional constituents. The fine grained predicative constituents would be *called* 'properties', but would really function as Fregean senses, or what I am calling concepts.

Let us therefore return to the response on behalf of Russellians that we first entertained, of simply rejecting complex properties. We have already seen two reasons against doing so; that complex properties are required by the best solution to the problem of complex singular terms, and that they are needed as the semantic values of some primitive predicates. Other reasons are familiar from many long-standing debates in Metaphysics. Since expressions like ‘the property of being loved by Mary’ are well-formed expressions of ordinary English, rejecting complex properties would lead to a host of problems akin to those facing nominalists about properties in general. Should they say that all sentences containing such property designators are untrue—thus imputing massive error—or should they try to somehow analyze them as not really containing singular terms purporting to refer to properties? Both options are uninviting.

Secondly, quantifying over complex properties affords a useful kind of expressive power. Consider the sentence,

(N) Napoleon has all the properties of a great general.

This sentence illustrates the relevant expressive power in that (N) entails such sentences as, ‘If a great general loves his army, then Napoleon loves his army’. But if we reject complex properties, then we cannot use (N) to cover this instance, since that would require ontological commitment to the property of loving one’s army, which is complex.

It may be thought that this is not a problem, since *predicative quantification*, i.e., quantification into predicate position, would do this job equally well. But even if (N) could be paraphrased into a predicatively quantified sentence, there will be more complicated cases than these simple quantificational ones, for which it will be difficult to find paraphrases involving predicative quantifiers, e.g., ‘*a* has twice as many properties of kind X as *b*’ (cf. Båve (2015: §4)).

Fregeans seem to be in a better position. The two reasons above for accepting complex properties do not clearly translate into reasons for accepting complex predicative concepts.

Perhaps the expression ‘the concept of loving John’ is well-formed, but rejecting the existence of the concept of loving John still seems less contentious than rejecting the corresponding property. The notion of a concept, as used in a theory of structured propositions, is plausibly technical and need not necessarily be taken as the referents of these natural-language concept designators. Further, the expressive power of property talk can of course be enjoyed by Fregeans without further ado, since they have no reason to reject complex properties.

As against this, Fregeans and Russellians admittedly seem to be in perfectly symmetric positions with respect to expressive power. For couldn’t Russellians simply reject complex properties and then quantify over complex *concepts* in order to attain the desired expressive power? That would mean, for instance, replacing (N) with something like, ‘Napoleon falls under every concept under which a great general falls’? Perhaps, but I doubt Russellians like Soames would be willing to reject complex properties in favour of complex predicative concepts in this way.

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