Content and Theme in Attitude Ascriptions

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1. CLAUSAL AND TRANSITIVE ATTITUDE VERBS

This paper is about a less-discussed type of substitution-failure in hyperintensional contexts. A standard view about the semantic shape of 'that'-clause attitude ascriptions is that they are fundamentally *relational*. One part of this idea is that the attitude verb expresses a binary relation whose extension, if not empty, is a collection of pairs each of which consists in an individual and a proposition; the other part is that an ascription's 'that'-clause is a term designating the proposition in question. An interesting problem this view faces is that, within the scope of many attitude verbs, 'that'-clauses are not interchangeable with propositional descriptions which stand for the same propositions as the clauses are supposed to. For example, (1a) below may well be true, but (1c) is probably not:

(1) a. Holmes {fears/suspects} that Moriarty has returned.

b. That Moriarty has returned is the proposition that Moriarty has returned.

c. Holmes {fears/suspects} the proposition that Moriarty has returned.

For only the exceptionally timorous fear propositions, and only the unusually paranoid suspect them.[1]

The truth-conditional change effected by substituting propositional description for 'that'-

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1. Moltmann (2003:82) credits A. N. Prior with first noticing this puzzle.

clause illustrated in (1) occurs with a wide range of attitude verbs. If you *understand* that the window of opportunity is closing, perhaps you should act before it is too late, but if you merely *understand the proposition*, you should just congratulate yourself on your grasp of idiom. The same contrast arises with verbs such as 'announce', 'anticipate', 'ask', 'boast', 'caution', 'decide', 'discover', 'forget', 'notice', 'prefer', 'require', 'see', 'suggest', 'worry', and various cognates of these.[2] Indeed, though it is less evident, I suspect that more quotidian attitude verbs, like 'believe' and 'doubt' (perhaps also 'admit' and 'concede'), behave in the same manner. If Holmes believes that Moriarty has returned, does this mean he believes the proposition that Moriarty has returned? Maybe this is no more likely than (1c), though 'believe' and 'doubt' are special in certain ways, to which we will return. But however one adjudicates *their* cases, the problem (1) presents is already sufficiently widespread to cast doubt on the relational parsing of propositional attitude ascriptions.[3]

To be completely explicit, the relational parsing is cast into doubt by (1) because according to that parsing, (1) has the form Rab, $b = c \therefore Rac$, so (1) should be sound. Since it is not, we need to give up one or other part of the parsing. Moltmann (2003:82–4) suggests giving up both parts, and Pryor (2007:227–33) and Rosefeldt (2008 *passim*) propose giving up at least the idea that 'that'-clauses designate propositions. By contrast, the conclusion this paper reaches allows 'that'-clauses to be terms for propositions. I argue instead that there is no binary relation between thinkers and intensions which the attitude verb in the minor premise and the one in the conclusion both express: there is certainly no repeating R in the

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2.   The transitive forms of these verbs need not be intensional, in the Fregean sense of taking the intensions of their complements as inputs. 'Fear' and 'suspect' are intensional, if {fearing/suspecting} Superman isn't the same thing as {fearing/suspecting} Clark. 'Worry' is extensional, for if in some sense you are worrying the proposition that Superman is Clark but not the proposition that Clark is Clark, that would just be because of non-identity of the propositions, not because of intensionality in transitive 'worry'. And some verbs, such as 'require', permit substitution of co-referential names or property-terms but bear other marks of intensionality, such as forming VP's with existential NP's that have notional readings ('I require some more sugar').

3.   Just to be clear, this use of 'relational' has nothing to do with the 'relational$_Q$' versus 'notional$_Q$' distinction of (Quine 1956), which is not germane to the problem this paper addresses. Relational$_Q$ readings should be assumed here if there is ever a question.

correct form, and in a good sense there is no relation at all in either location. But before developing the details of the theory that leads to this conclusion, I consider some other options.

The fault in (1) might be located in the major premise (1b), whose credentials as an identity sentence could be contested. But even if (1b) is not an identity sentence, it would remain puzzling how (1a) and (1c) can differ in truth-value, granted that the 'that'-clause in (1a) and the proposition-description in (1c) stand for the same proposition. Anyway, the claim of (1b) to be an identity sentence is strong. Perhaps, in the absence of anything to determine type, the clause on the left is ambiguous between, say, a proposition, a fact, and a possibility. But we can simply decree that in the current context, we are using 'that Moriarty has returned' for a proposition.[4]

Alternatively, we could apply accounts of referential opacity that appeal to multiple ways of thinking of the same thing to explain what goes wrong in (1). Assimilation to familiar opacity puzzles would allow (1b) to stand as an identity sentence with co-designating terms on its sides while ruling out *Rab, b = c* ∴ *Rac* as the putative form of (1). But it is hard to see how such a move is to be justified, since the only difference between the clause and the propositional description in (1b), the occurrence of 'the proposition' in the latter, looks too slight to support distinct ways of thinking of the proposition that Moriarty has returned. Moreover, it seems that in no matter how strong a sense we posit an awareness in Holmes of the identity, nor however much we suppose he reflects, with his great logical acumen, on the identity and on his fear/suspicion, we do not make it, and it is unproblematic that we do not make it, more likely that (1c) is true, or that some other reasoning event occurs. By contrast,

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4. Another objection to (1b) is that identity sentences can be commuted *salva congruitate*, but (1b) commutes into something ungrammatical, (i) 'the proposition that Moriarty has returned is that Moriarty has returned'. However, while (i) is very poor poetry, it has a reasonable claim to be grammatical. Peter Ludlow and Zoltan Szabo pointed out to me that it is much improved by inserting something like 'simply' before the second 'that', and Nathan Salmon suggested a parallel with cases like 'the footballer Socrates is Socrates'.

with standard substitution failures, it is quite unclear, as a matter of psychology at least, how someone fully aware of an identity (e.g., that Callas is Kalogeropoulou), and reflecting with great logical acumen both on it and on the proposition (e.g., that Callas sings beautifully) to which the premise says he bears the attitude, could fail, *ceteris paribus*, to acquire the attitude ascribed in the conclusion, abandon the one ascribed in the premise, reject the identity, or experience a profound sense of despair. This suggests that (1) is very different from a standard opacity puzzle (see King 2002:352 for other considerations in support of this conclusion).

But even if appeal to some familiar theory of substitution-failure is not useful in resolving (1), we still have no warrant for giving up the idea that 'that'-clauses denote propositions. The characteristic feature of failed inferences in the style of (1) is that the minor premise involves the use of a word as a clausal verb, where it is appropriately followed by a 'that'-clause, but because the conclusion replaces the clause with an NP, the syntax of the verb *shifts* from clausal to transitive. For instance, in categorial grammar, the simplest story is that substitution would occasion a shift in the verb's syntactic category from VP/S, something which forms a verb phrase by merging with a sentence or sentential clause immediately to its right, to the category VP/NP, something which forms a verb phrase by merging with a noun phrase immediately to its right.[5] This in turn occasions a shift in the verb's meaning. In extensional type theory it would be a shift from a function of type $b(ib)$, that of functions with *b*oolean input ($\top$ or $\bot$) and functions from *i*ndividuals to *b*oolean values as output, to a function of type $i(ib)$, the type of first-order binary relations.

Elementary logic textbooks caution that when an inference rule is applied to some premise(s), *no other changes should be made* beyond ones the rule explicitly licenses. This proscription disqualifies rule-applications which have truth-condition-altering side-effects.

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5. Here VP abbreviates NP\s, something which produces s by concatenating with an NP to its left.

Thus (1), by virtue of the type-shift, would be classified as an illegal use of Identity Elimination ("Leibniz's Law", '=E'), since there is no doubt that (1a) and (1c) have different truth-conditions. The inference is fallacious because of a truth-condition-altering side-effect in the same way as Quine's famous example (1961:22), 'Giorgione is so-called because of his size, Giorgione is Barbarelli, hence Barbarelli is so-called because of his size'. Here substitution has the truth-condition-altering side-effect of changing the semantic value of 'so', which before the substitution refers to 'Giorgione' (the name), and after, to 'Barbarelli'. And once this side-effect is noted, there is, *contra* Quine, no reason to hold that the substitution-failure indicates some deviance in the semantic functioning of 'Giorgione'. We may take the name, as usual, simply to refer to the artist, since the loss of truth is completely explained by the shift in reference of 'so' to a name which was *not* bestowed on the basis of size. In the same way, once substitution's side-effect in (1) is noted, we should be sceptical about concluding that the substitution-failure shows the 'that'-clause in (1a) does not take a proposition as its semantic value. Whether the clause *is* a term for a proposition will turn on the details of the account of the particular truth-conditional difference produced by the syntactic shift.[6]

In many cases, substitution doesn't *change* meaning, but loses it. For example, Watson may *pretend* or *complain* that he doesn't recognize Holmes, but it makes no sense to say he *pretends the proposition* or *complains the proposition* that he doesn't recognize Holmes; the same is true of 'estimate', 'care' (Groenendijk and Stockhof 1982:178), 'remark' (Moltmann 2003:84), 'grumble' (Pietroski 2005:227), 'reason' (Pryor 2007:220), 'conclude', 'crow', 'hope', 'dream', 'insist', 'rejoice', 'surmise' and so on. At least in some of these examples, meaning is lost because the substitution requires the verb to shift from vp/s to vp/np, but this time the

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6.   For other examples where causing a syntactic side-effect disqualifies a use of =E, see (Fine 1989: III); one of his cases is "Eve's elder son was Cain, Eve is the mother of Cain, so the mother of Cain's elder son was Cain".

putative transitive verb doesn't exist in the language. So no proposition is expressed.[7]

There are also cases where a necessarily false conclusion (as opposed to an odd or meaningless one) is reached, if the conclusion is construed literally. Believing a witness is believing what the witness *says*, and this in turn seems to consist in believing or agreeing that p for some statement that p of the witness's that you are judging. You can also, in the same sense, believe a written report, because you believe that p for enough propositions p such that it is stated that p in the report, which you read and judge correct. But propositions themselves do not literally say anything, so claiming that you believe the proposition that p is a category mistake, something necessarily false.

Nevertheless, it is in fact quite acceptable to say '{believe/doubt} the proposition that…' The reason this is so is that it is an apt figure of speech. The proposition that p doesn't literally *say* that p, it *is* what is said in certain speech-acts; but we are willing to think of the proposition as 'having' the content which is the very content it is, to think of it as a container. So in this way we take the proposition that p to say that p. That makes the account of

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7.   Pryor (2007:227) takes it as evidence against 'that'-clauses denoting propositions that (i) *John hopes that S*, entails (ii) *there's something John hopes*, but not (iii) *there's some proposition John hopes*; he marks (iii) as infelicitous (I have simplified his example). But (iii) is not predicted to be felicitous by the hypothesis that 'that'-clauses denote propositions, since even if they do, (iii) requires transitive 'hope', and there is no transitive 'hope' in English. (The absence of transitive 'hope' explains the infelicity of (iii) but not the felicity of (ii), to which I return *ad fin*; see n. 24.) Things are not even much improved by using a verb with a transitive form, e.g., 'suspect', since ∃I is like =E: legitimate uses should not have side-effects. Because 'suspect' would shift to its transitive form, the oddity of the outcome doesn't show ∃I was not applied to the position of a singular term. And with other transitive verbs, such as 'guess' and 'estimate', there is presumably a special selection constraint that rules out proposition-descriptions as appropriate complements; e.g., 'estimate' requires a term for something quantifiable, such as 'the price' or 'the distance'. Examples like 'conclude', 'dream', 'pretend' and 'surmise' may be thought to have transitive forms because of, e.g., 'I {pretended/surmised} the opposite', but I think this is just a kind of clausal anaphor, as in 'I surmised that... and you surmised it too'.

The verbs with no transitive form are problems for the solution to (1) proposed in (Moffett 2003). This solution relies on a special kind of predication, *descriptive* predication, which is selected by verbs like 'fear' and 'suspect', which do not express a direct relation to propositions on pain of a 'category mistake' (or at least oddity). Descriptive predication allows us to evaluate clausal uses of such verbs in terms of direct relations to entities that are more suitable. For 'know' these would be facts, since 'know the fact that' is not odd, and for 'fear' and 'imagine' Moffett suggests possibilities (p. 82), since '{fear/imagine} the possibility that' are quite natural. But clausal verbs V with no transitive forms, like 'pretend' and 'complain', cannot instantiate 'V the F that...' Since these verbs give rise to (1)-style problems, the descriptive-predication solution seems insufficiently general.

transitive 'believe' in the previous paragraph applicable – believing the proposition is believing what it says, *mutatis mutandis* for doubting.[8] Since fearing someone is not the same thing as fearing what they say, there is no option for analogous non-literal construal of 'fears the proposition that...'.

Are there *any* attitude verbs where an inference in the style of (1) is straightforwardly correct? Some verbs for mental operations on propositions support interchange of clause and propositional description preserving literal meaning; these include 'accept', 'assert', 'assume', and inference verbs such as 'deduce', 'prove', 'infer' and 'establish' (none of these is clearly substitution-resisting in its transitive version). For instance, deducing that 0 = 1 and deducing the proposition that 0 = 1 are, at the very least, hard to distinguish. These verbs are for mental actions, such as the action of inferring the proposition p from the premises. Propositions are themselves manipulated in thought, and the special feature of the case is that the clausal verbs stand for the same manipulations of the same items as their transitive homonyms. So if we replace 'fear' in (1) with 'infer', the substitution still has the syntactic side-effect of shifting from vp/s to vp/np, but in this case the side-effect is not potentially truth-value altering. Whether the new inference is *valid* is something we consider in §4 below, but it does appear to be at least necessarily truth-preserving.

2.   THEMES AND CONTENTS

We have argued that the substitution made in (1a) induces a truth-condition-altering syntactic side-effect, which disqualifies (1) as an application of =E. We turn now to developing a more rigorous account of the truth-conditional difference between (1a) and (1c), in order to obtain a better grasp of why the syntactic shift is so disruptive in some cases, such as (1), but much less so or not at all in others, such as the case of inference verbs recently noted.

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8.   King (2002:359–60) has a similar view about 'believe', though he takes it to be literally true that we believe propositions.

And we shall see that this account bears negatively on one part of the relational parsing, that attitude verbs stand for relations between thinkers and intensions, while leaving the other part, that 'that'-clauses are terms for propositions, untouched.

An approach which I mention to put to one side is to say that there is a shift in the *sense* of the verb when its syntactic environment is changed by substitution. Hence, (1) is a fallacy of equivocation. This idea strikes me as defensible in some cases, such as {understand that/ understand the proposition that}, but as a stretch in others, such as 'fear' and 'suspect'. I prefer to develop a more systematic account which applies uniformly in all cases, while leaving room for further, idiosyncratic, differences.[9]

My account will be an exercise in *neo-Davidsonian* semantics. To the extent that it leads to proposals that are intuitively plausible, this is independent evidence in favor of this type of semantics, which was not introduced with an eye on the substitution problem in (1).[10] By 'neo-Davidsonian' I mean a semantics which treats a typical assertion as stating the occurrence of an event. The event is of a kind determined by the main verb of the assertion, and has 'participants' that are mentioned in the assertion. Some of these participants stand to the event in *thematic relations*, such as agent, theme, instrument, location, goal and source (in this paper we focus on agent and theme). So for (2a) below, we have the neo-Davidsonian paraphrase (2b) and its formal type-theoretic representation (2c):

(2)   a.   Tom chased Jerry.

b.   There occurred a chasing whose agent was Tom and whose theme was Jerry.

c.   **(some)λe.chasing(e) and agent(e)(tom) and theme(e)(jerry).**[11]

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9.   That failure of interchangeability means there is *polysemy* in attitude verbs is argued for in (King 2002).

10.   Davidson's original account is in (Davidson 1969), and the 'neo' variant is developed most influentially in (Parsons 1990).

11.   For the purposes of this paper it suffices to interpret type-theoretic formulae in the simple theory of types, supplemented with a basic type *e* of events. A much more adequate interpretation (though without *e*)

The **some** of (2c) is a function from properties of events to truth-values, and produces ⊤ iff the λ-term in its scope stands for a function that maps some event to ⊤. The agent thematic role is held by the constituent of the chasing that the chasing is *by*, and the theme role by the constituent that the chasing is *of*. These prepositional criteria rely on particular senses of the prepositions (*cf.* the ambiguity of 'the shooting of the hunter', Chomsky 1957:88), and pessimism that anything better can be done has been expressed (see Parsons 1995:639–41). But at least for agenthood we can be a little more explicit: the agent of an event is the individual whose action the event is, the thing that *does* something. With state verbs, such as 'fear' and 'understand', the term 'agent' is inappropriate for the thing that is in the state in question; 'subject' and 'experiencer' are common alternatives, but I shall just use 'in'. The notion of theme is more heterogeneous. But broadly speaking, at least for action verbs, the theme, if it already exists, is something that is *affected*, in some suitably light or attenuated sense, by the event, and is produced by it if it does not already exist (see Forbes 2006:131–8 for discussion of creation verbs). For state verbs, the theme is the focus of the underlying state, the object other than the experiencer whose features and history explain the history and features of the state. There is an idiomatic auxiliary use of 'get' that captures *theme:* Jerry gets chased, the sonata gets played, Watson gets respected, the theory gets advanced.

Although it is really only action verbs that invoke events, I shall construe the type of events widely enough to include states as well, rather than introduce a broader term. So 'Jerry fears Tom' would have the paraphrase that there is a (state of) fear that Jerry is in and whose theme is Tom:

(3) a. Jerry fears Tom.

  b. **(some)λe.fear(e) and in(e)(jerry) and theme(e)(tom).**

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is provided in (Thomason 1980), where familiar extensionality problems are resolved; see further (Muskens 2005).

As in (2c), the verb at this level of analysis is a predicate of events.

I will suppose that each verb carries with it a thematic 'grid', which, in the case of a standard transitive verb, will require an agent/subject and (arguably) a theme. This applies just as much to the intensional transitives that figure in the conclusion of (1). A proposition-description will behave in object position of a typical intensional transitive like any singular term in object position of a typical transitive, which is to say that it will provide the theme of the event or state for which the verb provides a sortal predicate. So we would have the following type of analysis:

(4)   a.   Holmes fears the proposition that Moriarty has returned.

      b.   **(some)λe.fear(e) and in(e)(holmes) and theme(e)(the proposition that Moriarty has returned).**

Just as Tom gets feared, according to (3b), so the proposition that Moriarty has returned gets feared, according to (4b). This certainly captures the absurdity of (4a) (= (1c)), and partly explains how it arises from substituting in (1a): whatever function the proposition is serving in (1a), the shift to the transitive verb in (4a) imposes the role of theme on it, a role which, apart from a few exceptions like being theme of an inference, propositions are ill-suited to play. The explanation generalizes to other cases we have noted: Holmes may {anticipate/ notice/worry/pretend} that *p*, but this is not the same as saying that the proposition that *p* gets anticipated, noticed, worried or pretended (whatever this last might mean); it is not the theme of such states. As for the cases of '{believe/doubt} that *p*', it is true that we can equivalently say that the proposition that *p* gets believed or doubted, but this would be as much a figure of speech as the idea of believing or doubting propositions.

To complete the explanation, we need to provide the minor premises of fallacies like (1) with meanings that differ in some important way from (4b). In particular, the 'that'-clause

in those premises had better not stand for a proposition that provides a theme for the state the premise describes. As this way of putting it shows, there are two options for (1a) consistent with getting a large contrast with (4b): one is to deny that the 'that'-clause in (1a) stands for a proposition, the other is to deny that the proposition it stands for is the theme of the state. In this paper we accept that the 'that'-clause stands for a proposition, but give this proposition a status more apt for its contribution to a propositional attitude ascription.

There is no better way of saying what the 'that'-clause in an attitude ascription does than that it specifies the *content* of the attitude, for we think of the mental states in question as having individuative propositional content. I therefore propose to introduce a relation, that of *being the content of*, tailored specifically to propositions and mental states, and to add the primitive **content**, of type $e(bb)$, to the type-theoretic language.[12] With **content** to hand, we can give the following semantics for (1a) (now (5a)):

(5) a. Holmes fears that Moriarty has returned.

   b. Holmes is in a state of fear whose content is that Moriarty has returned.

   c. **(some)λe.fear(e) and in(e)(holmes) and content(e)(that(moriarty has returned))**.

(5c) represents the content-clause of (5a) as standing for the proposition that Moriarty has returned, just as the propositional term does in (4a).[13] In a compositional derivation of (5c) as the meaning of (5a), on which more in §4 (especially note 22), the role of the clause is to stand for the proposition that is the input to **content(e)**. But that proposition is not the

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12.   Here my account, though arrived at independently, has points of contact with (Pietroski 2005: sec. 3.4), especially Pietroski's view of the difference between 'Nora explained that Fido barked' and 'Nora explained the fact that Fido barked' (p.223); and a reader points out to me that Pietroski first published his proposal in (Pietroski 2000). The idea that the notion of content is relevant to the difference between the likes of (1a) and (1c) is also found in (Pryor 2007:234) and (Rosefeldt 2008:305), but not in the context of semantics.

13.   Since this paper tries to be neutral on the nature of propositions, I am not presupposing that there is a transparent/opaque distinction to be drawn in connection with (5a). But if we take it that there is such a distinction, (5c) would be for the transparent reading.

theme of Holmes's fear, even though its 'that'-clause is the complement of the verb.

Neither (5b) nor (5c) is any kind of absurdity, so in proposing (5c) as the semantics of (5a) (= (1a)), we have exactly captured the contrast between plausible and unlikely that is manifest in (1). The point at which we have arrived can be compared with the natural diagnosis of the 'Giorgione' fallacy. According to this diagnosis, it is sufficient for substitution to open the door to change of truth-value that the reference of 'so' changes when one name replaces the other. Analogously, in the case of (1), it is sufficient for substitution to open the door to change of truth-value that the category and type of the attitude verb changes when one propositional term replaces the other. But in the 'Giorgione' case we can also explain exactly why truth is lost: 'so' switches its reference from a name which was bestowed on someone for the particular reason the premise states, to another name bestowed on the same person, but not for that particular reason. The analogous explanation for (1) is that truth is lost because switching from clausal to transitive verb changes the way in which the proposition determined by the 'that'-clause is said to be related to the state. In (1a), the proposition is the content of the state. But because substitution makes the conclusion's verb a transitive one, the proposition gets the role of **theme** attributed to it, a role it does not play in this case.

The analysis is also successful with problem cases that appear in (Pryor 2007), for instance, "John's belief that p was formed hastily" (p.239). This does not mean that some *proposition* was formed hastily, so "John's belief" does not pick out a proposition. For this case we can offer the natural account in (6):

(6) a. John's belief that p was formed hastily.

    b. **(the(λe.((of(john))belief)(e) and content(e)(p)))λe.(hastily(formed))(e).**[14]

(6b) says that the belief-state, not the proposition that p, was formed hastily. There are other

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14.   I suppress the event analysis of 'hastily formed'.

cases where one *would* want "John's belief" to denote a proposition, for example, "John's belief that p entails an absurdity", so (6b) shows that the apparatus of (5) has the flexibility to accommodate such disparate predicates as 'formed hastily' and 'entails an absurdity'.[15]

The contrast between clausal and transitive forms of attitude verbs that our analysis substantiates spells trouble for any semantics of clausal attitude ascriptions which recursively unpacks the VP explicitly in terms of the meanings of the verb and clause while attempting to make homophonic use of the verb. (Parsons 2009) is a recent account of this sort. Its axioms 1 and 2 (p. 48) say that (i) **mary believes that socrates is wise** is true iff **believes** is true of *ref* [**mary**] and *ref* [**that socrates is wise**], and that (ii) **believes** is true of x and y iff x believes y. In (ii) it looks very much as if we have transitive 'believes' on the right of the biconditional, though it is clausal **believes** on the left (expressions of the form *ref* [...] are singular terms in the metalanguage, not clauses). By another axiom (loc. cit.), *ref* [**that socrates is wise**] = the meaning of **socrates is wise**. From this identity and (i) and (ii) we can infer that **mary believes that socrates is wise** is true iff *ref* [**mary**] believes the meaning of **socrates is wise**. But then if we change **believes** to **fears** or **suspects**, it's clear the semantics assigns incorrect truth-conditions, that Mary fears or suspects the meaning of **socrates is wise** (essentially (1c)).

A comparable clausal-to-transitive shift seems to occur in the Interpreted Logical Form (ILF) semantics of (Larson and Ludlow 1993) and (Larson and Segal 1995). In the latter, there is an axiom (76b, p.446) which states that $\langle x,y \rangle$ is a value of **believes** iff x believes y, and since y is an ordinary objectual variable, we have transitive 'believes' on the right. The recursive axiom for a verb+clause combination is that x is a value of $[_{vp} v \ s]$ iff for some y, $\langle x,y \rangle$ is a value of v and $y = ilf(s)$. These axioms allow us to derive the falshood that 'Holmes suspects

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15. One might say that the belief state entails an absurdity *in virtue of* its content entailing an absurdity, so the semantics would not be very different. The approach would have to be generalized to examples like "John's suspicion evaporated", 'John withdrew his accusation', and so on.

that Morarity has returned' is true iff for some y, Holmes suspects y and $y = ilf$(Moriarty has returned). The right-hand-side of this has Holmes suspecting the rather complex hybrid set that is the ILF of 'Moriarty has returned', which is no improvement on (1c).

A more straightforward homophonic semantics has a hard time avoiding such falsehoods as that x satisfies **believes that moriarty has returned** iff x believes that something satisfies **moriarty has returned** (x need have no beliefs about satisfaction or English sentences, despite believing that Moriarty has returned). The prospects for a homophonic treatment of propositional attitude verbs in these sorts of theories seem poor.

An orthodox intensional type-theoretic account does not have the same problems. Such an account will say that the value of **believes that moriarty has returned** is the result of applying the value of **believes** to the value of **that moriarty has returned**, and there is no clausal-transitive shift here. However, if the value of **that moriarty has returned** is the same function of type sb as the value of **the proposition that moriarty has returned** and the values of the clausal and transitive forms of the verb are the same, then suspecting that Moriarty has returned will be the same thing as suspecting the proposition. So either the verb forms, or the verbal complements, must have different values. Since the transitive and clausal forms have different syntax, and the whole problem gets its force from the plausibility that clause and propositional description codesignate, the natural move is to say that the clausal verb designates one function of type $(sb)(ib)$ and the transitive verb a different function of that type, letting the co-designation of clause and propositional description stand. (1) is then revealed to be a fallacy of equivocation. But while this doesn't contain any intrinsic error, it is quite unilluminating. The same word gets distinguished typographically into two forms (say **suspect** and **suspect′**) with different syntax but the same type of semantics. And we allow the two forms to be assigned different functions of that type, so that (1a) and (1c) may have different truth-values. If this is the whole story, we do not really understand the underlying

mechanics of the fallacy. A sidebar about the theme/content contrast may be added, but if that is the explanation of the semantic difference between (1a) and (1c), it belongs in the semantics, not in the margin.

3.   THE PRIORITY QUESTION

It is presumably no coincidence that the same word is used both as a transitive and as a clausal verb, and this is manifested by (4b) and (5c), where we see the very same state-predicate **fear** figuring in both analyses. If we are not going to explain this as ambiguity or polysemy, we should investigate whether there is some systematic account of how the same type of state is both a bearer of content and a possessor of a theme, and the most likely approach is to say that propositional fear *reduces* to objectual or *vice-versa*. For example, perhaps objectual 'fear' is more fundamental than propositional because fearing that Moriarty has returned consists in giving a sufficient amount of credence to his having returned together with the prospect of his having returned evoking a subjective response that is close to the one of fear that a person would have in direct encounters with the master criminal.

   This suggests a piecemeal, case-by-case approach, which is maybe the best that can be done. But a piecemeal approach risks missing a generalization according to which use of the same word betrays an underlying systematic priority relationship between the two *categories*, transitive and clausal. Examples like 'pretend', 'complain', 'object', and so on, certainly suggest there is no productive procedure that generates transitives from clausal verbs (why does it fail in their case?). There are also extensional verbs which can sensibly be complemented with terms for intensional entities, such as 'embrace' (King 2002:343), 'endorse' (Pryor 2007:222), 'advance', 'attack', and 'evaluate', where the lack of a clausal form is surprising if intensional transitives generate clausal verbs. However, it is still worth considering the priority question, since such problematic groups of verbs might reasonably be regarded

as exceptional in some way, if, putting that group aside, a priority thesis could then be maintained. Such a thesis could range from a recipe for informal accounts of how the sense of the clausal verb is based on the transitive, or vice-versa, to a system of meaning-postulates, to a logical form thesis on which sentences with verbs of the one syntactic category are, at an underlying level we have yet to reveal, really employing the homonym of the other category. But such priority theses seem to me to be unsupportable in full generality.

An obstacle to priority of the transitive verb is that if we are restricted to direct-object complements, it is hard to see where the rest of the content of a full clause would come from if we cannot just parrot the content clause inside the NP 'the proposition that...' ((1) shows this does not work). But perhaps we can analyze propositional ascriptions as objectual ones if we allow further inputs to the transitive verb. One proposal would be that to suspect that p is to suspect the proposition that p of being true, to accept that p is to accept the proposition that p as being true, to {believe/suggest/fear/confess} that p is to {believe/suggest/fear/confess} the proposition that p to be true, and so on: the transitive verb combines with the expected propositional description, then another argument.

In most cases, 'to be true' is required, and, at least on the conventional view, it is not the transitive verb that is used with NP + INFINITIVAL. The syntactic structure of, say, 'believe Moriarty to have returned', is instead said to be 'believe [Moriarty to have returned]'. Here the string 'Moriarty to have returned' is an 'exceptional' clause; so the attitude verb is the clausal one, unaccompanied by a complementizer. Besides syntactic arguments for this analysis (see, e.g., Radford 1988:317–24), it is not difficult to tell that 'fear' in 'fear Moriarty to have returned' does not have the same meaning as in 'fear Moriarty', which it would have to have if the meaning of 'fear Moriarty to have returned' is to be compositionally derived as '[fear [Moriarty]] [to have returned]'; rather, this 'fear' means exactly what 'fear' with a 'that'-clause complement means. So unless the case of 'the proposition that...' is an exception to

the exceptional, 'fear the proposition that *p* to be true' and its ilk must involve the clausal, not the transitive, attitude verb, with an exceptional clause, 'the proposition that *p* to be true', as its complement.[16]

A priority thesis in the other direction, basing transitive uses of *search* verbs on (infinitival) clausal ones, was proposed in (Quine 1956), endorsed and developed in (Dummett 1973), and has subsequently been refined and generalized in (Fodor 1979:319–28, den Dikken *et al.* 1996, Parsons 1997, and Larson 2002). I call this priority thesis 'propositionalism', since the clauses in the basic forms determine propositions. Propositionalism sits well with some intensional transitives, for example, 'want' and 'need', since wanting or needing *x* appears to be wanting or needing *to have* or *to get x* (or, if you insist on a 'that'-clause somewhere, wanting or needing (to make it the case) that one has or gets *x*).[17] That an implicit 'have' or 'get' is present in a "transitive" use of 'want' or 'need' is indicated by the acceptability of modifiers that do not make much sense otherwise. For example, it is natural to understand 'I want/need *x* quickly' as 'I want/need to get *x* quickly', which concerns the rapidity of the getting, not of the wanting or needing – 'quickly' has to precede the verb to express the quick onslaught of a want or need. Along the same lines, there are two ways of resolving the ellipsis in 'I wanted an iPhone before anyone else in my family', either that I wanted one before anyone else in my family wanted one, or that I had the following desire: that I get one before anyone else in my family gets one. The availability of the second reading suggests that 'to get an iPhone' is the real complement of 'wanted' in the original sentence.[18]

But desire and requirement verbs are special cases, and there are many classes of inten-

16. However, while '{whine/complain/object} that Moriarty has returned' are all grammatical, none of '{whine/complain/object} the proposition that Moriarty has returned to be true' are. This would easily be explained if the latter *did* involve an attempt to impose transitive syntax on the verb, but if their complements are clausal, then these are verbs with no transitive form that can be complemented with 'that'-clauses but not with exceptional clauses.

17. Harley (2004) discusses why 'have' is sometimes preferred to 'get' and vice-versa.

18. See (den Dikken *et al*, 1996) for more arguments for an implicit clause. However, if propositionalism is conceived as a proposal in philosophy of mind, the story doesn't end here. See (Montague 2007:509).

sional transitives which are harder for propositionalism, either because evidence for the likely propositional analysis is lacking, or because there is a dearth of likely propositional analyses in the first place. Among the former cases are Quine's original examples of search verbs, and also transaction verbs; and among the latter, depiction verbs and evaluative and emotion verbs. Here we focus on the emotion verb 'fear', which illustrates some of the difficulties.[19]

It is clear that Holmes' fearing that Moriarty has returned doesn't entail his fearing Moriarty, but more plausible proposals also fail. For example, Holmes' fearing encountering Moriarty doesn't entail his fearing Moriarty, since it may be the prospect of encounter that drives the fear: perhaps he knows Moriarty has a deadly communicable disease. And his fearing that Moriarty will do him some injury doesn't entail his fearing Moriarty either: perhaps he knows Moriarty is highly accident-prone and those in his vicinity often suffer collateral damage (imagine being offered a ride to the airport by a friend you know to be a dreadful driver). To get something along these lines that is sufficient for fearing Moriarty, we would have to add 'intentionally', or more carefully, explain, say, 'I fear Moriarty' as (first approximation) 'I fear that Moriarty will perform some act intentional under the description ⌜injure t⌝, where t is a term for me, and will in fact cause me injury *via* a causal chain initiated by his performing that act in execution of his intention'. But the philosophical content in this formulation far outstrips what is plausible for hidden structure and content. Worse, the additions still do not guarantee extensional adequacy; in particular, the supposed propositional attitude is still insufficient for the objectual one. For I may have the

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19. Search verbs and depiction verbs are discussed at length in (Forbes 2006, Chs. 4, 7). In the case of search verbs, it is hard to find a non-awkward example analogous to 'I want/need it quickly', where the modifier is understood as attaching to covert material. This is not what one would expect if there is a *find*-clause in the offing, since searches are typically extended in time and findings typically quasi-instantaneous. To my ear, "I'm looking for it quickly" cannot mean "I'm {looking/trying} [to find it quickly]"; see further (Partee 1974:98–9). And 'I shopped for an iPhone before anyone else in my family' can only mean that I was the first to shop for one: there is no 'to be the first in my family to buy one' reading.

indicated propositional fear, yet even so, regard Moriarty as a rather weak and ineffectual individual. It is just that I think that this time he'll get lucky, or benefit from divine intervention. At the very least, a deviant-causal-chain excluder is required.

A less ambitious thesis is that whenever there is fear of an object, there are *some* propositional attitudes of subjects which explain why they are in that state of fear. Kaplan (1986:267) denies this, citing Ctesias' unicorn-phobia, while den Dikken *et al.* respond (1996:339) that 'strictly speaking' phobias aren't fears. Be this as it may, there appear to be only three ways of embodying the existence of explanatory propositional attitudes in a semantics, and all three seem to me to be unworkable.

First, one might say that 'Holmes fears Moriarty' is really a disjunction of all the conjunctions of propositional attitude ascriptions that could conceivably explain the objectual fear. But no-one knows, explicitly or implicitly, what this disjunction is. Since we are talking about mere semantic analysis, not philosophical conceptual analysis, this implies that no-one knows what 'Holmes fears Moriarty' means, surely an unfortunate result.

Second, one might say that 'Holmes fears Moriarty' is the surfacing of a schematic propositional ascription, and in any given context *C* where this sentence expresses a complete proposition, its schematic elements have been instantiated by the explanatory propositional attitudes the speaker or audience takes to be at work in *C*. In evaluating this proposal, it is useful to compare 'Holmes fears Moriarty' with cases where context-determined instantiation of parameters is plausible, for example, possessives and compound nominals. Partee (1997) argues that the various ways in which a possessive might be understood involve different specific instantiations of a parameter for relations that are, in a broad sense, relations of association: "Mary's book" means 'the book such that Mary stands in *R* to it', and comprehension of the possessive in a context involves filling in whatever association-relation is right for that context. So "Mary's book" could mean 'the book that Mary {wrote/bought/

chose/brought with her}', depending on context. And with compound nominals, we have a similar possibility of multiple interpretations, apparently contextually resolved. For example, 'child murderer' might mean 'child who has murdered' or 'murderer of a child'; and one way of understanding how the multiple options arise is by supposing that the invariant meaning of 'child murderer' is something like 'being a murderer who stands in R to being a child', where the particular instantiation of R is context-dependent.[20]

There is a clear contrast between these examples and the contextualist version of propositionalism about 'fear'. For example, the multiple options for instantiation in the case of possessives and compound nominals give rise to the possibility of misunderstanding. If I am recommending that you don't read Mary's book and someone interrupts with the objection that the papers Mary has written are good, so the book she has written probably is too, this person *misunderstands* me if I was recommending avoiding the book Mary chose for the reading group. Similarly, if I overhear a fragment of a conversation about 'child murderers' and break in with a pop-psychological explanation of why children murder their parents, I misunderstand if the conversation was rather about people who murder children. And it is not unrealistic to draw parallels between this type of misunderstanding and that which results from misidentifying the referent of another's demonstrative. Therefore, it is a serious problem for an indexical version of propositionalism that there is no corresponding phenomenon of misunderstanding. When you said that Holmes fears Moriarty, perhaps I took you to be thinking that Holmes fears that he will encounter Moriarty, while you were actually thinking that Holmes fears that Moriarty will do him some injury (assume these to be sufficient in the context for fearing Moriarty). But in these circumstances, we would not say that I *misunderstand* your assertion that Holmes fears Moriarty. These differences over what the underlying propositional attitudes are appear to be simply irrelevant to communication.

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20.   For the example and a worked-out theory built on this idea, see (Weiskopf 2007).

The remaining route to relating fear of Moriarty to fear that Moriarty is thus-and-so is to invoke quantification over propositions and attitude relations. The meaning of 'Holmes fears Moriarty' is, as a first approximation, that there are certain propositional attitude relations $R_1...R_k$ and propositions $p_1...p_n$ of a certain sort such that Holmes is in certain propositional attitude states $R_i p_j$, $R_i \in \{R_1...R_k\}$ and $p_j \in \{p_1...p_n\}$. But the devil is in the details of 'certain', which has to be explained (without using transitive 'fear') in a way which makes it plausible that any case of fear of Moriarty is explained by some attitude relations to some propositions in the characterized groups. On the face of it, this simply reintroduces the problems we have already come across, only at a higher level. One may want to say that the propositions must be ones which detail some harm done to Holmes by Moriarty, and the attitude relations must be ones which impute some expectation of these propositions coming true. But to avoid the conclusion that Holmes fears his friend Watson because he fears that Watson's reckless driving will injure Holmes on his way to Euston, we have to complicate the characterization of the propositions, complications which, implausibly, become part of the semantics. So nothing is really accomplished by the move to a quantificational account.[21]

The conclusion we are led to is that for a wide range of intensional verbs, the transitive (objectual) and clausal (propositional) forms are independent in a way that allows them to have senses that differ in certain respects, and, most importantly, to have their own thematic requirements, as the theory advanced in §2 proposed.

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21.   I thank Keith DeRose and Hans-Christian Schmitz for discussion of the quantificational proposal, to which they are more friendly than I am. Another difficulty with it is that it imputes structure that should in principle interact with other sentential elements, such as negation, but there is no evidence of such interaction. There is an analogous problem for propositionalism about depiction verbs; see (Forbes 2006:63–4). Montague (2007:511–14) discusses a quantificational propositionalist analysis of 'love' and reaches negative conclusions in the same vein as those here.

4.   LEXICAL AND COMPOSITIONAL MEANING

According to the conclusion of §3, attitude verbs with both clausal and transitive forms have independent lexical entries for each form. In a categorial, type-theoretic model of the lexicon, a lexical entry for a basic expression *r* of a language $\mathcal{L}$ relates *r* to one or more pairs consisting in a syntactic category *C*, and an associated term **t** of the type-theoretic language; thus the entry for a sentential negation particle might read: *it is not the case* ⇒ **λp^b.not(p)**, s/s$_c$.[22] In entries for verbs with clausal and transitive forms, the syntactic categories, as already noted, are VP/s$_c$ and VP/NP respectively, so such a verb would be associated with two pairs. For example, for some terms **t** and **t′**, *fear* ⇒ [**t**, VP/NP]; [**t′**, VP/s$_c$]. However, what to put for **t** and **t′** is more debatable.

One possibility is that in the entries for transitive 'fear' and clausal 'fear' there are terms **λe.fear$_\theta$(e)** and **λe.fear$_\rho$(e)** respectively (**e** a variable for the type of events). But if that is the whole story, it is hard to see how terms such as **agent**, **theme** and **content** get into the semantics of complete sentences, since in categorial grammar, with few exceptions, there must be some explicit element in a phrase to justify the presence of a given term in its semantics. But no words expressing **agent**, **theme** and **content** occur in any of our English examples. Nor is there anything that explains how predicates with these terms come to be *conjoined.*

For these reasons there is considerable appeal in a proposal of Parsons' (1995: 650–51) that the lexical entry for a verb already conjoins formulae for the verb's obligatory arguments.[23] Applied to 'fear' we would have the alternatives

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(7) a. *fear* ⇒ **λy^i.λx^i.λe^e.fear(e) and in(e)(x) and theme(e)(y)**, VP/NP

 b. *fear* ⇒ **λp^b.λx^i.λe^e.fear(e) and in(e)(x) and content(e)(p)**, VP/S$_c$

(7a) allows us to derive the semantics of (3a), 'Jerry fears Tom', in essentially two steps: the semantics of 'fear' consumes **tom**, resulting in the semantics of 'fears Tom', which then consumes **jerry**, resulting in the semantics of 'Jerry fears Tom', namely, the property of events denoted by the lambda term in the scope of **some** in (3b). A step of 'finalization' is then required; existential quantification is the default, which is how (3b) ends up with **some** as its main connective (other options are described in Francez and Steedman 2006:399 and Champollion 2014).[24]

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24. At the risk of inflicting more detail on readers than they ever wanted, we derive the (3b) semantics for (3a) as follows. In categorial grammar, when expressions ϕ_1 and ϕ_2 have categories A/B and B respectively, and semantics t$_1$ and t$_2$ respectively, then (a) we can concatenate ϕ_1 and ϕ_2; (b) the result, $\phi_1 \widehat{\ } \phi_2$, has category A; and (c) its semantics is the application of t$_1$ to t$_2$, written t$_1$(t$_2$). Assuming that we have sequents for ϕ_1 and ϕ_2 of the same form as those in (7), namely (i) ϕ_1 ⇒ t$_1$; A/B, and (ii) ϕ_2 ⇒ t$_2$; B, this is to say that we can infer the sequent (iii) $\phi_1 \widehat{\ } \phi_2$ ⇒ t$_1$(t$_2$); A, by the rule of forward-slash elimination (/E) applied to A/B and B. If the category of ϕ_1 is instead B\A, we would obtain, in place of (iii), $\phi_2 \widehat{\ } \phi_1$ ⇒ t$_1$(t$_2$); A, by the rule of \E. The arrow ⇒ is like the turnstile ⊢ and the slash-E rules like →E (think of A/B and B\A as B → A, 'an A from a B'). This allows us to derive the semantics of expressions by a process strongly reminiscent of sequent-to-sequent natural deduction. Below is such a derivation for (3a), in tree format, in which the sequents on the top row and the left of the third row are from the lexicon (recall VP = NP\s). On the right of the third row we have generated a more economical term for the meaning of *fears$\widehat{\ }$Tom* than on the second by applying β-reduction (lambda conversion). \E and β-reduction are used to obtain the penultimate row, and the conclusion is obtained by default existential quantification, which, I am supposing, reclassifies *Jerry$\widehat{\ }$fears$\widehat{\ }$Tom* as s*, a finalized sentence.

fears ⇒ **λy.λx.λe.fear(e) and in(e)(x) and theme(e)(y)**; (NP\s)/NP   Tom ⇒ **tom**; NP
——— /E
fears$\widehat{\ }$Tom ⇒ **[λy.λx.λe.fear(e) and in(e)(x) and theme(e)(y)](tom)**; NP\s
—— β
Jerry ⇒ **jerry**; NP   fears$\widehat{\ }$Tom ⇒ **λx.λe.fear(e) and in(e)(x) and theme(e)(tom)**; NP\s
——— \E, β
Jerry$\widehat{\ }$fears$\widehat{\ }$Tom ⇒ **λe.fear(e) and in(e)(jerry) and theme(e)(tom)**; s
——— δ
Jerry$\widehat{\ }$fears$\widehat{\ }$Tom ⇒ **(some)λe.fear(e) and in(e)(jerry) and theme(e)(tom)**; s*

For the case of propositional ascriptions like *Holmes$\widehat{\ }$fears$\widehat{\ }$that$\widehat{\ }$Moriarty$\widehat{\ }$has$\widehat{\ }$returned*, we derive the semantics for *Moriarty$\widehat{\ }$has$\widehat{\ }$returned*, then apply the complementizer, for which we have the entry *that* ⇒ **λp.p**; s$_c$/s*, an expression that takes a finalized sentence into a sentential clause; s$_c$ combines with clausal 'fear', which has the category VP/s$_c$ (see (7b)). **λp.p** is the identity function on sentence meanings, hence if sentences have propositions as their meanings, so do 'that'-clauses.

Not all the transitive verbs we have discussed have two lexical entries parallel to those in

(7). The extensional ones, like 'embrace', 'endorse' and 'advance', do not take clauses as com-

plements, so they have no vp/s$_c$ (clausal) entry, while some intensional ones, like 'complain'

and 'pretend', have no vp/np (transitive) entry. The other special case we noted was that of

verbs such as 'assume' and 'deduce', which yield necessarily truth-preserving versions of (1).

For these cases, two possibilities suggest themselves. The first is that they also deviate from

the paradigm in (7). As a matter of syntax, the verbs have both vp/s and vp/np forms, so two

lexical entries are required, but the clausal verb might be said to assign the **theme** role to the

clause's meaning, just as the transitive verb assigns that role to the meaning of its direct-

object np. Then exactly the same role relations would appear in both entries. As a result,

replacing clause by propositional description in a version of (1) with 'accept' or 'deduce'

would not change any role-ascriptions at all, making for a good sense in which (1)-style sub-

stitutions with these verbs are valid. On this proposal, deducing that *p* is equivalent to de-

ducing the proposition that *p* because they are the very same action, in each case the rea-

soner being the agent and the proposition being the theme of the act.

There is a second possible explanation why variants of (1) with 'accept', 'deduce', and so

on, are necessarily truth-preserving. The verbs' lexical entries retain the form of (7), with the

clausal verb employing the **content** relation. But for each clausal/transitive verb-pair of the

relevant kind there is also a meaning-postulate that equates content and theme. For 'de-

duce', for example, we would say that for any triple τ consisting in an event, an individual,

and a proposition, τ satisfies **deduce(e) and agent(e)(x) and theme(e)(p)** iff τ satisfies **deduce(e)**

and agent(e)(x) and content(e)(p). The outcome of this approach is that variants of (1) with

'accept' or 'deduce' are necessarily truth-preserving for reasons idiosyncratic to these verbs.

So one would not want to classify these variants of (1) as logically valid.

It is not easy to discern which of these two accounts of the lexical entries of the verbs in

question is correct. Perhaps, since the verbs are all action verbs, their transitive forms cannot have entries assigning **content**, since only states, not actions, have propositional content. If correct, this would be a sweeping objection to propositionalism as regards, for example, search and depiction verbs. If acts of hunting or drawing cannot have propositional content, then the putative proposition that is the complement of 'hunt' or 'draw' would have to be the theme, there being no plausible alternative. So a proposition gets hunted, or drawn. But of course, this may be an objection to propositionalism, not to the denial of propositional content to actions.

Another consideration concerns what Moltmann (2003:83) calls 'special quantifiers'. We can make an inference, apparently by Existential Introduction, from a statement like (1a) to 'Holmes {fears/suspects} something', but not from (1a) to 'Holmes {fears/suspects} some proposition'. The inclination to take 'something' in the former inference to be a substitutional quantifier might be problematic to pursue,[25] but event semantics provides, in the first instance, a ready-made distinction to underpin the ordinary/special difference: special quantifiers are over contents, ordinary quantifiers are over themes. This supports separate **content** entries for 'deduce' and 'accept', since we also have 'Holmes accepted something' and 'Holmes deduced something'. Of course, we also have 'Holmes {accepted/deduced} some proposition', but it's arguable that the 'something' of 'Holmes deduced something' is not an unrestricted ordinary quantifier. 'Holmes deduced something Watson had already realized' doesn't mean that Holmes deduced some proposition such that Watson had already realized that proposition (this doesn't mean anything). 'Something Watson had already realized' appears to be the special, possibly substitutional, quantifier.[26]

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25.   See (Moltmann 2003:80-1; 2008:§5) and (Richard 1996:442–50) for various objections that would have to be overcome.

26.   I would like to have a convincing explanation of why it is that an ordinary quantifier over contents at the level of event semantics should 'surface' as the substitutional-quantifier-like special quantifier. It is no great stretch to see the specification of the content in the semantics as providing the linguistic material for building a verifier of the special existential; so, despite the critiques mentioned in note 25, a substitutional account of

To conclude, we return to the standard view about the semantic shape of 'that'-clause attitude ascriptions, that they are fundamentally relational. In the suggested semantics for (5a), 'Holmes fears that Moriarty has returned', namely, (5c), the 'that'-clause denotes a proposition as it occurs in the conjunct **content(e)(that(moriarty has returned))**. But (5a)'s 'fear' does not correspond to any term which is a relation between persons and propositions; in (5c) there are only terms for properties of and relations to events. To this extent, (5c) abandons the relational parsing. We could, of course, say that in the likes of (5c), we are offering a semantic *analysis* of the binary relation between persons and propositions that a transitive or clausal verb expresses (as opposed to saying that what appears to be a relation really isn't one). But then, at the very least, the semantic analysis of (4a), 'Holmes fears the proposition that Moriarty has returned', namely, (4b), with its characteristic conjunct **theme(e)(the proposition that Moriarty has returned)**, would have to be regarded as the analysis of a *different* relation, in view of the difference between **theme** and **content**. And so the original puzzle embodied in (1) vanishes, for that puzzle depended on imputing the form *Rab*, $b = c \therefore Rac$ to (1). But if the relations in (1a) and (1c) are different, the form is only *Rab*, $b = c \therefore Sac$, and the failure of (1) to preserve truth is no surprise at all.[27]

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