**[Forthcoming in *Mind & Language – Please don't quote this version*]**

# '*That*-Clauses: Some Bad News for Relationalism about the Attitudes'

**Robert J. Matthews, Rutgers University**

Propositional relationalists about the attitudes claim to find support for their view in what they assume to be the dyadic relational logical form of the predicates by which we canonically attribute propositional attitudes. In this paper I argue that the considerations that they adduce in support of this assumption, specifically for the assumption that the *that*-clauses that figure in these predicates are singular terms, are suspect on linguistic grounds. Propositional relationalism may nonetheless be true, but the logical form of attitude predicates provides no grounds for thinking this to be so.

## Introduction

Propositional relationalism about the attitudes (relationalism, for short) is the view that possessing a so-called propositional attitude (e.g., a belief or desire) is a matter of standing in a relation to a proposition that expresses the "content", or is the "object", of the attitude, the relation in question being specific to the attitude-type (believing, desiring, etc.). Thus, for example, someone's believing that it is cloudy outside today, is said to be a matter of her standing in the specific relation of believing to a specific proposition, namely the proposition that it is cloudy outside today (i.e., the proposition that someone could express by the English sentence "it is cloudy outside today"). Most, if not all, relationalists presume that possessors of propositional attitudes stand in the relevant attitude relation to the relevant proposition in virtue of certain contingent facts about these possessors (e.g., possession of certain mental representations or dispositions), but they regard such facts as inessential to the metaphysical nature of propositional attitudes, viz., that they are relations to propositions. Nothing here will

turn on any particular assumptions as to these facts. Relationalism also comes in different flavors depending on the construal of propositions and the relations that possessors of propositional attitudes are said to bear to them, but, again, nothing here will turn on any particular construal of propositions. Our focus here is not on relationalism as a metaphysical thesis about the attitudes, but on a particular analysis of the natural language predicates by which we canonically attribute propositional attitudes, an analysis that relationalists claim provides strong evidence in support of relationalism. Relationalists see these predicates as demanding the following relational analysis (RA), the particular wording of which I draw from Peter Hanks (2009, p. 470):[1]

> (RA) For propositional attitude predicates of the form "v's that S", where "v" is an attitude verb and "that S" is the sentential complement of "v":
> (i) "believes" and other attitude verbs express relations between subjects and propositions,
> (ii) "that S" is a singular term that designates a proposition, and
> (iii) an attitude report of the form "A v's that S" is true just in case A stands in the v'ing relation to the proposition designated by "that S".

In what follows, I shall focus on (RA-ii), arguing that the 'that S' complement clause (*that*-clause, for short) in attitude predicates of the form "v's that S" is not a singular term at all, and a fortiori not one that designates a proposition. If successful, my argument does not establish that relationalism about the attitudes is false, but it does falsify (RA), which relationalists take to

[1]It is difficult to exaggerate the unanimity with which relationalists of all stripes, their differences notwithstanding, have embraced (RA). Here is but a sample (cited in Lindeman 2019) of explicit endorsements of one or another formulation of (RA): Fodor 1978, p. 502; Burge 1980, p. 43; Soames 1988, pp. 105-6, 2010, pp. 2-3; Stalnaker 1988, pp.140-4; Richard 1990, p. 5; Schiffer 1992, p. 491; 2003, p. 13; Braun 1998, p. 558; King 2007, p. 165; Hanks 2009, p. 470; Buchanan 2012, p. 2; and King, Soames & Speaks 2014, pp. 6-7.

provide crucial evidential support for their view. I restrict my discussion largely to belief and the predicates by which we attribute belief, but I assume that my arguments can be generalized to other propositional attitudes and the predicates by which we attribute them.

Relationalists claim to find strong evidential support for (RA) itself in the fact that on (RA) such intuitively valid inferences as (1)-(3) turn out to be logically valid in virtue of having the indicated first-order logical forms:

| | |
|---|---|
| (1) a. Galileo believes that the earth moves. | Bgp |
| ∴ b. Galileo believes something. | ∴ ∃x(Bgx) |

| | |
|---|---|
| (2) a. Galileo believes that the earth moves. | Bgp |
| b. That the earth moves is true. | Tp |
| ∴ c. Galileo believes something true. | ∴ ∃x(Bgx & Tx) |

| | |
|---|---|
| (3) a. Galileo believes that the earth moves. | Bgp |
| b. Descartes believes that the earth moves. | Bdp |
| ∴ c. Galileo and Descartes believe the same (some)thing. | ∴ ∃x(Bgx & Bdx) |

Relationalists invariably focus on inferences such as (1), presuming that the pronominal "something" in (1b) ranges over the putative designatum of "that S" in (1a), concluding that the *that*-clauses in these inferences are singular terms designating some entity, leaving open only the question of just what sort of entity these singular terms designate.

I shall argue that this presumption is mistaken. The pronominal "something" in (1b) does not range over a designatum of the *that*-clause. More specifically, following Kayne (2008), Arsenijević (2009), Harves and Kayne (2012), and other linguists, I shall argue:

(i) the familiar belief predicate "believes that S" is derived from an underlying light verb phrase [$_{VP}$ HAVE [$_{NP}$ BELIEF [$_{CP}$ *that S*]]] by a morphosyntactic process that raises the

noun BELIEF from the noun phrase, incorporating it into the light verb HAVE,[2,3] and leaving behind a trace noun phrase [$_{NP}$ $t_i$ [$_{CP}$ *that S*]] that becomes the accusative object of the surface "believes";

(ii) the pronominal "something" in (1b) therefore ranges, not over the designatum of a bare *that*-clause, but over the designatum of the trace noun phrase [$_{NP}$ $t_i$ [$_{CP}$ *that S*]];

(iii) the [$_{CP}$ *that S*] that figures in this trace noun phrase is not a singular term, but a non-designating, predicative complement clause (CP) that serves semantically to type-specify the attributed belief; hence

(iv) (RA-ii) is false, and so too then is (RA), and (RA) therefore provides *no* support for (propositional) relationalism about belief.

This argument, if sound, does not of course establish that relationalism is false, but it does deprive relationalists of their main, and indeed their strongest argument for thinking relationalism true. And if, as relationalists presume, the inferences (1)-(3) are logically valid, they are not so in virtue of having the logical forms shown.

## ***That*-clauses as descriptors**

In his 1997 criticism of the relationalist analysis of belief reports, Kent Bach explicitly endorses (RA-ii) as true, but argues that (RA-iii) is often false: the *that*-clause in a belief report *is* a singular term that designates a proposition, but the proposition so designated is often *not* the proposition believed. Bach asks us to consider his parade example (4):

[2] I use majusculed terms to designate underlying lexical items (e.g., HAVE) that may or may not have corresponding surface spell-outs. (The subscripted "NP","VP", "CP", and "DP" have their usual linguistics meanings of noun phrase, verb phrase, complement phrase, and determiner phrase, respectively.)

[3] For simplicity of exposition I have opted for an NP-analysis of rather than DP-analysis of nominals; nothing in my argument turns on this choice.

(4) The Joker believes that Bruce Wayne is a wimp.

Bach thinks that in uttering (4), we manage to say something true about the Joker, viz., report a belief that the Joker himself might express by saying "Bruce Wayne is a wimp". But Bach argues that the proposition expressed by the *that*-clause in (4) can't be the proposition that the Joker believes, since Bruce Wayne is identical with Batman, and clearly the Joker does not believe that Batman is a wimp. Bach concludes that belief reports manage to report beliefs despite not specifying the proposition believed, because, as he puts it, a belief report "does not specify what the person believes but merely describes it" (215), more specifically, the *that*-clause does not designate the proposition believed, but is "merely a descriptor of it" (225). Bach's picture here is that belief reports manage to report beliefs somewhat in the way that I might describe my lost bag to airline personnel by picking out from an array of sample bags one similar in its observable properties to my own, saying to this person, "that's my bag": *That*-clauses are singular terms that designate propositions, but the propositions they designate are mere descriptors of the propositions believed. [4,5]

Bach's conclusion does not undermine relationalism about belief, which he explicitly embraces, but it *does* undermine the motivating assumption that underlies (RA), namely, that the relational nature of belief can simply be "read off" the sentences by which we attribute belief.

---

[4] If Bach's example seems unduly contentious, depending as it does on a Millian construal of proper names and their intersubstitutivity in intentional contexts, consider more mundane examples such as "Sally believes that someone stole a silver spoon", which may be a true belief report, yet not specify the actual proposition that Sally believes, if, e.g., what she believes is that some specific person, e.g., her maid, stole the spoon.

[5] Delia Graff Fara (2013) makes a similar point with respect to predicates that attribute desires: the complement clauses often underspecify the attributed desire. Thus, for example, when I report someone as "wanting to bum a cigarette", I underspecify the desire in the case where what the person wants is to bum a cigarette to smoke.

And it *does* empty (RA) of its claimed support for relationalism, since if, as Bach holds, the *that*-clause designates a proposition that only describes the reported belief, that is provably compatible with belief being a monadic property of believers, one that is picked out by specifying a relation to a propositional descriptor![6]

Faced with Bach's counterexamples, Hanks (2011, p. 34) proposes to revise (RA-iii) as (RA-iii*):

> (RA-iii*) "A believes that S" is true if and only if A stands in the believing relation to some proposition suitably related to the proposition designated by "that S", where what counts as being "suitably related" will vary from context to context.

It is questionable whether Hanks' revision actually salvages (RA-iii), given the way that he proposes to spell out the notion of being "suitably related". But whether it does or not, Hanks' revision, like Bach's descriptor proposal, abandons the assumption underlying (RA) that the relational nature of belief can simply be "read off" the sentences by which we attribute belief. And this, I take it, is the important takeaway from Bach's account of *that*-clauses as descriptors, namely that contrary to what relationalists have assumed, the relational nature of belief cannot be read off the sentences by which we attribute belief.

## **The role of *that*-clauses in strong and light verb propositional attitude predicates**

Bach and Hanks reject (RA-iii), but they hold on to (RA-ii), the assumption that the *that*-clauses in belief predicates of the form "believes that S" are singular terms designating propositions.

---

[6] This is effectively the proposal I made in my *The Measure of Mind* (2007). In that book I demonstrated that a dyadic relational construal of belief predicates of the form "believes that S" is fully compatible with a non-relational, possibly dispositional, construal of belief itself.

This assumption, too, must go. The *that*-clauses in these predicates are not singular terms. To see this we need to look at the role of *that*-clauses in two different sorts of attitude predicate, the second of which has unfortunately not garnered from philosophers the attention it deserves:[7]

i. *Strong verb attitude predicates of the form "believes (desires, suspects, hopes) that S"*, and

ii. *Light verb*[8] *attitude predicates of the form "has the belief (desire, suspicion, hope) that S"*.

In English, as in many languages, especially modern European languages, there is a *pervasive alternation* between strong and light verb attitude predicates: Strong attitude verb predicates invariably have a light verb alternative, as exemplified by (5a) and (5b), respectively:

(5) a. John believes (thinks, hopes, suspects, etc.) that Sally is clever
b. John has the belief (thought, hope, suspicion, etc.) that Sally is clever.

The obvious question here is "What significance, if any, should we attach to this pervasive alternation between strong and light verb attitude predicates?"

Moltmann (2014, 2017) proposes to explain this alternation in terms of an act/product distinction, arguing that *if*, as she and some others assume, propositional attitudes are mental

[7] Friederike Moltmann's work is a very important exception. See her 2014 and 2017, among other papers.

[8] A "light verb" is a verb that has little specific semantic content of its own and forms a predicate with some additional expression, often a noun phrase. Common verbs in English that can function as light verbs include "do", "give", "have", "make", and "take", but there are many other less widely employed English light verbs such as "harbor", "hold", and "possess".

acts, and these acts have certain characteristic mental products, *then* it is hardly surprising that these alternations should be so pervasive: the strong verb attitude predicate, e.g., "thinks that Mary is clever", designates the mental act, while the light verb attitude predicate, "has the thought that Mary is clever", designates the mental act's characteristic product. Moltmann (2017, p. 271) acknowledges that some strong verb attitude predicates, most notably "believes that S", do *not* designate acts but instead designate states, and so don't have act products, but she takes "believes" to be anomalous in this respect.[9]

This is not the place to discuss Moltmann's view of attitude predicates except as a way of highlighting important aspects of my own view. I am an admirer of her work, and my work in this area owes much to hers. But I am skeptical of Moltmann's act/product explanation of strong attitude verb/light attitude verb alternations for three specific reasons. First, I suspect that *no* propositional attitudes are acts. At very least, there is *no linguistic evidence* to support the claim that any propositional attitude is an act of some sort. As Ryle (1949), Vendler (1972), and Dowty (1979) long ago pointed out, propositional attitude (strong) verbs are not "verbs of doing", but are rather what Vendler called "statives" or "resultatives". Second, I skeptical of her claim that strong and light verb attitude predicates differ in meaning; in common parlance at least, they seem synonymous. Third, and crucially for present purpose, her act/product account does not explain why, in languages that exhibit this pervasive alternation, the exceptions invariably pattern *strongly* in the direction of light verb attitude predicates that have no strong

[9] Neo-relationalists such as Scott Soames and Peter Hanks, who also take propositional attitudes to be mental acts, specifically cognitive relations to propositions construed as act-types, similarly construe belief as (inconveniently) anomalous. They tend to make the case for their view in terms of judgment, which they take (mistakenly in my view) to be a clear case of a mental act.

verb counterpart (e.g., “have the impression that”, “has (is of) the opinion that”, “avoir peur (besoin)” [French], “aver paura (besogno)” [Italian]).[10,11]

That the exceptions pattern in this fashion is not specific to attitude verbs, nor to English: the pattern holds quite generally across all classes of verbs in languages that exhibit light verb/strong verb alternations (see Gerner 2017). Certain languages, famously Japanese, Farsi, and Basque, have *only* light verb predicates, leading some linguists (e.g., Kayne 2010) to speculate that the only true verbs in any language are light verbs! But this all-encompassing speculation aside, the question is what to make of the fact that in the case of attitude predicates, the exceptions skew strongly in the direction of light verb attitude predicates that have no strong verb counterpart. One possibility is that strong verb attitude predicates *might* be derived in some manner from an underlying light verb form.

Several linguists have made just such a proposal for other verbs that exhibit a strong verb/light verb predicate alternation. Harves and Kayne (2012), following Hale and Keyser (1993), have presented empirical evidence that the verb “need” in (6a) is derived from “have need” in (6b) by a morphosyntactic process whereby the nominal “need” in (6b) is raised from its

---

[10] Certain English verbs of perception, e.g., “see” in “I see that you’ve moved the furniture”, as well as certain English verbs of emotion, e.g., “love” in “I love that you decided to come”, appear to have no light verb predicate alternate in common parlance. It is not clear why this should be so; it may have to do with these verbs requiring an accusative noun or pro-form, which is present but silent in these sentences (e.g., “I love [it] that you decided to come”).

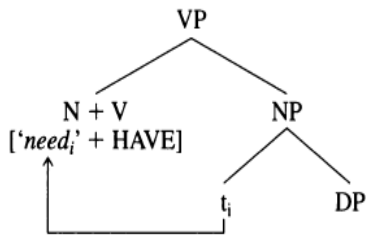
[11] Philosophers (e.g., Vendler 1972) have long recognized that verbs of saying behave much like propositional attitude verbs in taking verb complement clauses. Strong verbs of saying such as “assert” also have light verb predicate alternates, but light verb in these cases is typically “made” or some cognate that emphasizes the act of saying, as in “John made the assertion that Sally is happy”. There is no theoretical significance to be attached to the fact that the noun that figures in the light verb predicate, as in the previous example, happens to be a nominalization of the corresponding strong verb: this just happens, for whatever reason, to be the particular surface spell-out that the noun in the underlying light verb structure takes in common parlance (e.g., “knowledge” is the current surface spell-out of the underlying noun KNOW, but in middle-English “know” was an accepted spell-out, one that is still found in the expression “in the know”).

position in the noun phrase [$_{NP}$ *need* [$_{DP}$ *of a car*]] and incorporated into the then unpronounced light verb "have".[12] The derivation is schematized as (6c):

(6a) John needs a car

(6b) John has need of a car

(6c)




The resulting verb "need" is said to inherit the tense, aspect, and accusative-case-licensing properties of HAVE, making "need" a transitive verb that takes the noun phrase containing the trace of the moved nounl, viz., [$_{NP}$ $t_i$ [$_{DP}$ *of a car*]], as its accusative (direct) object.[13]

As applied to the belief predicates, Harves and Kayne's proposal would be that the verb "believe" is constructed from an underlying [$_{VP}$ HAVE [$_{NP}$ BELIEF [$_{CP}$ that S]]] by a morpho-

[12] More correctly, because the hypothesized raising and incorporation of the nominal are not surface phenomena, the verb HAVE-NEED in the syntactic structure underlying (6a), whose surface spell-out is "need", is formed from the structure underlying (6b) by raising NEED from [delete: the] its noun phrase and incorporating it into the unpronounced light verb HAVE, leaving behind a trace.

[13] A similar syntactic process may be operative in strong verb measure predicates such as "weighs 5 lbs", where the noun WEIGHT [this is an addition] in the form [$_{VP}$ HAVE [$_{NP}$ WEIGHT [$_{DP}$ *of 5 lb*]] underlying the light verb predicate "has a weight of 5 lb" gets raised and incorporated into the light verb HAVE, forming a surface verb "weighs" that inherits the accusative-case-licensing properties of the light verb, and leaving a trace nominal phrase [$_{NP}$ $t_i$ [$_{DP}$ *5 lb*]] that is its accusative object, where $t_i$ is indexed to the moved WEIGHT. The presence of this trace explains the possibility of existentially generalizing from "weighs 5 lb" to "weighs something", much in the way that "believes that S" existentially generalizes to "believes something".

syntactic process whereby BELIEF is raised from its position in the noun phrase and incorporated into the unpronounced light verb HAVE, the resulting verb HAVE-BELIEF, having the surface spell out "believe", and inheriting its tense, aspect, and accusative-case-licensing properties from the light verb, making "believe" a transitive verb that has the noun phrase [$_{NP}$ $t_i$ [$_{CP}$ *that S*]] as its accusative (direct) object, where $t_i$ is co-indexed with the moved BELIEF. On this analysis, the *that*-clause in ***both*** the light and strong verb belief predicates is a clausal complement of the nominal head BELIEF, specifically a ***noun*** clausal complement, functioning semantically as a predicate that type-specifies the attributed belief.

Arsenijević (2009:43) offers an analysis of the strong verb belief predicate "believe that S" similar to the one I develop above following Harves and Kayne's analysis for "need". Arsenijević argues that strong verb and light verb (surface) belief predicates have one and the same underlying syntactic form, namely, [$_{VP}$ HAVE/HOLD [$_{NP}$ BELIEF [$_{CP}$ *that S*]]]. The strong and light verb predicates are simply different surface spell-outs of that single underlying syntactic form, with the strong verb predicate spell-out again leaving a trace of the moved BELIEF. On Arsenijević's analysis, the respective light verb and strong verb predicate spell-outs simply receive their appropriate nominal or verbal features, making clear that no particular significance is to be attached to the fact that the nouns that appear in light verb predicates often seem to be nominalizations of the associated strong verb (e.g., "suspects that S" and "has the suspicion that *S*"). That exceptions to the observed pervasive alternation of strong and light verb predicates skews in the direction of light verb predicates without a strong verb alternate is presumably explained on Arsenijević's analysis, as well as on my Harves and Kayne inspired

analysis, by facts that favor the light verb spell-out of the underlying light verb form and in some cases block the strong verb spell-out.[14,15]

Harves and Kayne's raising analysis of "need", and my raising analysis of "believe", which is modeled on theirs, as well as Arsenijević's, have been challenged on the grounds that verbal complement clauses (VCCs) behave differently from noun complement clauses (NCCs) (see de Cuba 2017). These differences in question include: (i) whether the two sorts of clause permit deletion of the complementizer *that* (so-called C-drop), (ii) whether they permit so-called Main Clause Phenomena (MCP) such as topicalization, and (iii) whether they permit argument or adjunct extraction out of the *that*-clause, as illustrated by (7), (8), and (9), respectively:

(7) a. John believes (that) Mary hasn't read this book.
b. ?John has the belief Mary hasn't read this book.

(8) a. John believes that this book Mary hasn't read.
b. ?John has the belief that this book Mary hasn't read.

(9) a. John believes that Mary told Bill the secret yesterday.
b. What does John believe that Mary told Bill t yesterday. (argument extraction)
c. When does John believe Mary told Bill the secret t? (adjunct extraction)
d. *What does John have the belief that Mary told Bill t yesterday?

---

[14] Noonan (1993) attributes the absence of stative transitive verbs in Irish such as "know", "respect", "fear"', and "love" to the fact that Irish does not construct light verb predicates using the light verb HAVE (or cognates), but instead like many languages uses the light verb BE (or cognates). Russian, however, is like Irish a "BE-language", but does have stative transitive verbs.

[15] Kratzer 2016 presents an account of strong verb belief predicates similar in important respects to mine and Arsenijević's: "The *that*-clause participates in saturating the direct argument position of *believe*. But the *that*-clause does not provide a propositional argument. *That*-clauses relate to the nominal arguments of attitude verbs and verbs of speech" (her slide 39). Specifically, for Kratzer the strong verb belief predicate has the following form: *believe* [$_{NP}$ *thing* [$_{CP}$ *that S*]], where CP is a nominal modifier, just as it is in the nominal phrase "the belief that S", albeit in the strong verb belief predicate it is the modifier of a silent noun *thing*. Kratzer not only rejects what she calls the "orthodox view" that verbs like *believe* select propositional arguments as part of their meaning, but she conjectures that "verbs never have propositional arguments" (her slide 95).

e. *When does John have the belief that Mary told Bill the secret t?

As a broad generalization, noun complement clauses (NCCs) don't permit C-drop, resist MCP (NCCs are so-called "strong islands"), and don't permit either argument or adjunct extraction, whereas verb complement clauses (VCCs) vary on these dimensions, depending on whether verb is factive, semi-factive, or non-factive. Non-factive VCCs permit C-drop, MCP, and extraction, whereas factive VCCs do not permit C-drop, MCP, or adjunct extraction, but do permit argument extraction (factive VCCs are so-called "weak islands"), and so on.[16] There is significant variability from verb to verb, even within the same verb class (of factives, non-factives, semi-factives), especially as regards C-drop and MCP topicalization, making it unclear both whether these differences are genuinely syntactical (as opposed to pragmatic) and what semantic import, if any, to assign to these differences. But the crucial question here regarding these differences is whether they bear at all on any of these belief predicate analyses. After all, on these analyses, the NCC in the light verb predicate is a bare [$_{CP}$ *that S*], whereas the VCC in the strong verb predicate is a trace nominal phrase [$_{NP}$ $t_i$ [$_{CP}$ *that S*]] that embeds a [$_{CP}$ *that S*] that modifies the trace. Successful challenges to these analyses need to establish that the observed differences are not due to hypothesized differences in the syntactic structures of VCCs and NCCs, something that, as far as I can tell, hasn't been done. Moreover, these differences are clearly surface phenomena, leaving open the question as to how they bear on the underlying syntactic nature of the complement clauses. These are all matters for further empirical investigation, but this much seems clear: the *that*-clauses in <u>*both*</u> strong and light verb attitude predicates, whatever their underlying syntactic structure, serve semantically to type-specify the attitude being attributed,

[16] For a detailed discussion of these differences and possible implications, see de Cuba 2017.

making it implausible that, as relationalists would have it, the *that*-clause that figures in the strong verb attitude predicate is a singular term, while the *that*-clause figuring in the light verb attitude predicate clearly is not, a state of affairs seemingly at odds with semantic innocence, especially given the type-specifying predicative semantic role of *that*-clauses in both sorts of attitude predicate.

An anonymous referee has raised two objections that directly target the proposed syntactic analysis of the *that*-clauses that figure in strong verb attitude predicates. The first objection has to do with whether my proposed raising analysis can be extended to the adjectival attitude predicates such as in (10), the second objection with whether my proposed raising analysis can handle strong verb factive predicates such as in (11):

(10) John is aware (sure, etc.) that Sally is clever.

(11) John remembers, forgets, regrets that Sally is clever.

Let me consider these two objections in turn. With regard to the first objection , the referee wonders whether adjectival attitude predicates such as in (10) are not sufficiently similar to strong verb attitude predicates that my raising analysis, if correct, should apply to them, which surely it does not, since it seems implausible to suppose that there is an underlying noun that has moved leaving a trace nominal that the *that*-clause specifies.

There is no reason, I can see, to think that my analysis should apply to adjectival attitude predicates, given the obvious syntactic differences, such as the highlighted differences between (12a) and (12b), all of which suggest that whereas in strong verb predicates the *that*-clause is

constituent in a trace nominal phrase, in adjectival attitude predicates such as in (10), it is a bare CP, functioning as an adverbial that modifies the adjective:[17]

(12) a. John believes that Sally is clever (the rumor, something, that, so)
b. John is aware that Sally is clever (*the rumor, *something, *that, *so)

Whatever one wants to say about adjectival attitude predicates, they do not appear raise an objection to my analysis of strong verb attitude predicates, and they don't offer any support for (RA) in general or (RA-ii) in particular, inasmuch as (i) (RA) is a claim about the proper analysis of strong verb attitude predicates, and (ii) the *that*-clause in adjectival attitude predicates such as in (12b) cannot be quantified over in the same way as in (12a), making it very difficult to view those predicates as expressing a relation between the possessor of the attitude and some object, say a proposition.

With respect to the second objection, the referee suggests that strong verb factive predicates such as "remember", "forget", "ignore", and "deplore", do not seem to have light verb counterparts, thereby questioning my claim that "exceptions invariably pattern strongly in the direction of light verb predicates that have no strong verb counterpart". Footnote #10 above acknowledges that in common parlance some English verbs of perception and some English emotion verbs lack light verb counterparts to strong verbs. The same seems true of certain English factive verbs. It is unclear why this should be so, since in many cases we can easily imagine a light verb predicate counterpart, e.g., the counterpart for "remember that S" might be "have the memory that S", the counterpart for "forget that S" might be "no longer have the

[17] Kratzer (2016, slide 94) argues that CPs are only [addition] either nominal or adverbial modifiers.

memory that S", and so on. But the crucial fact remains, and is well attested in the linguistic literature, that the exceptions do pattern strongly in the way I claim, both in English and other languages (see pp. 10-11, also fn#12 above).

On the assumption that something like my Harves & Kayne inspired analysis and Arsenijevic's are correct, then we can draw the following conclusions about strong and light verb belief predicates, and hence indirectly about (RA), and then proceed to look for corroborating evidence:

(i) There is a strong presumptive case that strong and light verb predicates are synonymous.[18]

(ii) The *that*-clauses in both sorts of predicate are <u>*noun*</u> complement clauses, so that there is no reason to take the *that*-clause complement in the strong verb predicate to be a singular term, unless one is prepared, implausibly, to take the *that*-clause in the light verb predicate's nominal phrase to be a singular term.

(iii) In the strong verb belief predicate, the trace $t_i$ in the nominal phrase $[_{NP}\ t_i\ [_{CP}\ \textit{that S}]]$ is the accusative (direct) object of the transitive verb HAVE BELIEF, whose surface spell-out is "believe", and as such is plausibly construed as designating a belief, namely the belief that S. For this reason, the pronominal "something" in (1b) is plausibly construed as ranging not over propositions, but over beliefs.

(iv) The *that*-clause in both strong and light belief predicates, e.g., in (5a) and (5b), is a noun complement clause predicated of BELIEF itself (in [5a] via the trace).

Leaving aside any differences between my analysis and Arsenijević's, on both analyses, (13a) and (13b) have the surface syntactic forms (14a) and (14b), respectively, and a single underlying syntactic form similar to (14b) given by something approximating (15):

[18] 'John thinks that S' seems not to be synonymous with 'John has the thought that S', at least under an interpretation of 'thinks' as 'believes', but the former does seem synonymous with 'John embraces/holds/harbors the thought that S', i.e., synonymous under different light verbs.

(13) a. John believes that Sally is clever.
b. John has the belief that Sally is clever.

(14) a. *John* [$_{VP}$ believes$_i$ [$_{NP}$ t$_i$ [$_{CP}$ *that Sally is clever*]]]
b. *John* [$_{VP}$ have [$_{NP}$ belief [$_{CP}$ *that Sally is clever*]]]

(15) *John* [$_{VP}$ HAVE [$_{NP}$ BELIEF [$_{CP}$ *that Sally is clever*]]]

The logical form associated with (15) is presumably something like (16):

(16) ∃s(HAVE(s, John) + (*that Sally is Happy*)BELIEF(s))

where (16) is to be read as: John HAVE some s such that s has the property BELIEF (is of the BELIEF type), and BELIEF itself has the property *that Sally is happy* (is of the *that Sally is happy* type). More colloquially, John has a belief property (is in a belief state) of the sort type-specified by the *that*-clause 'that Sally is happy'. Crucially, (16) is not relationalist in any accepted sense of that term: (16) does not attribute to John a substantive dyadic relation to anything that is the referent of *that Sally is happy*. Crucially as well, (16) does not attribute to something that s would also have if John were to hope, rather than believe, that Sally is happy. (16) is non-committal on this matter. The complement clause *that Sally is happy* is a non-referring adjunct to BELIEF, functioning as a predicate, presumably formed by λ-abstraction, and serving to type-specify the attributed belief.[19]

[19] We can, if we wish, continue to conceive of *that*-clauses as specifying the contents of propositional attitudes in order to emphasize the specifically linguistic manner by which we pick out and describe the properties of beliefs, desires, and so on, but contents so conceived will not be objects, much less the referents of *that*-clauses.

The difference in surface syntactic forms explains why (14a) and (14b) existentially generalize as (17a) and (17b), respectively: The trace nominal phrase in (14a) is replaced by the pronominal "something" in (17a), literally "some t", which ranges over the entire trace nominal phrase, while the noun complement clause in (14b) is replaced by the determiner "some (particular)" in (17b):[20]

---

[20] Moltmann (2014, 2017) and Pietroski (2000, 2005) both offer neo-Davidsonian event-semantic analyses of belief predicates that, like my (16), <u>*reject*</u> (RA-ii), treating the *that*-clause as a predicate. (Pietroski [2000:655] explicitly acknowledges that adopting this event-semantic framework abandons what he calls Principle [β], which is my [RA-ii].) But there is this important difference: for them, the *that*-clause is predicated not of BELIEF, but of certain functions, the 'product function' in Moltmann's case, the 'content function' in Pietroski's. Thus, Moltmann (2017:271, 273) analyzes the logical forms of strong and light belief verb predicates as her [9] and [12], respectively:

[9] a. John believes that Mary is happy.
b. ∃e(believe(e, John) & [that Mary is happy](prod(e)))

where in the case of belief, because believing is not an act and hence has no product, 'the product function now maps the mental state onto itself, that is, in this case prod(e)=e' (2017:271), so that [that Mary is happy] is predicated of e.

[12] a. John has the thought that Mary is happy.
b. ∃d(have (John, d) & thought(d) & [that Mary is happy](d))

Based on the event-semantic analysis that Pietroski (2000:658) offers for 'Nora explained that Fido barked', he would presumably analyze Moltmann's [9a] as [9c]:

[9] c. ∃e(agent(e, John) & believing(e) & content(e, that Fido barked))

It is unclear just how we are to understand their proposed semantic analyses, specifically whether they are being offered as the logical forms of the surface sentences or of the underlying LF (which leaves open the question whether Moltmann's [9] and [12] are synonymous), but a crucial difference is that unlike my proposed analysis, both analyses are unclear as to how we are to understand the semantic role of the *that*-clauses, precisely because we aren't given a syntactic analysis that explains how *that*-clauses are related to the verb or noun they modify, viz., as complement clauses of one specific sort or another. Their adopted event semantics also appears not to capture the intuitive role of the *that*-clause, namely, as type-individuating the particular <u>*attitude*</u> in question. It is unclear whether their analyses capture certain important intuitively valid inferences, most notably (1), also whether their analyses predict the form taken by existential generalizations of Moltmann's [9] and [12], viz., my (17a) and (17b), respectively.

(17) a. John believes something
b. John has some (particular) belief

It might seem that if, as my analysis proposes, (13a) contains a trace $t_i$ that is co-indexed to the raised BELIEF, as given in (14a), then we should be able to replace (18a) by (18b), without any change of meaning:

(18) a. John believes (fears, etc.) that Sally is clever.
b. John believes (fears, etc.) the belief (fear, etc.) that Sally is clever.

But as a general rule, one cannot freely replace a phonologically empty category (such as a trace or a PRO) by its co-indexed noun without, at very least, a change of meaning, as shown by (19):

(19) a. John wants [PRO] to come to the party.
b. *John$_i$ wants John$_i$ to come to the party.
c. John$_i$ wants John$_j$ to come to the party.

(19c) does suggest that (20) should be acceptable, and to my ear it is (on analogy with 'John believes the rumor that Obama was born in Kenya'), especially if the context makes clear that we are attributing to John a belief that he shares with others, thereby providing evidence of the hypothesized trace of the raised BELIEF in (14a):

(20) John believes$_i$ the (widespread right-wing) belief$_j$ that Obama was born in Kenya.

Attitude Verbs with Overt Accusative Objects

This brings us to an important explanatory consequence of my analysis: Relationalists have long been vexed by a problem first noted by Arthur Prior, namely, that if *that*-clauses in propositional attitude predicates are singular terms that designate propositions, why can't one substitute freely, *salva congruitate* and *salva significatione*, attitude predicates of the form 'Vs the proposition that S' for attitude predicates of the form 'Vs that S', which clearly one cannot.[21] Substitution in (21) is seemingly okay, while in (22) it is not:,

(21) a. John believes that Sally is clever.
b. John believes the proposition that Sally is clever.

(22) a. John fears (suspects, hopes, etc.) that Sally is clever
b. *John fears (suspects, hopes, etc.) the proposition that Sally is clever.

Failures of substitutivity such as in (22) have bedeviled relationalists who presume that the *that*-clause in (22a) should be intersubstitutable with the supposedly co-referring propositional description in (22b). King (2002) attributes such failures not to the fact that the two are not co-designating, but to the fact that attitude verbs other than 'believes' are ambiguous (or polysemous) between two different meanings, the *that*-clause triggering one reading, the propositional description triggering the other.[22] King acknowledges that this presents a problem for the apparent validity of inference (1), but does not offer a solution.

[21] I am indebted to David Lindeman (2019) for focusing my attention on this problem.
[22] In his discussion of 'explaining that S' and 'explaining the fact that S' Pietroski (2000:658) effectively endorses a similar view of 'explains' inasmuch as his event-semantic analysis of these predicates postulates two different thematic functions, 'object(e)' and 'content(e)', that take *that*-clauses as predicates.

Failures of substitution such as in (22) are not a problem for my analysis, which rejects (RA-ii) and thus carries no presumption as to substitutivity. There is, however, the question of what my light verb analysis of strong verb belief predicates has to say, if anything, about sentences such as (23), where the propositional attitude verb has an explicit nominal as its accusative object. In particular, is the strong verb belief predicate in such cases constructed in some fashion from a light verb belief predicate?

(23) John believes the conclusion (report, rumor, etc.) that the project was bound to fail.

(23) is ambiguous between one of two readings: (i) John believes what, unbeknownst to him, someone/something has concluded, namely that the project will fail, and (ii) John believes that someone/something has concluded that the project will fail, and he, John, believes that conclusion. On either reading there would seem to be an obvious light verb counterpart: Under (i), the logical form of (23) would be something like (24a), while under (ii) the logical form of (23) would be something like (24b):

(24) a. ∃s(HAVE (s, John) & (*that the project will fail*)BELIEF(s)) &
∃s'∃y(MAKE(s',y) & (*that the project will fail*)CONCLUSION)(s'))
b. ∃s(HAVE(s, John) & ((*that the project will fail*)CONCLUSION)BELIEF)(s))

In (24a) the *that*-clause is separately a type-specifier of both BELIEF and CONCLUSION, whereas in (24b) it is a type-specifier of CONCLUSION which in turn is a specifier of BELIEF.

With the foregoing in mind, my proposed light verb analysis may offer some insight into Prior's substitution puzzle. That puzzle, we will recall, presumes that if, as propositional relationalists hold, *that*-clauses are singular terms designating propositions (something my

proposed analysis explicitly denies), then on pain of giving up ‘semantic innocence’ (25a) should be synonymous with (25b), which for many propositional attitude verbs they clearly are not:

(25) a. John [Attitude Verb] that S
b. John [Attitude Verb] the proposition that S.

It is not clear why semantic innocence should be thought to demand synonymy, but the reasoning here seems to be, given that the bare *that*-clause in (25a) is a singular term, then by semantic innocence the *that*-clause in (25b) must also be a singular term, and thus the nominal phrase “the proposition that S” in (25b) must be analogous to the nominal phrase “the physicist Richard Feynman”, where the general term and the proper name are apparently co-referring apposites. But all this presumes that the *that*-clause in (25a) is a singular term. Abandon this presumption and the entire puzzle evaporates. If, as my analysis of strong verb belief predicates argues, the accusative object is not a bare *that*-clause but a trace noun phrase $[_{NP}\ t_i\ [_{CP}\ \textit{that S}]]$, then there is no reason to presume that (25a) and (25b) will synonymous. Indeed, contrary to what some propositional relationalists assume, there is no reason to presume synonymy even for the verb “believes”:

(26) a. John believes that the project will fail
b. John believes the proposition that the project will fail

(26a) attributes to John a particular belief, namely the belief that the project will fail, while (26b) attributes to John a different belief, namely the belief that a certain proposition is true, namely the proposition that the project will fail. John’s believing this proposition entails that he believes that the project will fail, but believing the former is not the same as believing the latter. And

certainly nothing about (26b), even on analogy with "the physicist Richard Feynman", establishes the *that*-clause in (1a) is a singular term designating a proposition, for if it did, then by parity of argument, (23) would be evidence for a hitherto unnoticed "conclusional" (as opposed to propositional) relationalism about belief!

The proposed analysis of strong verb belief predicates in terms of light verb belief predicates leaves unaddressed the question of the grammatical character of the noun complement *that*-clauses that figure in the underlying form of both strong and light verb predicates. There are two proposals currently on offer in the linguistics literature, both of which are compatible with the analysis offered here:

(i) they are a kind of restrictive relative clause modifying the head noun BELIEF (Kayne 2008, 2010; Arsenijevic 2009), or

(ii) they are a clause that is, in linguistics-speak, "co-referential" and in apposition with the co-indexed BELIEF, perhaps along lines of the proper name in the nominal phrase 'the physicist Richard Feynman' (de Cuba 2017, 2018).

Clearly (i) will not save (RA), inasmuch as relative clauses are clearly not singular terms, but neither will (ii), inasmuch as to say that the *that*-clause is 'co-referential' with the head noun 'belief' is to say only that it functions as a predicate that provides descriptive specificity, in the conversational context, to the head noun.

## Conclusions

The important takeaways from this analysis of the pervasive alternation between strong and light verb attitude predicates are these:

(i) There is linguistic evidence that the strong verb belief predicate "believe that S" is derived from the underlying light verb form [$_{VP}$ HAVE [$_{NP}$ BELIEF [$_{CP}$ *that S*]]] by a morphosyntactic process that raises BELIEF from its nominal phrase and incorporates it into the light verb HAVE, creating a strong verb that inherits its tense and aspect from the light verb, where this raising process leaves behind a trace of the moved BELIEF;

(ii) The *that*-clauses in both strong and light verb belief predicates are therefore noun complement clause specifiers of BELIEF, whose semantic role is to type-specify the attributed belief; and

(iii) The pronominal "something" that existentially generalizes the accusative argument of the strong verb "believe" ranges, not over propositions designated by *that*-clauses, but over the designatum of a trace nominal phrase that contains the *that*-clause as a constituent, where the trace is co-indexed with the raised BELIEF.

If this analysis is correct, then the relational analysis (RA) that relationalists use to motivate their relationalism about the attitudes is untenable. More specifically, the inferences (1)–(3) provide no grounds for taking *that*-clauses to be singular terms. In the case of (1), the inference is valid on the proposed analysis, because the "something" in (1b) ranges over the entire trace nominal phrase that contains the *that*-clause. Inference (3) is similarly valid, because what's shared is the trace nominal phrase, co-indexed in both cases to the moved BELIEF. The explanation of the validity of (2) is somewhat more complicated, but also unproblematic on the proposed analysis. Consider (27):

(27) a. Galileo believes the conclusion that the earth moves.
b. That the earth moves is true.
∴ c. Galileo believes something true.

From (27a) and (27b) we can infer that Galileo believes a conclusion that is true, and then from this we can infer (27c), namely, that he believes something true. The conclusion inherits its

truth from the truth of the *that*-clause.[23] The inference (2) is the same, except that it is run over the trace of BELIEF, but inferences over null categories are unproblematic (cf., from (19a) I can infer that John wants someone to come to the party, namely, himself).

An anonymous referee has called my attention to inferences such as (28), arguing that (28) is intuitively valid on (RA), but not on my proposed raising analysis, thus challenging the generality of my analysis:

| | | |
|---|---|---|
| (28) | a. Everything John says Andy believes. | $(\forall x)(Sjx \rightarrow Bax)$ |
| | b. John says that Sally is happy. | $Sjp$ |
| | ∴c. Andy believes that Sally is happy. | $Bjp$ |

Let me begin by saying that it is not clear to me that (28) is valid, but if it is, it is not so in virtue of (RA), which treats *that*-clauses as singular terms and thus would attribute to (28) the shown first-order logical form. Leaving aside the arguments against (RA-ii) presented earlier in this paper, which directly impugn the logical form that (RA) would attribute to (28), there is independent empirical evidence that argues against this logical form. Specifically, if (28a) had the shown logical form, then the sentences of (29) would be universal instantiations of (28a), where crucially "the same thing" and "it" are construed as coreferential with the *that*-clause "that Sally is happy":

(29) a. ???If John says that Sally is happy, Andy believes the same thing.
b. ???If John says that Sally is happy, Andy believes it.

[23] A demonstration of the formal validity of (27) requires λ-abstraction on the *that*-clause in (27a) to produce a property predicated of the conclusion, where this property has by (27b) the further property of truth, allowing us to infer the existence of a true conclusion in virtue of (27a) and (27b).

But to my ear, (29) is at best only marginally acceptable under the required construal of "the same thing'" and "it". Both "same thing" and "it" require something other than a bare *that*-clause as antecedent referent. By contrast, the sentences of (30), where antecedents and consequents in each sentence share the same verb, are *clearly* acceptable, suggesting that "same thing'" and "it" are coreferential with something other than a bare, antecedent *that*-clause, specifically with something that is linked in some manner to the governing verb:

(30) a. If John says that Sally is happy, Andy says the same thing.
b. If John says that Sally is happy, Andy says it, too.
c. If John believes that Sally is happy, Andy believes the same thing.
d. If John believes that Sally is happy, Andy believes it, too.

My raising analysis of strong verb attitude predicates offers an hypothesis as to what this "something linked to the governing verb" might be, namely, that it is a trace nominal phrase, where the trace is co-indexed to the nominal that is raised and incorporated into the underlying light verb, forming the strong attitude verb. This hypothesis, my proposed raising analysis, coupled with certain requirements on what Moltemann calls "content sharing" among attitude verbs (and among verbs of saying),[24] predicts *and* explains the differential acceptability of (29) and (30), something that (RA) doesn't even predict: specifically, that full acceptability requires the identity of the trace nominal phrases, a requirement that (30), but not (29), satisfies.

But how, then, are we to explain the intuitive validity of (28)? We feel the intuitive pull of the logical form that (RA) would attribute to (28b) and (28c), even if, as I have argued at length

[24] See Moltmann 2017:277 and 2019:186-88 for a discussion of restrictions on what she calls "content sharing" between attitude verbs (and verbs of saying). She holds, for reasons similar to argument I give above for why identity is defined over trace nominal phrases rather than bare that-clauses, that "it is kinds of attitudinal objects rather than pure propositions that are said to be shared" (2017:277).

in this paper, this intuition is mistaken. But what about (28a): how are we to explain its apparent acceptability? Specifically, why is (28a) fully acceptable, or nearly so, while particular instantiations, as illustrated by (29), are at best only marginally acceptable? The answer is that restrictions on content sharing apply most stringently to sentences such as (29) where *that*-clauses are explicit, but much less so, or not at all, to sentences where *that*-clauses do not appear (e.g., "seeing is believing"). Thus, in (28a) where no *that*-clauses are explicit, it may seem that the universal quantifier is ranging over some particular that is the object of both John's saying and Andy's believing, something picked out by a bare *that*-clause; however, when we consider instantiations of (28a), precisely the instantiations that the validity of (28) demands, we realize that this cannot be the case, showing us that (28a) does not have the logical form that (RA) attributes to it. The validity of (28), then, is only apparent, because (28a) does not provide the particular instantiation needed to validly infer (28c) from (28b). Finally, it might seem that there is something special about (28) inasmuch as the verb *say* differs from most other verbs of saying (assert, state, promise, etc.) in not having, at least in common parlance, a light verb counterpart. But this is surely of little consequence as we can easily imagine a counterpart, maybe "made the say that …", along the lines of the now somewhat archaic "had a say" or "had her say". Moreover, the same questions and points could have been made regarding a version of (28) couched in terms of "assert", which does have in common parlance a light verb counterpart.

Let me finish by emphasizing one final point: My argument against (RA-ii) rests on linguistic considerations and as such is hostage to the relevant empirical facts. The same is true, of course, for the relationalist arguments in support of (RA-ii), even if relationalists have failed to recognize this to be so. (RA) is substantive empirical thesis, one whose prospects for being true don't look at all promising. The apparent falsity of (RA), I have emphasized, does not entail

the falsity of (propositional) relationalism about belief or any other propositional attitude, but it is certainly hard to see the attraction of relationalism, once it is clear that its truth, even its empirical plausibility, cannot be simply read-off the surface predicates by which we attribute belief and other propositional attitudes. The idea that so-called propositional attitudes might be relations to propositions carries with it too many well-known problems to stand on its own, without the support of something like (RA). [25]

## **References**

Arsenijevic, B. (2009) Clausal complementation as relativization', *Lingua 119*: 39-50.

Bach, K. (1997) Do belief reports report beliefs?, *Pacific Philosophical Quarterly 78*:215-41.

Braun, D. (1998) Understanding belief reports, *Philosophical Review* 107:555-95.

Buchanan, R. (2012) Is belief a propositional attitude?, *Philosophers' Imprint 12 (1)*: 1-20.

Burge, T. (1980) The content of propositional attitudes, *Noûs 14*:53-60.

de Cuba, C. (2017) Noun complement clauses as referential modifiers, *Glossa 2 (1)*: 1-46.

[25] I presented a version of this paper as my first Carnap Lecture, University of the Ruhr, Bochum, Germany, March 2019. Earlier versions were presented at a Heinrich Heine University Workshop on Propositions, Dusseldorf (May, 2017), at the Rutgers Clausal Complements Workshop (April, 2018), and at the Birkbeck Workshop on the Role of Content, University of London (May, 2018). I would like to thank the participants in these workshops, especially Friederike Moltmann, Peter Hanks, Ray Buchanan, and Jeff Speaks for helpful comments and criticisms, as well as Kent Bach, Frances Egan, Ken Safir, and two anonymous reviewers for this journal.

de Cuba, C. (2018) Manner-of-speaking that-complements as close apposition structures, *Proceedings of the Linguistic Society of America 3. 32*: 1-13. https:..doi.org/10.3765/psla. v3/1.4320.

Dowty, D. (1979) *Word Meaning and Montague Grammar*. Dordrecht: Reidel.

Fodor, J. (1978) *Psychosemantics: The Problem of Meaning in the Philosophy of Mind*. Cambridge, MA: MIT Press.

Gerner, M. (2017) Actions and products worldwide (pp. 325-370). In F. Moltmann and M. Textor (Eds.), *Act-Based Conceptions of Propositional Content: Contemporary and Historical Perspectives*. Oxford: Oxford University Press.

Graff Fara, D. (2013) Specifying desires, *Noûs 47(2)*: 250-72.

Hale, K. & Keyser, J. (1993) On argument structure and the lexical expression of syntactic relations, in Hale and Keyser (Eds.), *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger (pp. 53-109)*. Cambridge: MIT Press.

Hanks, P. (2009) Recent work on propositions, *Philosophy Compass 4 (3)*, 469-86.

Hanks, P. (2011) Structured propositions, *Mind 120*(477), 11-52.

Harves, S. & R. Kayne (2012) Having "need" and needing "have", *Linguistic Inquiry 43(1)*: 120-32.

Kayne, R. (2008) Antisymmetry and the lexicon, *Linguistic Variation Yearbook 8*: 1-31. Reprinted in R. Kayne (2010) *Comparisons and Contrasts*. New York: Oxford University Press.

Kayne, R. (2010) Why isn't *this* a complementizer? (pp. 190-227). In R. Kayne, *Comparisons And Contrasts*.New York: Oxford University Press.

King, J. (2002) Designating propositions, *Philosophical Review 111(3)*: 341-71.

King, J. (2007) *The nature and structure of content*. Oxford: Oxford University Press.

King, J., Soames, S., and Hanks, P. (2014) *New Thinking about Propositions*. Oxford: Oxford University Press.

Kratzer, E. (2016) Evidential moods in attitude and speech reports, Slides from September 9, 2016, presentation to University of Connecticut Colloquium. Retrieved from: https://works.bepress.com/angelika.kratzer/10/.

Lindeman, D. (2019) *Representations of Mind*, PhD dissertation, Johns Hopkins University.

Matthews, R. (2007) *The Measure of Mind*. Oxford: Oxford University Press.

Moltmann, F. (2014) Propositions, attitudinal objects, and the distinction between actions and products. In G. Rattan and D. Hunter (Eds.), *Propositions*, special issue of *Canadian Journal of Philosophy 43 (5–6)*: 679–701.

Moltmann, F. (2017) Cognitive products and the semantics of attitude verbs and deontic modals. In F. Moltmann and M. Textor (Eds.), *Act-Based Conceptions of Propositional Content* (pp.254-285). Oxford: Oxford University Press.

Moltmann, F. (2019) Attitudinal objects. In B. Ball and C. Schuringa (Eds.), *Judgment, Act, and Object* (pp. 180-201), Routledge Studies in Contemporary Philosophy. Abingdon: Routledge.

Noonan, M. (1993) Statives, perfectives, and accusativity: The importance of being HAVE (pp. 354-370). In J. Mead (Ed.), *Proceedings of the Eleventh West Coast Conference on Formal Linguistics*. Stanford, CA: CSLI Publications.

Pietroski, P. (2000) On explaining that, *Journal of Philosophy 97 (12)*: 655-662.

Pietroski, P. (2005) Small verbs, complex cvents: Analyticity without synonymy. In L. Antony and N. Hornstein (Eds.), *Chomsky and His Critics* (pp. 179-214). London: Blackwell.

Richard, M. (1990) *Propositional Attitudes: An Essay on Thoughts and How We Ascribe Them*. Cambridge: Cambridge University Press.

Ryle, G. (1949) *The Concept of Mind*. Chicago: University of Chicago Press.

Schiffer, S. (1992) Belief ascription, *Journal of Philosophy 89 (10)*: 499-521.

Schiffer, S. (2003) *The Things We Mean*. Oxford: Oxford University Press.

Soames, S. (1988) Substitutivity. In J. Thomson (Ed.), *On Being and Saying: Essays in Honor of Richard Cartwright*. Cambridge, MA: MIT Press.

Soames, S. (2010) *What Is Meaning?* Princeton, NJ: Princeton University Press.

Stalnaker, R. (1988) Belief attribution and context. In R. Grimm and D. Merrill (Eds.), *Contents of Thought* (pp. 140-156). Tucson: University of Arizona Press.

Vendler, Z. (1972) *Res Cogitans: An Essay in Rational Psychology*. Ithaca: Cornell University Press).