DISCUSSION NOTE

Attitude Reports, Cognitive Products, and Attitudinal Objects: A Response to G. Felappi *On Product-Based Accounts of Attitudes*

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In a range of recent and not so recent work (Moltmann 2003a, 2003b, 2004, 2013, 2014, 2016b, 2016d), I have developed a novel semantics of attitude reports on which the notion of an attitudinal object or cognitive product takes center stage, that is, entities such as thoughts claims and decisions. The purpose of this note is to give a brief summary of this account against the background of the standard semantics of attitude reports and to show that the various sorts of criticism that Felappi (2014) recently advanced against it are mistaken.

In a range of recent and not so recent work, I have developed a novel semantics of attitude reports on which the notion of an attitudinal object takes center stage, that is, entities such as thoughts, beliefs, claims, requests, and promises (Moltmann 2003a, 2003b, 2004, 2013, 2014, 2016b, 2016d). Attitudinal objects are concrete, mind-dependent entities that have truth or satisfaction conditions and come with both a content and a force. This semantics contrasts with the standard view, which takes the notion of a proposition to be central to the semantics of attitude reports, that is, abstract mind-independent objects that have truth conditions. The purpose of this note is to give a brief presentation of this attitudinal objects semantics of attitude reports in order to show that the various sorts of criticism that Felappi (2014) recently advanced against that approach fail to apply. The attitudinal objects semantics will be presented against the background of the standard view whose problems that semantics aims to overcome.

The standard semantic view of attitude reports is based on the Fregean notion of a proposition as a mind- and language-independent object that bears truth conditions. The standard analysis is based on the assumption that attitude verbs that take clausal complements express two-place relations between agents and propositions. The logical form of (1a) will thus be as in (1b), where *that Mary is happy* is taken to stand for a proposition:

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(1) a. John thinks that Mary is happy.
     b. think(John, [*that Mary is happy*])

'Special' quantifiers and pronouns like *something*, *everything, what*, and *that* have the ability to replace clausal complements without altering the acceptability or understanding of the verb, an ability that is generally considered support for the notion of a proposition. The standard view takes such special quantifiers to range over propositions, as in the analysis of (2a) in (2b):

(2) a. John thinks something.
     b. ∃x(think(John, x))

Also 'special pronouns' like *that* or terms with relative clauses such as *what John thinks* are standardly taken to stand for propositions when they take the place of clausal complements, as below:

(2) c. John thinks that Mary is happy. Bill thinks that too.
     d. Bill thinks what John thinks, namely that Mary is happy.

On my view, it is not propositions that are involved in the semantics of attitude reports, but what I call 'attitudinal objects' in Moltmann (2003a, 2003b, 2004, 2013, 2016a, 2016b, 2016c, 2016d) and 'cognitive products' in Moltmann (2014). These are entities generally describable with the help of nominalizations of attitude verbs, that is, with terms of the sort *John's belief that Mary is happy*, *John's thought that Mary is happy* or *John's claim that Mary is happy*. Attitudinal objects are particular mind- and agent-dependent entities that are concrete rather than abstract and come with both a content and a force. In addition to particular attitudinal objects, kinds of them also play a role in the semantics of attitude reports (entities we refer to as *the belief/thought/claim that Mary is happy*).

There are a range of issues for the standard semantic view of the semantics of attitude reports, both of philosophical and of linguistic sorts, which the new semantics based on attitudinal objects aims to overcome. The philosophical issues include the general intuition that propositional attitudes are not relations to propositions, as the relational analysis in (1b) would have it. Rather, an attitude as reported in (1a) has as its object just Mary. *That Mary is happy* serves to specify the content of the reported attitude, not provide its object. The philosophical issues also include various problems with the notion of an abstract proposition, such as the problem of how an abstract proposition can serve as the content of a mental attitude and have truth conditions (and the particular truth conditions it should have), problems that have been brought forward first in Jubien (2001) and Moltmann (2003a, 2003b) and have later become a point of departure for more recent developments of act-based conceptions of propositions (such as Soames 2010 and Hanks 2015).

The linguistic problems for the standard view of attitude reports include:
[1]the Substitution Problem (the impossibility of *John thought the proposition that Mary is happy* as an inference from (1a)) and the Objectivization Effect (the different readings of *John saw that Mary is happy* and *John saw the proposition that Mary is happy*), as discussed in Moltmann (2003a, 2013, chapter 4).

[2]The semantic behavior of special quantifiers regarding the types of restrictors they accept, which are indicative that such quantifiers range over attitudinal objects rather than abstract propositions. This is illustrated in the examples below:

(3) a. John thought something astonishing.
     b. John claimed something that shocked everyone.
     c. John demanded something that is impossible to comply with.

Astonishing in (3a) is not predicated of a proposition, but rather of John's thought or a thought (a kind of thought), and similarly for the relative clauses in (3b, c).

[3] Restrictions on reports of sharing of the contents of different attitudes, which are indicative that it is kinds of attitudinal objects (thoughts, remarks, imaginations hopes, etc.) that are reported to be shared, rather than pure propositions (Moltmann 2003a, 2013, chapter 4). The following unacceptable sentences are examples:

(4) a. ??? John thought what Mary remarked, that it is raining.
     b. ?? John claimed what Mary imagined, that he won the election.
     c. ??? John hoped what May is thinking that it will rain.

While earlier (Moltmann 2003a, 2004, 2013, chapter 4), I had pursued a Neo-Russellian 'Multiple Relations' Analysis of attitude reports, I will here focus on the more recent semantic analysis in Moltmann (2014, 2016b), which is the main target of Felappi's critique. On this analysis, attitude verbs that take clausal complement do not express two-place relations between agents and propositions, but rather relations between acts or states and agents. The clausal complement then acts as a predicate predicated of the attitudinal object obtained from the act or state argument by a function *product*, as in (5b) for (5a):

(5) a. John thinks that Mary is happy.
     b. ∃e(think(e, John) & [*that Mary is happy*](product(e)))

When predicated of an attitudinal object, the clausal complement specifies its truth- or satisfaction conditions (Moltmann 2014, 2016b, 2016d) and perhaps internal composition (Moltmann 2014, 2016d). Acts such as acts of thinking, judging, and claiming are taken to have (cognitive or illocutionary) products in the sense of Twardowski (1911), conceived of as nonenduring artifacts that may lack a physical realization, 'abstract' artifacts in the sense of Thomasson (1999). While I leave it open in Moltmann (2014, footnote 4) how states such as beliefs, intentions, and hopes are to be dealt with on that account, in Moltmann (2016b, 2016d) I explicitly take states themselves to be the arguments of stative attitude verbs and the product function to map a state onto itself. That way, the very same semantic analysis as in (5b) can apply to reports of mental states. Cognitive products, I argue in Moltmann (2014), share the characteristic properties of artifacts, namely the ability to bear representational and normative properties, mind- and agent-dependence, and the ability to have a part structure based on partial content rather than material or temporal parts.

Special quantifiers and pronouns are not treated as ordinary quantifiers that provide arguments of the predicate, but rather as nominalizing quantifiers (Moltmann 2003a,

2003b, 2004, 2013, 2014, 2016b). This means that those quantifiers introduce a domain
of objects consisting of the same sorts of objects that would be the semantic values of the
relevant nominalizations. In the case of *think* these would be objects of the sort *John's
thought that* S or *the thought that* S, that is, attitudinal objects or kinds of them. (2a) is
then analysed as in (5b) and (4a) as in (5c), where *product-kind* is, roughly, the function
that maps an act (or state) *e* onto the kind whose instances are entities exactly similar to
the product of *e*:

(5)   b. $\exists x \exists e(\text{think}(e, \text{John}) \ \& \ x = \text{product}(e) \ \& \ \text{astonishing}(x))$
      c. $\exists x \exists e(\text{think}(e, \text{John}) \ \& \ x = \text{product-kind}(e) \ \& \ x = \iota y[\exists e'(\text{think}(e', \text{Bill}) \ \&$
         $y = \text{product-kind}(e'))])$

The attitudinal objects analysis of attitude reports overcomes the problems for the
standard view as follows. First, it does not take propositional attitudes to be relations
between agents and propositions, and it treats clausal complements as having a different
function than that of standing for a proposition that is to be an argument of the relation
expressed by the attitude verb. Rather clausal complements semantically act as predicates
of the relevant attitudinal object, that is, the product of the Davidsonian event argument
of the verb (the product of a mental or illocutionary act or else a mental state). The analysis
makes no use of propositions, but only of attitudinal objects or kinds of them. Attitudinal
objects do not raise the problem of how they can be grasped and as mind-dependent
objects they come with intrinsic truth or satisfaction conditions.

The attitudinal objects analysis deals with the linguistic issues in the following way.
It avoids the Substitution Problem and the Objectivization Effect by not taking clausal
complements to be referential terms providing an argument of the relation expressed by
the embedding verb. It moreover takes special quantifiers not to quantify over propo-
sitions, but to be nominalizing quantifiers introducing a domain of entities consisting
of attitudinal objects or kinds of them, and similarly for special pronouns. Restrictors of
special quantifiers are then predicated of the relevant attitudinal objects or kinds of them.
The constraint concerning the sharing of contents of different attitudes, roughly, is that
the attitudes need to be of the same type, differing perhaps just in the strength of the
associated force.

There are apparent exceptions to this constraint on reports of sharing of the content
of different attitudes. They have been noted and discussed at length as the 'variability
of attitudinal objects' in Moltmann (2003a, 2013, chapter 4, p. 144f). Here are some
examples:

(6)   a. John often suggested what Mary now claims.
      b. Mary's finally said what Mary has always believed.
      c. John said what Mary doubts.

In Moltmann (2003a, 2013, chapter 4), such examples are described as requiring a special
situation involving an effort of abstracting a shared kind of attitudinal object, say a kind
of thought or claim, an effort that is linguistically reflected in the use of focusing of the
verbs or of adverbials. The examples are then analysed in terms of a decomposition of

the attitude verbs into a modifier m and a more general attitudinal relation R. Only R will be event-constitutive, m will be only event-characterizing, to use Kim's (1976) terms. This gives the (simplified) analysis of (6a) below, where m_1R is the decomposition of the suggest-relation and m_2R is the decomposition of the claim relation:

(7) $\exists e \ (m_1R(e, John) \ \& \ product\text{-}kind(e) = \iota y[\exists e'(y = product\text{-}kind(e') \ \& \ m_2R(e', Mary)])$

With this outline of the semantics of attitude reports based on attitudinal objects, let me turn to the points of critique that Felappi puts forward.

Introduction

Felappi finds the notion of a cognitive product as an artifact problematic, since paintings, for example, do not have truth or satisfaction conditions (Felappi, p. 303, paragraph 2). However, the generalization explicitly stated in Moltmann (2014, 2016b) that artifacts in general have the characteristics of being able to carry representational properties, an ability shared by paintings and cognitive products, while of course the representational properties may be of different sorts.

Section 1. 'Semantic issues'

1.1. John's belief

Along with Twardowski (1911), I consider the notion of a cognitive product to be directly reflected in the semantics of nominalizations of attitude verbs, in terms of the sort *John's belief, John's thought, John's judgment, John's fear, John's request, John's offer* or *John's decision*. In Moltmann (2013a, 2014, 2016b), partly based on Ulrich (1976), I argue at length that the range of predicates that can go with terms like *John's belief*, *John's thought*, or *John's request* shows that such terms can stand neither for actions (or states) nor for abstract propositions. The types of predicates includes predicates of satisfaction or fulfillment, predicates of exact similarity (*is the same as*, applicable to two products with the same force if they share the same content), predicates of content-based causation and evaluation, predicates of concreteness, and predicates of part structure. Such predicates apply equally to entities like thoughts and requests as to mental states like beliefs and desires.

In view of that, Felappi claim 'John's belief seems to have none of the characteristics products are supposed to have' (Felappi 2014, p. 304, paragraph 1) is entirely incorrect. In support of her claim, Felappi mentions *John's thought is the same as Sue's* as showing that products can be shared, then conceding that Moltmann treats *the same as* expressing exact similarity not identity, unlike the *is* of identity.[1] The types of examples Moltmann (2003a, 2013, chapter 4) uses for the relevant generalization are as below:

(8) a. ??? John's thought was John's remark.
     b. ?? John's thought was Mary's thought.
     c. John's thought was the same as Mary's thought.

        d. ??? John's thought was the same as John's remark.

(8a) cannot be true because a thought and a remark are distinct attitudinal objects. (8b) cannot be true under ordinary circumstances because attitudinal objects are agent-dependent. (8c) can be true because two thoughts (of different agents) can be exactly similar ('the same as'), namely in case they are the same in content; (8d) cannot be true because a thought and a remark cannot be exactly similar. There are particular circumstances under which such examples may improve, which are discussed, but the fact that they are not generally as acceptable as the proposition reference view would have it already makes the point.

    In Moltmann (2003a, 2013, chapter 2), I discuss the same sorts of observations for *is the same as* and *is* when applying to tropes such as John's weight or John's happiness, which provides strong independent motivations for the view that is *the same as* expresses exact similarity and *is* numerical identity. Thus whereas (9a) appears false, (9b) may be true:

    (9)   a. ??? John's weight is Mary's weight.
             b. John's weight is the same as Mary's weight.

Felappi cites two examples in which the *is* of identity appears to apply to distinct products: *Your thought is my thought* and *John's suggestion was my suggestion*. Felappi also says that products of different acts may be considered identical, citing *Your response is my concern*, *your thought is my prayer*, and *Sue's suggestion was in fact Joe's claim*. Such examples, however, require special circumstances. One such circumstance is what drives the 'variability of attitudinal objects' discussed in Moltmann (2003a, 2013), for which an analysis along the lines of (7) is given, involving reanalysis of the attitudinal concepts and abstraction of a shared kind of cognitive product. Another circumstance facilitating the acceptability of such examples, one can, is one in which with the agents, say, produce coordinated cognitive products or respond to the very same circumstance, and thus in a sense produce a single product (*your thought is my thought, your thought is my prayer*).

    Terms like *John's belief, John's thought*, and *John's claim* could refer to propositions only if such examples were always acceptable, without special circumstances or special effort, which is not the case. Establishing that such terms refer to propositions rather than attitudinal objects requires showing how the various examples with *is* and *is the same* can be accounted for on a proposition-based view *and* addressing all the other arguments that were given for reference to attitudinal objects, such as the semantic behavior of the various types of predicates mentioned above.

    Felappi questions the concreteness of the things that terms like *John's thought* stand for, by pointing out the unacceptability of *John's thought was in Vienna* (Felappi 2014, p. 306). The problem is that neither mental products nor mental events can easily be attributed a spatial location with copula *is*: *John's thinking was in Vienna* in my ear is as bad as *John's thought was in Vienna*, though *John's thinking in Vienna was all about Mary* and *John's thought in Vienna was about Mary* are both quite good (obviously more data are needed than just a single example to make any point whatsoever). From this, Felappi generalizes that 'phrases like 'John's belief' thus rebel against products and those

data that seem to be good points in favor are systematically counterbalanced by data against them' (Felappi 2014, p. 306, paragraph 2). Not only does this not follow from fallacious linguistic generalizations, but also Fellappi omits the actual arguments I (and Twardowski) give for the concreteness of products (and other attitudinal objects): their causal roles, perceivability, specificity, and temporal duration.

1.2 John believes what Sue believes

According to Felappi, the attitudinal objects semantics of attitude reports wrongly predicts that *John expects something* (as an inference from *John expects that* S) implies that 'what John expects is a product' (Felappi 2014, p. 306, paragraph 3). This is incorrect. My view of *something* as ranging over cognitive products when taking the place of clausal complements is not motivated by the ability of *something* to range physical products, but rather is linked to my account of *something* as a nominalizing quantifier, in a position in which it takes the place of any sort of nonreferential complement, including predicative and clausal complements (Moltmann 2003a, 2003b, 2004, 2013). As a nominalizing quantifier, *something* ranges over the same sorts of things as could be described by a corresponding nominalization — nominalizations of the sort *thought, belief, decision*, and so on in the case of attitude reports. In *John thought something*, *something* ranges of entities such as 'John's thought that S' or kinds of them, entities such as 'the thought that S'. However, those entities will not act as arguments of the verb, rather *something* as a nominalizing quantifier introduces a 'new' domain of entities. This is why the inference to 'what John expects is a product' does not go through.

Another point Felappi makes involves, again, an erroneous use of linguistic examples. According to Felappi, since *is going to happen* is not a predicate of products, the attitudinal objects analysis predicts that (10a) should be unacceptable:

(10) a. John expects something that is going to happen. (Felappi 2014, p. 307)

The mistake with that example is that *expect* is ambiguous, as any linguist will confirm. *Expect* can both take *that*-clauses as complements and act as an intensional or extensional transitive verb taking ordinary noun phrases as complements. On the use as a transitive verb, *expect* takes event-describing noun phrases as complements which will accept *that is going to happen* as a relative-clause modifier, as below:

(10) b. John expects an incident that is going to happen.

Felappi misses the fact that *something* can also take the place of ordinary noun phrases. Note that *is going to happen* could not apply to *something* after the verb *think*, which does not have a transitive variant (setting apart the cognate-object construction *think a thought*). That's why (10c) is unacceptable:

(10) c. ??? John thought something that was going to happen.

Something in Felappi's example (10a) is a complement of transitive *expect* and thus quantifies over (actual or merely conceived) events and not products.

Felappi, states that 'on product-based accounts the analysis of crossquantificational sentences is clearly more complicated than on the traditional picture' (Felappi, p. 308, paragraph 3). However, in Moltmann (2003b, 2013, chapters 3 – 5) I argue at length that no 'simple' analysis (say one in terms of quantification over propositions or a substitutional account) can explain for the semantic behavior of quantifiers like *something*, in its various occurrences: when replacing predicates, when replacing *that*-clauses, and when replacing complements of intensional transitive verbs.

1.3 John believes that snow is white

Felappi (2014, p. 309) suggests a general solution of the Substitution Problem as it arises with *that*-clauses, taking as point of the departure my account in Moltmann (2014) according to which *that*-clauses act as predicates of cognitive products. Felappi claims that just treating *that*-clauses as nonreferential, that is, as denoting properties or unsaturated entities, would account for the full range of the Substitution Problem, which, as she points out, also manifests itself with predicative complements of the copula *is*. She thus suggests a general account of the Substitution Problem in terms of Frege's distinction between saturated and unsaturated entities. A major theme of my book *Abstract Objects and the Semantics of Natural Language* as well as my earlier papers (Moltmann 2003b, 2004) is the generality of the Substitution Problem, including in copula contexts. I explicitly discuss and reject a Fregean account for the copula case in Moltmann (2013, chapter 3), as well as, when still adhering to a neo-Russellian account, for *that*-clauses in Moltmann (2003a). Instead I defend an account of the Substitution Problem by treating the complements that give rise to it all as nonreferential, contributing to the meaning of the sentence in a different way than by providing an argument (unsaturated or not) of the relation expressed by the verb. The generality of the Substitution Problem has been a major theme of my work since 2003, and Felappi's proposed solution has already been discussed and rejected in that work.

Section 2: Ontological worries

Felappi suggests that products are not needed to account for the Substitution Problem because *that*-clauses could be considered predicates predicated of entities like propositions, facts, and eventualities. Now, if on this account the latter act as arguments of the attitude verbs (which is what Felappi probably meant), then this amounts to the Modified Relational Analysis, which has been discussed explicitly and rejected in Moltmann (2003a, 2013, chapter 4).

Felappi argues that the action–product distinction does not apply to beliefs, which correlate with states and not actions. Here three points are to be made. First, my earlier account in Moltmann (2003a, 2004, 2013, chapter 4) does not conceive of attitudinal objects as artifacts produced by actions, and the trope-based account developed in Moltmann (2013, chapter 4) applies in the very same way to the distinction between

states and attitudinal objects as it does to the distinction between actions and products. Second, in Moltmann (2014, footnote 4) I leave open how states are to be dealt with. Third, in Moltmann (2016b, 2016d), I do not consider states to be products, but rather take the product function in the semantics of attitude reports with stative verbs to map a state onto itself. This takes care of views such as that of Searle (1983), which takes the intentionality of mental states (such as intentions) to be prior to the intentionality of actions. Beliefs, intentions, and desires share the relevant characteristics of cognitive products (having truth or satisfaction conditions, being concrete and mind- and agent-dependent, engaging in content-based causation, having a part structure based on partial content, etc.). Cognitive products are only a part of the more general category of attitudinal objects on which the new semantics of attitude reports is based.

To summarize, Felappi's points of critique fail to apply to my actual work and her alternative proposals have been discussed and rejected already in that work. Besides that, the notion of an attitudinal object and the related notions of a modal object and a locutionary product have a range of other important applications which I have pursued more recently, such as the notion of partial content and partial truth or satisfaction (Moltmann, 2016a), the semantics of modals (Moltmann, 2016b, 2016c), and the semantics of verbs of saying and of quotation (Moltmann, 2016c).

Note

1 Note that it is claimed that *is the same as* may not also express numerical identity as in Felappi's subsequent example *An object is always the same as itself* (Felappi 2014, p. 304, paragraph 3).

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