

Attitudinal Objects

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Attitudinal objects are entities of the sort we refer to as ‘judgments’, ‘claims’, ‘beliefs’, ‘decisions’, ‘desires’, ‘fears’, ‘intentions’, ‘promises’, and ‘requests’. They are neither events nor states nor propositions. This paper will defend the view that attitudinal objects form an ontology category of their own, distinct from that of events, states, and propositions.

Furthermore, it will defend the view that attitudinal objects rather than propositions are the primary truth bearers and play a central role in the semantics of attitude reports (though that role is somewhat different from that of propositions).¹ Attitudinal objects are concrete, agent-dependent entities that come with truth or satisfaction conditions as well as a part structure strictly based on partial content. As such, they play a central role in our mental life and in communication. Semantically, they play a role not only as referents of nominalizations such as judgment, claim, belief, etc, but also in the semantics of special quantifiers, such as something and everything, and what which can take the place of clausal complements, but also more indirectly in the semantics of clauses in object or subject position in general.

Attitudinal objects with their particular role in attitude reports allow avoiding the notorious conceptual problems of propositions: the problem of the graspability and of the truth directedness of propositions, the problem of the unity of the proposition, and the problem of arbitrary identification.

Attitudinal objects are extremely well-reflected in natural language and in our language-independent intuitions, they thus form part of the domain of descriptive metaphysics. However, attitudinal objects have hardly been recognized as an ontological category in philosophy or natural language semantics. Instead, the categories of events (including actions and states) and propositions are generally taken for granted both in natural language semantics and in philosophy. There are good reasons, however, to consider attitudinal objects as an important category of their own, with their characteristic properties that jointly

¹ The notion of an attitudinal objects has been discussed in Moltmann (2003a, b, 2013a, b, 2014, 2017a, b, c, d, 2018, to appear).

distinguish them from both events and propositions. Moreover, attitudinal objects, unlike propositions, bear an important connection to normativity, which underlies the application of the predicate *correct* as well as the choices of satisfaction predicates with different attitudinal objects.

Attitudinal objects had been recognized in a way by one philosopher in the past, namely Twardowski (1911), in the context of a particular way of drawing a distinction between actions and products. Twardowski took claims, judgments, decisions, and requests to be the (non-enduring) products of acts, and thus, most plausibly, (abstract) artifacts resulting from the act. This, however, as we will see, cannot serve as a general characterization of attitudinal objects. Not all attitudinal objects can be regarded the non-enduring abstract artifacts produced by actions, for example states or conclusions. Moreover, Twardowski's notion of a product does not account for the modal character of some attitudinal objects as well as the closely related category of modal objects (entities like obligations, permissions, and needs).

In what follows, I will first present the standard view of propositions and outline the semantics of attitude reports with attitudinal objects in place of propositions with ways of conceiving of its syntactic basis. I then discuss in greater detail the ontology of attitudinal objects with their relation to acts and states, the connection of attitudinal objects to normativity, and finally the limitations of the Twardowskian notion of a product.

1. Attitude reports with propositions

Propositions are generally taken to be mind- and language-independent objects that serve three roles at once: being the shareable contents of attitudes, being truth bearers, and being the meanings of sentences (relative to a context). Propositions take center stage in the standard semantic analysis of attitude reports, which for (1a) is as in (1b), where [*that Mary is happy*] is the proposition that Mary is happy:²

(1) a. John claims that Mary is happy.

b. claim(John, [that Mary is happy]))

² See, for example, Stalnaker (1984) and Schiffer (2003) for the standard semantic view of propositions.

Propositions have been identified with particular abstract objects, especially sets of worlds and, as structured propositions, n-tuples consisting of properties and objects. As such, the notion of a proposition has been the subject of various sorts of critique, of both philosophical and linguistic sorts. The philosophical critique concerns the following issues, which I will not discuss in great detail, but take as a given:³

[1] The problem of the graspability of propositions

How can propositions as abstract objects be grasped, and thus act as the contents of mental attitudes?

[2] The problem of the truth-directedness of propositions

How can propositions, as abstract objects of any sort, be true or false?

[3] The problem of the unity of propositions

How can propositions have the particular truth conditions they are meant to have, if they are identified structured propositions (the problem of the unity of the proposition

[4] The problem of the content-object distinction

How can propositions be contents of attitudes when attitude verbs are taken to stand for relations between agents and propositions? The logical form of attitude reports in (1b) represents the role of propositions in propositional attitudes as entities propositional attitudes are directed toward, rather as contents of attitudes.

[5] The problem of arbitrary identification

How can proposition be considered identical to one particular formal object rather than another, e.g. a set of worlds rather than a set of singleton sets of worlds, or a particular n-tuple rather than an n-tuple in reverse order?

How do these problems arise? They arise because of three roles propositions need to play at once, together with the assumption that clausal complements act as singular terms providing an argument of the relation expressed by verb. Being shareable contents of attitudes that are denoted by sentences (or *that*-clauses) requires propositions to be abstract, or so Frege thought.⁴ Being semantic values of clausal complements of attitude verbs requires propositions to be arguments of a relation expressed by the attitude verb.

³ See Jubien (2001), Soames (2010), Hanks (2007), Moltmann (2003a, 2013a) for discussion and further references.

⁴ Propositions as such need not be identified with particular abstract objects, which may be a way of avoiding problems [1,2,3,5]. An alternative that one might pursue is to take them to be primitives, in their roles as contents of attitudes and truthbearers, and as such just represented by the particular mathematical objects that are compositionally determined meanings of sentences. See Schiffer (2016) for such an approach.

There are also two sorts of linguistic problems for the standard view:

[1] The Substitution Problem and the Objectivization Effect

The former concerns the unacceptability of *John thought the proposition that S*, the latter the difference in understanding between *John fears that S* and *John fears the proposition that S* respectively).

[2] Restrictions on special quantifiers and pronouns

Quantifiers and pronouns like *something* and *what* are subject to restrictions which are incompatible with those expressions standing for propositions (Section 4.1).

In addition to those problems, one might add the absence of a noun for propositions in the core (non-technical part) of natural language, as opposed to terms for attitudinal objects, noted already by Bolzano (Moltmann / Textor 2017, p. xii f).

There are recent proposals, on which abstract propositions are replaced by types of cognitive acts (Soames 2010, Hanks 2017). This is meant to account for the graspability problem of propositions as well as the problem of unity of the propositions (by making use of acts of predication, constitutive of the unity and truthdirectedness of the proposition). Grasping a proposition then means performing an act of the type that is that proposition. On this view, acts are considered truthbearers, with propositions (as types of acts) inheriting their truth conditions from the acts that are their instances. That acts are truthbearers is a highly problematic assumption (Section 3). Other difficulties for the view have to do with the fact that it adopts the standard semantic analysis of attitude reports and thus retains the problem of the content-object distinction as well as two linguistic difficulties.

2. Attitude reports with attitudinal objects

How will the semantics of attitude reports look with attitudinal objects instead of propositions? There are different options of how to conceive of the logical form, which partly depend on syntactic views of clausal complementation one may adopt (Section 3.2.). In any case and most importantly, the clausal complement will act semantically act as a predicate of the attitudinal object, specifying, at least in part, its satisfaction conditions. This would go along well with a syntactic view on which *that*-clauses are in fact relative clauses (Kayne 2010, Arsjenevic 2009), but it does not hinge on such a view.

One option for the logical form of attitude reports with attitudinal objects is based on Davidson's (1967) event semantics (Moltmann 2014, 2017a). Davidsonian event semantics, on the version I will adopt, posits an additional argument position for events and states, so

that temporal and other adverbials can act as predicates of those implicit event arguments.⁵ Davidsonian events can be used to introduce attitudinal objects into the semantic structure of sentences, by a function associating an attitudinal object such as a claim with the act e of claiming (att-obj(e)). The same function may associate a belief e with a state of believing e -- even if the belief state is considered derivative with respect to the belief (Section 5.1.). The logical form of an attitude report as in (2a) will then be as in (2b):

(2) a. John claims that Mary is guilty.

b. $\exists e(\text{claim}(e, \text{John}) \ \& \ [\textit{that Mary is guilty}](\text{att-obj}(e)))$

A second option can do without positing Davidsonian events, by taking the attitudinal object to be an argument of the verb *claim* and the complement clause to serve as a predicate of that argument (rather than as referring to it), as below:⁶

(3) $\exists d(\text{claim}(\text{John}, d) \ \& \ [\textit{that Mary is guilty}](d))$

I will not discuss the two options and possibly others with their various linguistic ramifications, but rather focus on the question, how does an analysis on which *that*-clauses act as predicates of attitudinal objects avoid the problems for propositions? First of all, attitudinal objects are mind-dependent objects. The problem of how to represent and to be a bearer of truth does not arise for mental objects, at least not as a problem for the semanticists to account for; rather it is an issue for the philosopher of mind. Intentionality, the ability to represent is the hallmark of the mental: it is in the nature of mind-dependent, attitudinal objects to have truth or satisfaction conditions. A semantic analysis making use of them can presuppose their representational capacity without having to explain it. By contrast, propositions are mind-independent objects that are at once semantic objects, meanings of

⁵ Note that attitudinal objects and Davidsonian events have very different semantic motivations and bear different types of properties. Davidsonian events are meant to be the objects to which adverbials apply (thus are bearers of the sort of properties adverbials convey), whereas the semantic motivations for attitudinal objects come from the semantics of attitude reports and nominalizations of attitude verbs (and thus are bearers of content-related properties).

⁶ Of course (3) is compatible with Davidsonian event semantics as well, as in the logical form below:

(i) $\exists e \exists d(\text{claim}(e, \text{John}, d) \ \& \ [\textit{that Mary is guilty}](d))$

sentences, and truth bearers. Their capacity to bear truth needs to be explained by the semanticist and cannot be taken for granted.

How does the analysis account for the unity of the proposition problem? The clausal complement, on the analysis in (2b), does not come with a compositionally determined meaning that is the propositional argument of the attitude verb; rather the clausal complement acts semantically as a predicate of the attitudinal object, and thus denotes a compositionally determined property of attitudinal objects only (Section 2.1.4.).

The analysis in (2b) does not raise the problem of the content-object distinction. This is because it does not take propositions to be arguments of attitudinal relations. Given (2b, 3), having a propositional attitude does not mean standing in a relation to a proposition, but rather engaging in an attitudinal object with a particular content.

Yet attitude reports based on attitudinal objects still have to answer one important issue, namely how is the sharing of the content of attitudes possible? There are two ways, well-reflected in natural language. One way is by two agents engaging in exactly similar attitudinal objects. It is in the nature of attitudinal objects to enter relations of similarity strictly on the basis of being the same in content. This is reflected in the applicability of *is the same as* (which in natural language conveys exact or close similarity), as in (4), which means that John's and Mary's beliefs are the same in content:⁷

(4) John's belief is the same as Mary's.

A second way for two agents to share a propositional content is to engage in the same kind of attitudinal objects. Attitudinal objects form kinds whose instances are maximal classes of exactly similar products. This is what natural language reflects with the availability of kind terms in Carlson's (1977) sense, as in the examples below:

- (5) a. The belief that god exists is widespread.
 b. John often encounters the expectation that he should become famous.

⁷ A precondition for two attitudinal objects to be 'the same', though, is that they be of the same type. Thus, the sentences below sound false, and that is because a thought and a remark do not involve the same physical realization and a hope and a claim do not have the same force:

- (i) a. ?? John's thought is the same as his remark.
 b. ??? John's hope is the same as Mary's claim.

Kinds need not be conceived as single abstract objects, but may rather be viewed as pluralities of (possible and actual) instances (Moltmann 2013a). However they may be conceived, kinds should inherit truth properties from their instances, as below:

- (6) a. The belief that John won the race is true.
 b. The expectation that John would become famous was not fulfilled.

Reference to kinds of attitudinal objects is important in that it permits reporting the sharing of a propositional content:

- (7) John and Bill share the belief that Mary is guilty.

Here *the belief that Mary is guilty* stands for a kind of attitudinal object.

3. The ontology of attitudinal objects

3. 1. Properties of attitudinal objects

Attitudinal objects, as we will see, are distinct from actions and states; yet they correlate with actions or states. Thus, attitudinal objects divide into *act-related attitudinal objects* which include judgments, decisions, claims, requests, promises, and *state-related attitudinal objects* such as beliefs, intentions, desires, and fears.⁸ Attitudinal objects share characteristic properties that jointly distinguish them from actions (and states) and propositions and in particular they display properties that could hold neither of actions (and states) nor of propositions.

3.1.1. Properties of concreteness

Attitudinal objects play a central role in our mental life as well as in communication. First of all, in their status as concrete content bearers, they naturally serve as objects of various forms of content-based causation. This is well-reflected in the way we use causal predicates with

⁸ In my former work (Moltmann 2014, 2017), I called the former *cognitive and illocutionary products* and the latter *mental states*, terms that I now consider problematic.

attitudinal objects as opposed to with the corresponding actions (Moltmann 2013a 2014, 2017a). If Mary's claim caused a commotion, this implies that the content (conveyed by Mary) was causally responsible; by contrast, if Mary's speech act caused a commotion, this implication does not hold. A decision may cause an action on the part of the agent, and that only in virtue of its content, whereas an act of deciding may trigger of an act of taking a break from further decision-making. Propositions as abstract objects, on the standard understanding, cannot play causal roles and thus leave content-based causation a puzzling phenomenon.

Mental attitudinal objects furthermore act as the targets of content-related memory. We remember thoughts, beliefs, decisions and intentions, rather than propositions. We may remember acts of thinking or acts of deliberating without recalling their content, but not so for thoughts and decisions.⁹

Attitudinal objects have other properties of concreteness, such as being objects of perception (remarks, claims) and having a limited life span. John's belief that S comes into existence only once John believes that S and cease to exist once John no longer believes that S. Twardowski in fact took products to share their lifespan with the acts that produce them. However, this does not seem correct for products such as claims and promises, which have a modal character that permits them to last beyond the illocutionary act that produced them (Sect. 5).

3.1.2. Content-related properties

In addition to their roles in content-based causation and remembering, attitudinal objects have three characteristic properties relating only to their contents:

[1] Truth or satisfaction conditions

Attitudinal objects such as claims, judgments, and beliefs have truth conditions, but not so for their correlated states or actions. John's claim or judgment may be true or false, as may be John's belief. But a speech act cannot intuitively be true or false, and neither can an act of judging. Also a mental state described as such (a belief state) cannot intuitively be true or false. Other attitudinal objects do not have truth conditions, but rather satisfaction conditions and thus can be satisfied, fulfilled, implemented, or realized. I will turn to those in greater detail in Section 3.3.

⁹ Ideas can also act as targets of memory, but they are products of cognitive acts, possibly involving generic agency.

[2] Similarity relations strictly on the basis of being the same in content

Attitudinal objects that are of the same sort (involving the same kind of physical realization and force) enter similarity relations conveyed by (*is the same as*) just on the basis of a shared content. *Is the same as* does not apply in that way to actions or states: for two actions or states to be the same they need to share features of their performance or constitution (if it makes even sense to apply *is the same as* to them); sameness of content will not be enough, as the contrast between (8a) and (8b) makes clear:

- (8) a. John's thought is the same as Mary's.
 b. John's thinking is the same as Mary's.

[3] Part structure strictly based on partial content

This property is best reflected in the way *part of* is understood when applying to an attitudinal object. 'Part of John's decision' cannot be 'part of the action of deciding', the temporal part of an action. 'Part of John's claim' cannot be 'part of the speech act of claiming'. Similarly, 'part of John's belief' and 'part of John's hope' can only be partial contents, not what is normally considered the part of a state (a temporal part or part of the conditions constitutive of the state). It is remarkable that even physically realized attitudinal objects (e.g. claims), fail to have a physical part structure. They differ in that respect from physically realized artifacts like books, which have content-based and material part structures.¹⁰

3.1.3. Predicates of satisfaction and their selection of attitudinal objects

There is a standard view according to which nominalizations of attitude verbs such as *claim*, *belief*, *request*, *decision* etc. are ambiguous or rather polysemous, standing either for actions or states (with their causal and temporal properties) or for propositions (with their content-related properties), depending on the predicate with which they occur.¹¹ There are serious difficulties for that view, which include the understanding of predicates of similarity and part structure with nominalizations of attitude verbs (which only get the content-related

¹⁰ This puzzle is addressed in Moltmann (2019b) in the context of a more general discussion of 'attributively limited objects'.

¹¹ See, for example Pustejovsky (1995).

reading).¹² But the most important argument against polysemy comes from predicates of satisfaction, which could be predicated neither of actions or states nor of propositions. Four types of satisfaction predicates can be distinguished:

[1] Truth predicates: *true, correct*

[2] Predicates of fulfillment and violation: *fulfill, satisfy, follow, violate, and ignore*

[3] Predicates of acceptance: *accept, take up*

[4] Predicates of realization: *realize, execute, implement*

The four classes of satisfaction predicates select different types of attitudinal objects. Truth predicates apply to attitudinal objects such as beliefs, claims, and judgments, but hardly to events and states, though the intuitions are sometimes denied (Soames 2010, Hanks 2017):

(9) a. The claim / belief / judgment is true.

b. ??? The speech act / belief state / act of judging is true.

Predicates of fulfillment and violation such as *satisfy, fulfil, follow, comply with, and violate* apply to various attitudinal objects that do not take truth predicates, such as requests, demands, promises, and advice. Predicates of fulfillment and violation, importantly, apply neither to actions nor propositions. The agent-related predicates of satisfaction *keep* and *break* illustrate the contrast particularly well:¹³

(10) a. John kept / broke his promise.

b. ??? John kept / broke the proposition that S.

c. ??? John kept / broke the act of promising / the speech act.

¹² One might also think of cases of co-predication as difficulties for the polysemy view, namely involving the attribution of an event-related (causal or perceptual) predicate and a proposition-related (truth-related) predicate to the same entity:

(i) a. John overheard Bill's claim, which implies that Mary is guilty.

b. John's obviously false claim yesterday caused astonishment.

Co-predication arguments are notoriously problematic, though, and various approaches dealing with them have been developed that would not involve positing a single entity as the target of the two predicates.

¹³ The observation about satisfaction predicates when applied to nominalizations of illocutionary verbs was made by Ulrich (1979), who argued that claims, demands, and promises are objects *sui generis*. Twardowski (1911) already gave various examples with different sorts of attitudinal objects.

Attitudinal objects of the sort of offers and invitations do not accept predicates of fulfilment but rather go with predicates of acceptance, such as *take up* and *accept*.

Attitudinal objects of the sort of intentions and decisions do not go with predicates of fulfilment, violation or acceptance, but rather predicates of realization such as *realize*, *implement*, or *execute*. Again, states of intending or acts of deciding cannot be realized or executed.

3.2. Attitudinal objects and normativity

Why do different predicates of satisfaction select different types of attitudinal objects? In what follows I will give an account of that selection making use of a particular connection of attitudinal objects to normativity as well as of truthmaker semantics. The connection to normativity is also reflected in the understanding of the predicate *correct* when applied to attitudinal objects, which I will address first.

3.2.1. Predicates of correctness and attitudinal objects

Both propositions and attitudinal act as truthbearers accepting the predicate *true*. However, truth has a normative status with attitudinal objects which it does not have with the propositions. This manifests itself in the understanding of the predicate *correct* (or *right*). *Correct* conveys truth and only truth with attitudinal objects (not imposing any conditions on justification or appropriateness), but it is hardly applicable to propositions, with that meaning or any other:

- (11) a. John's belief is correct.
 b. John's judgment is correct.
 c. John's claim that S is correct.

The norm that *correct* relates to when applying to beliefs, claims, or judgments is not that of the fulfillment of action-guiding norm.¹⁴ Rather it is a semantic notion of correctness, of the fulfillment of the purpose or telos of representational object (Jarvis 2012). Only when applying to mental or illocutionary acts, does *correct* convey the fulfillment of a contextually

¹⁴ The philosophical literature on the normativity of content and truth has generally focused on an action-guiding notion of a norm (Boghossian 2003, Gibbard 2005).

given, action-guiding norm:

- (17) a. ?? John's belief state is correct.
 b. ?? John's act / claiming that S is correct.
 c. John's making a judgment / John's judging / John's raising an objection was correct.

Here *correct* has the same reading it has when applying to physical actions:

- (12) The dancer's movements were correct.

A similar sort of contrast to the one between attitudinal objects and corresponding acts can be observed with other minimal ontological pairs, such as punishments vs acts or punishing and signatures vs acts of signing:

- (13) a. John's punishment was correct.
 b. Punishing John was correct.
 (14) a. The signature is correct.
 b. The act of signing is correct.

In (13a, 14a) *correct* conveys the fulfillment of a teleological norm by a content- or form-bearing object. In (13b, 14b), it conveys the fulfilment of an action-guiding norm.

Assuming that *correct* has a single, meaning, conveying the fulfilment of a norm, this means that with an object (attitudinal object or other) *correct* relates to the norm intrinsically associated with the object, but with actions it relates to an action-guiding norm. Truth in particular has the status of a norm associated with certain attitudinal objects. This means that recognizing attitudinal objects as an ontological category of its own, reflected in our general intuitions about the mind and communication as well as in the semantic behavior of nouns and predicates, permits a normative account of truth which avoids the usual difficulties that arise when truth is taken to be an action-guiding, norms on what one should believe or assert.

3.2.2. Normativity and predicates of satisfaction

The normative status of truth with attitudinal objects also bears on the selection of types of attitudinal objects by different types of predicates of satisfaction. The selection of different

types of attitudinal objects predicates is best understood when recognizing that what satisfies attitudinal objects need not be entire worlds but actions, or more generally either situations (entirely relevant part of worlds) or actions. That is, attitudinal objects will involve a semantics based on exact truthmaking in the sense of Fine (2017) rather than possible worlds.

Let us first address the question of what characterizes attitudinal objects that have satisfaction conditions rather than truth conditions. Intuitively, what distinguishes the latter from the former is that they require the world to fit the representation, rather than the representation the world, that is they come with a ‘world-word/mind-direction of fit’, rather than a ‘word/mind-world direction of fit’ (Searle 1969, 1983). What exactly is a direction of fit? The notion of direction of fit is best understood as a norm-based notion, using both a semantic notion of a norm and a notion that is action-guiding. In terms of correctness, we can say that an attitudinal object with a word-world direction of fit is correct in case there is a part of the world that makes it true, whereas an action performed by way of satisfying an attitudinal object with a world-word direction is correct in case it satisfies the attitudinal object. That is, a word-world direction of fit means that the attitudinal object itself needs to fulfil a norm, whereas attitudinal objects with a world-word/mind direction of fit comes with an action-guiding norm, imposed on its satisfiers. Thus we have:

(15) Characterization of direction of fit for illocutionary products

- i. An illocutionary product *o* has a *word-world direction of fit* just in case *o* satisfies its intrinsic norm (is correct) in a world *w* iff *w* makes *o* true.
- ii. An illocutionary product *o* has a *world-word direction of fit* just in case any action *a* performed in recognition of *o* satisfies the norm imposed by *o* (is correct) in a world *w* iff *a* is part of *w* and satisfies *o*.

(15) makes essential reference to actions as satisfiers, and hence involves truthmaker semantics. Not all attitudinal objects that take predicates of fulfilment have actions as satisfiers, though, in particular nonfactive future-oriented emotive attitudinal objects (hopes, desires) do not:

(16) John’s hope / desire that he would win was fulfilled / ??? true.

One may extend the notion of a world-word direction of fit to hopes and desires by taking hopes and desires to require part of the world to trigger a positive emotive response in the

subject, which in this case is the norm/standard to be fulfilled. That is, an action-guiding norm is imposed, somewhat irrationally, on part of the world, which matches the somewhat irrational nature of hopes and desires itself.

Why do some attitudinal objects take predicates of acceptance rather than satisfaction? Those attitudinal objects also involve a world-word direction of fit. The difference resides in that requests and demands have both satisfiers and violators, actions that violate or ignore the request or demand, whereas invitations, permissions, offers, and proposals do not have violators. Not taking up an offer or accepting an invitation is not a violation, but whatever action is performed in virtue of which the demand or request fails to be satisfied, that action is a violator of the request or demand. Ignoring an offer is not violating it, but ignoring a demand is. The difference can hardly be accounted for in terms of possible worlds, which just divide into those satisfying a demand or offer and those that don't. Truthmaking, by contrast, allows for an account of the difference between attitudinal objects of necessity and of possibility. Predicates of acceptance select the former, that is, attitudinal objects that have only satisfiers, whereas predicates of fulfillment select the latter, that is, attitudinal objects that have satisfiers as well as violators.

Why don't decisions and intentions accept predicates of fulfillment or acceptance, as they seem to also come with world-word/mind direction of fit. The reason is the sort of norm that illocutionary objects like demands and promises impose on their satisfiers. Illocutionary objects like requests and promises impose a social norm on the actions of the addressee or the speaker, but psychological objects like decisions and intentions don't.

To summarize, these are the factors that determine the selection of types of attitudinal objects by different predicates of satisfaction:

- [1] the presence or absence of a norm intrinsically associated with the attitudinal object
- [2] the presence or absence of violators of the attitudinal object
- [3] the presence or absence of a social norm imposed on satisfiers of the attitudinal object.

Unlike for attitudinal objects, truth for propositions does not have the status of a norm. This indicates that if propositions are entities at all, they are just the reified meaning of sentences, carrying truth conditions only by inheritance from the sentence or the attitudinal objects of which the sentence as a predicate holds.

3.2.4. Clauses as semantic predicates of attitudinal objects

There may be different ways of conceiving of the the meaning of a *that*-clause as a predicate of attitudinal objects. When it comes to taking such a property to convey just the satisfaction conditions of the attitudinal object, then truthmaker semantics is particularly suited as it permits formulating a single property applicable to attitudinal objects of both the force of necessity and of possibility (Moltmann 2018a, b).¹⁵ Truthmaker theory in its application to attitudinal objects is based on situations or actions standing in the relation \Vdash of exact truthmaking or exact satisfaction to a sentence or attitudinal object. More precisely, an attitudinal object d will be associated with exact truthmakers or satisfiers (entities s that stand in the relation \Vdash to d) as well as exact falsmakers or violators (entities that stand in the relation \Vdash to d), as formally given below:¹⁶

(17) Sentence Meanings as Properties of Attitudinal Objects

$$[S] = \lambda d[\forall s(s \Vdash d \rightarrow \exists s'(s' \Vdash S \ \& \ s < s') \ \& \ \forall s'(s' \Vdash S \rightarrow \exists s(s \Vdash d \ \& \ s < s')) \ \& \ \forall s(s \Vdash S \rightarrow s \Vdash d, \text{ in case } \text{neg}(d) \neq \emptyset)]$$

That is, a sentence S expresses the property of attitudinal objects d such that every satisfier of d is part of an exact satisfiers of S and every satisfier of S contains a satisfier of d as part, and moreover all violators of S are also violators of d , if d has violators. For attitudinal objects of possibility, the second conjunct will be vacuously satisfied.

4. Semantics of special quantifiers and the compositional semantics of attitude reports

4.1. The semantics of special quantifiers

Attitudinal objects (and kinds of them) have another important reflection in natural language besides the semantics of nominalizations of attitude verbs, namely in the semantics of quantifiers and pronouns that can take the position of clausal complements, what I call ‘special’ or ‘nominalizing’ quantifiers and pronouns (Moltmann 2003a, b, 2013a, 2014,

¹⁵ Possible-worlds semantics does not allow for a single meaning of a sentence as a property of content bearers applying both to objects with the modal force of necessity and of possibility (Moltmann 2018b).

¹⁶ (23) accounts for the possibility of the underspecification of the satisfaction conditions of, for example, a desire by the complement clause (Fara-Graff 2013).

2017a). In English, these are quantifiers like *something* or *several things* and the pronouns *what* and *that*:

- (18) a. John claims / knows / fears something.
 b. John imagines / expects that.
 c. John claims what Mary claims.

On the standard view, such quantifiers and pronouns are taken to stand for propositions. Only if they stand for propositions, according to a common assumption, can they validate inferences as in (25a) and (25b):

- (19) a. John thinks that Mary is happy.
 John thinks something.
 b. Mary believes everything Bill believes.
Bill believes that it is raining.
 Mary believes that it is raining.

However, the actual semantic behavior of special quantifiers and pronouns indicates that such quantifiers and pronouns do not stand for propositions, but rather for attitudinal objects or kinds of them.

First, restrictions of special quantifiers cannot generally be understood as predicates of propositions; rather what they are predicated of is attitudinal objects or kinds of them:

- (20) a. John said something nice (namely that S).
 b. John thought something daring (namely that S).
 c. John said something that made Mary very upset.

It is not a proposition that is said to be nice in (20a), but rather something like John's remark or John's claim. It is not a proposition that is said to be daring in (20b), but a thought. Moreover, it is not a proposition that could have made Mary upset according to (20c), but rather a claim or remark.

Second, reports of sharing of the content of different attitudes indicate that special quantifiers or pronouns in such reports stand for kind of attitudinal object, rather than propositions:

- (21) a. ?? John screamed what Mary believes, namely that Bill was elected president.
 b. ?? John expects what Mary believes, namely that Sue will study harder.
 c. ?? John said what Mary believes, namely that it will rain.

(21a-c) are just as unacceptable as the examples below corresponding nominalizations:

- (22) a. ?? John's scream was Mary's belief.
 b. ?? John's expectation is Mary's belief.
 c. ?? John's claim was Mary's belief.

This indicates that *what Mary believes* stands in fact for a belief, a (kind of) attitudinal object, rather than an abstract proposition

Special quantifiers thus are nominalizing quantifiers, in the sense of quantifiers that range over the sorts of things the nominalization of the verb would stand for (an attitudinal object of a kind of attitudinal object), rather than what could be the semantic values of a *that*-clause (Moltmann 2003a, b, 2013a).

There is further support for the semantic involvement of attitudinal objects in attitude reports and that comes from the availability of *complex attitudinal predicates* instead of simple attitude verbs. Complex attitudinal predicates involve a light verb and a noun or noun phrase standing for an attitudinal object, for example *have a belief*, *make a judgment*, or *give advice*. Sometimes simple attitude verbs alternate with complex predicates (*think – have the thought that S*, *believe – have the belief*, *claim – make a claim*); sometimes the complex form is the only option (*have the impression*, German *Angst haben* ‘have fear’). Attitudinal objects thus are explicitly involved in the semantics both of complex attitudinal predicates and of special quantifiers.

4.2. The compositional semantics of attitude reports with attitudinal objects

The semantics of special quantifiers raises the question of what enables them to quantify over attitudinal objects or kinds of them. There are in principle two sorts of options one might pursue. One of them is that the morpheme *-thing* in (23a) moves up from its lower position and incorporates into the verb *think*, as in (23b), leading to the logical form in (23c) (Moltmann 2003a, b, 2013a). Making use of the logical form of attitude reports with clausal

complements in (23b), *V-thing* will express the relation between events, agents and attitudinal objects in (23d):

- (23) a. John claimed something.
 b. John claim-thing_i [some e_i]
 c. Some x: claim-thing(e, John, x)
 d. [claim-thing] = $\lambda e x d[(\text{claim}(e, x) \ \& \ d = \text{att-obj}(e))]$

This option raises various issues that would have to be addressed, such as the justification of the particular movement of *thing* and the fact that special quantifiers sometimes lack an overt nominalizing element (e.g. German *etwas*). Making use of this option, attitude report such as (24a) with a special quantifier such as will have the logical form in (24b):

- (24) a. John thought something daring.
 b. $\exists e \exists e'(\text{think}(e, \text{John}) \ \& \ \text{daring}(e') \ \& \ e' = \text{att-obj}(e))$

Reports of sharing of the content of attitudes of different agents as in (25a) involve quantification over kinds of attitudinal objects as in (25b):

- (25) a. John thought what Mary thought.
 b. $\exists e \exists e' \exists e''(\text{think}(e, \text{John}) \ \& \ e' = \text{att-obj-kind}(e) \ \& \ \text{think}(e'', \text{Mary}) \ \& \ e' = \text{att-obj-kind}(e''))$

Another option one might pursue is to make use of the alternation between simple and complex attitudinal predicates and consider an attitude verb like *claim* to underlying be the complex predicate *make claim* (Arsijenevic 2009). A syntactic analysis of that sort has been proposed by Harves/Kayne (2015) for *need* as *have need* of. Applying their analysis to attitude reports means that *John claimed that S* would have the syntactic structure in (26a), where the noun *claim* has moved from the position of the nominal head of the complement to a one adjoined to the light verb and *make-claim* or what will be spelled out as the full verb *claim* will have the meaning in (26b):

- (26) a. John make-claim_i [e_i that S].

b. [make claim] = $\lambda \text{exd}[\text{make}(e, x, d) \ \& \ \text{claim}(d)]$

Something in *John claimed something* then quantifies over entities that will be potential object arguments of *make-claim*.

This option is subject to serious challenges as well. One of them is that the noun for the attitudinal object may itself be derived from the verb, for example *thought*, *judgment*, *decision*, *intention*. This means that if the verb was derived from a complex predicate, it would have to involve a silent noun distinct from the overt nominalization (which itself may figure in complex predicates *have the thought that S*, *make the judgment that S*, *make the decision that S*). Moreover, there are attitude verbs that lack a nominalization (*ask*, *say*) and thus cannot be derived from a complex predicate involving an overt noun. Another issue is how special quantifiers like *something* could co-occur with *claim* in object position, before movement of the latter to the position of the verb, and moreover how it. Finally, the view leaves unexplained the fact that clausal complements of verbs are generally obligatory, but not so clausal modifiers of nouns. The choice among the two views, thus, requires serious syntactic research as to what is really involved in the syntax of complement clauses and the quantifiers that can take their place.

5. Attitudinal objects and their relation to acts

5. 1. The limits of Twardowski's action-product distinction

As was mentioned, the notion of attitudinal object has an important predecessor in Twardowski's (1911) notion of a product. Twardowski, in opposition to Frege, argued for a mind-dependent notion of a truthbearer, a notion meant not to be subject to the objections to psychologism that were around at the time. Products are as agent-dependent as actions, but crucially they enter similarity relations on the basis of shared content only. Thus, distinct products, dependent on different agents or pertaining to different times, can share their content, in which case they are similar.

Twardowski's action-product distinction was motivated by two sorts of nominalizations in natural language, or rather, for Twardowski, Polish, German, and French.¹⁷ In English, which reflects the very same distinction, terms for actions are generally gerunds, whereas

¹⁷ For a crosslinguistic study of the action-product distinction see Gerner (2017).

terms for products are other, simple or derived, nominalizations, as in the minimal pairs *thinking – thought, judging – judgment, believing – belief, claiming – claim, deciding – decision, demanding – demand, screaming – scream*. For Twardowski, the action-product distinction includes cognitive and illocutionary actions and their products.¹⁸

Twardowski took products of actions like thinking, claiming, judging, deciding, and demanding to be on a par with material products like a piece of writing as a product of an act of writing. While Twardowski was not explicit about how products are to be viewed ontologically, the most plausible interpretation of products is as the non-enduring artifacts produced by the actions, that is, ‘abstract’ artifacts in Thomasson’s (1999) sense. Artifacts in general are considered mind-dependent objects that may lack a physical or material realization (e.g. poems or musical compositions that have not been written down) and thus may fail to endure.

The notion of a product in that sense is not suited, however, to capture the general category of attitudinal objects. There are two types of attitudinal objects to which the notion of a product does not apply.

First, state-related attitudinal objects such as beliefs, hopes, intentions, and desires cannot generally be viewed as products of actions. A belief may have been produced by an action, but need not be. Intentions are states that are presupposed by the intentional action set out to realize them and could not be produced by an intentional action themselves, on pain of regress (Searle 1983). Beliefs, desires, hopes, and intentions, though they are generally considered mental states, should not be considered states either: states, as we have seen do not share the characteristic properties of attitudinal objects, in particular their content-related properties. A state such as a believing in fact is an entity that is derivative upon a belief, as an abstract state of having a belief (Moltmann 2013b, 2018).

Second, there are act-related attitudinal objects for which the notion of a product is not suited. These are attitudinal objects that are not entities agents generally intend to produce with the action in question. Attitudinal objects associated with eventive epistemic verbs, for example, can hardly be considered artifacts produced by a mental action. A recognition that S and a realization that S are not the intended products of epistemic acts, rather they are occurrences that, if anything, may have answered a state or act of inquiry. A particular

¹⁸ In addition and more problematically, Twardowski assumed that even physical actions can come with a product (walking vs walk). See Moltmann (2017a) for a critique of the physical action-product distinction.

conclusion or judgment is not the intended product of an act of reasoning. For actions of recognizing, realizing, concluding, and judging, it is the attitudinal object that individuates the action that culminates in it, rather than the attitudinal object being individuated as the intended product of the action.

Twardowski's notion of a product, moreover, has a serious limitation in that it does not cover a category of objects that are closely related to attitudinal objects, namely *modal objects*. Modal objects include needs, obligations, permissions, offers, and abilities. They exhibit the very same content-related properties as attitudinal objects (having satisfaction conditions, standing in similarity relations based on shared content only, having a part structure strictly based on partial content) (Moltmann 2017a, 2018). In addition, modal objects may exhibit features of concreteness, in particular having a limited lifespan and perhaps being causally efficacious. While 'heavy' (or explicit) obligations and permissions, to use von Wright (1963) term, are generally products of acts (of demanding or permitting), this is not the case for 'light' (or implicit) permissions and obligations, various sorts of needs, and abilities (Moltmann 2017c, 2018). One feature that distinguishes modal objects from attitudinal objects that are cognitive or illocutionary products is that modal objects may easily last beyond the act that may have established or created them (Moltmann 2017a). This holds even hold for attitudinal objects such as claims, requests and promises, whose validity may last beyond the act that created them. Some attitudinal objects thus have a modal character not as such captured by the Twardowskian notion of a product.

The fact that state-related attitudinal and modal objects exhibit the very same content-related properties as attitudinal objects that can be considered products of acts is significant philosophically: it means that the content-related properties of attitudinal and modal objects cannot generally be traced to the nature of a product as an artifact and thus in particular explained in terms of intentional acts.

6. Conclusion

Even though attitudinal objects have not generally been recognized as an ontological category in contemporary philosophy, they are extremely well reflected in natural language as well as in our general intuitions about mental attitudes and speech acts. Attitudinal objects are characterized by a range of types of properties that jointly distinguish them sharply from related types of objects, such as actions, states, and propositions. Attitudinal objects also play important roles in the ontology of the mind as the objects involved in content-based causation

and remembering. Unlike abstract propositions, attitudinal objects are clearly part of the ontology we implicitly accept, the ontology that is the subject matter of descriptive metaphysics in Stawson's (1959) sense and of natural language ontology (Moltmann 2017d).

Attitudinal objects are most obviously the semantic values of (non-gerundive) nominalizations of attitude verbs, but they also serve as semantic values of special quantifiers and pronouns, which can take the place of clausal complements, and arguably play a central role in the semantics of attitude reports not involving explicit reference to them.

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