

Attitudinal Objects and Propositions

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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 ontological 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-whole 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’. Attitudinal objects can take the place of clausal complements, but play a more indirect role in the semantics of clauses in object or subject position in general.

Recognizing attitudinal objects and their particular role in attitude reports allows us to avoid 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 largely gone unrecognized 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 characteristic properties that jointly distinguish them from both events and propositions.

Attitudinal objects had been recognized in a way by one philosopher in the past, namely Kazimierz 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 abstract, temporary (i.e., non-eternal) products of their associated acts.

This, however, as we will see, cannot serve as a general characterization of attitudinal objects. Not all attitudinal objects, even when they result from actions, can be regarded as temporary abstract artifacts produced by actions. Moreover, the notion of a product in the sense of an artifact is not applicable to state-like attitudinal objects such as beliefs, intentions, desires, and fears. State-like attitudinal objects reflect a distinction between, e.g., beliefs and belief-states, but that distinction cannot be understood in terms of the notion of a product. Finally, Twardowski’s notion of a product does not account for

the modal character of some attitudinal objects (such as promises and claims) as well as the category of modal objects, which is closely related to that of attitudinal objects, namely entities like obligations, permissions, and needs. Attitudinal objects are of particular interest also in that they, quite unlike propositions, bear an important connection to normativity, which underlies the understanding of the predicate *correct* as well as the choices of satisfaction predicates with different attitudinal objects.

In what follows, I will first present the standard view of propositions and outline a compositional semantics for attitude reports with attitudinal objects in place of propositions. I then discuss in greater detail the ontology of attitudinal objects and how they relate to acts and states, the connection of attitudinal objects with normativity, and finally the modal character of attitudinal objects.

25.1 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*] represents the proposition that Mary is happy²:

- (1) a. John claims that Mary is happy.
- b. claim (John, [*that Mary is happy*]))

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 philosophical and linguistic critiques. The philosophical critique concerns the following issues, which I will not discuss in great detail, but take as a given³:

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 with structured propositions?
4. The problem of the content-object distinction for attitudes
How can propositions be contents of attitudes when attitude verbs are taken to stand for relations between agents and propositions? For example, the logical form of the attitude report 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 propositions be identified with one particular type of formal object rather than another (sets of worlds, say, rather than sets of singleton sets of worlds, or n-tuples rather than n-tuples 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 a verb. Being shareable contents of attitudes that are denoted by sentences (*that*-clauses) requires propositions to be abstract, or so Frege (1918/9) thought. Being semantic values of clausal complements of attitude verbs requires propositions to be arguments of a relation expressed by the attitude verb.⁴

There are also linguistic difficulties 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*.

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.

In addition, 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 and Textor 2017, p. xiif).

There are recent proposals, on which abstract propositions are replaced by types of cognitive acts. This is meant to account for the graspability problem of propositions as well as the unity of the proposition (by making use of acts of predication, constitutive of the unity and truth-directedness of the proposition). Grasping a proposition then means performing an act of the type of that proposition. On that view, acts are considered as truth bearers, while propositions (as types of acts) inherit their truth conditions from the acts that are their instances. However, the view that acts are truth bearers is in fact highly problematic (Section 25.3). Other difficulties for the view have to do with the fact that it adopts the standard semantic analysis of attitude reports, and thus the problem of the content–object distinction remains, as do the two empirical problems for propositions.

25.2 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 different syntactic views of clausal complementation (Section 25.3.2). In any case, though, and most importantly, the clausal complement will act semantically 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 is to make use of Davidsonian event semantics (Moltmann 2014, 2017d). Davidsonian event semantics (on one version) posits an additional argument position for events and states, so that temporal and other adverbials can act as predicates of those implicit event arguments and sentences themselves will involve existential quantification over events (Davidson 1967).⁵ Though the motivations for Davidsonian events (the semantics of adverbials) are different from the present concerns, 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* (and that even if the state is considered derivative with respect to the belief). 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. $\exists e(\text{claim}(e, \text{John}) \ \& \ [\text{that Mary is guilty}](\text{att-obj}(e)))$

Without positing events, the attitudinal object could be considered an argument of the verb *claim*, with the complement clause acting as a predicate of that argument, rather than as a referential term referring to it, as below⁶:

- (2) c. $\exists d(\text{claim}(\text{John}, d) \ \& \ [\text{that Mary is guilty}](d))$

How will such an analysis 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 semanticist to account for; rather it is an issue for the philosopher of mind. Intentionality, or 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 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 25.2.1.4).

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

Attitudinal objects come in kinds, kinds whose instances are maximal classes of exactly similar products. At least this is what natural language reflects with the availability of kind terms in Carlson's (1977) sense as in the examples below:

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

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:

- (4) 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:

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

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

The questions to be addressed next are, first, how are attitudinal objects to be understood ontologically and how can the meaning of *that*-clauses be understood as a property of attitudinal objects? Second how do attitudinal objects allow for sharing of the content of attitudes? Third, what is the semantics of special quantifiers? Finally, how is the semantics of attitude reports with clausal complements or special quantifiers obtained compositionally?

25.3 The Ontology of Attitudinal Objects

25.3.1 Properties of Attitudinal Objects

Attitudinal objects 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.⁷

Attitudinal objects share characteristic properties that jointly distinguish them from actions and propositions and in particular they display properties that could hold neither of actions nor of propositions.

25.3.1.1 *Properties of Concreteness*

Attitudinal objects are not only well-reflected in the semantics of attitude reports and nominalizations of attitude verbs, they also 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 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. If an answer caused surprise, this implies that the content was the subject of surprise; but not so if an act of answering caused surprise. Also mental attitudinal objects engage in content-based causation. A decision may cause an action on the part of the agent, and that can only be in virtue of its content. This is not so for a mental act of deciding (whose exhausting nature may be the 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, and thus this would not be content-related remembering. Ideas and theses can also act as targets of memory, but they are products of cognitive acts, possibly involving generic agency.

Attitudinal objects have other properties of concreteness. First, they generally have a limited life span. John's belief that S comes into existence only once John believes that S, and it will cease to exist once he no longer believes that S. Twardowski in fact took products to share their lifespan with the act that produces them. However, this does not seem intuitively correct for products such as claims and promises, which have a modal character (Section 25.5). Second, some attitudinal objects can be the objects of perception, in particular illocutionary products (remarks, claims, screams, etc.).

25.3.1.2 *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 conditions or satisfaction conditions

Attitudinal objects such as beliefs, claims and judgments have truth conditions, but not so for their correlated states of actions. John's claim and John's judgment may be true or false, as may be John's belief. But a speech act or an (act of) claiming cannot intuitively be true or false, and neither can an act of judging. Also a mental state described as such (a belief state) is not something that intuitively can 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 25.3.2.

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. Thus (6) says that John's and Mary's beliefs are the same in content:

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

The sentences below, by contrast, 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:

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

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 even makes 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. Part of John's answer cannot be part of John's act of answering. 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 (or a temporal part of part of conditions constitutive of the state).

It is remarkable that even physically realized attitudinal objects fail to have a physical part structure. They differ in that respect from physically realized artifacts like books. The book as a materially realized artifact has two part structures at once. The parts of a book as an information object are partial contents, the parts of the physical copy are material parts. 'Recalling a part of the book' can mean recalling either a part of the information object or a part of the physical object; recalling part of the claim can only mean recalling a partial content.⁸

25.3.1.3 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 the truth-related properties), depending on the predicate with which they occur.⁹ There are serious difficulties for that view, though, which include the understanding of predicates of similarity and part structure with nominalizations of attitude verb (which only get the content-related reading).¹⁰ 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 select different types of attitudinal object. Truth predicates apply to attitudinal objects such as beliefs, claims, and judgments, but hardly to events and states, when explicitly referred to as such (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 apply to various attitudinal objects that do not go with truth predicates:

- (10) a. John's request / demand / promise was satisfied / fulfilled.
b. Mary's desire was fulfilled.
- (11) a. The demand was ignored.
b. The promise was broken.
- (12) a. John fulfilled the demand by handing in the paper in time.
b. John followed / ignored the advice by staying home.

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 well¹¹:

- (13) 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.

Attitudinal objects like offers and invitations do not accept predicates of fulfillment but rather go with predicates of acceptance, such as *take up* and *accept*:

- (14) The offer / invitation was taken up / accepted / ? ?? satisfied / ? ?? fulfilled / ? ?? complied with.

Attitudinal objects like intentions and decisions do not go with predicates of fulfillment, violation or acceptance, but rather predicates of realization such as *realize*, *implement*, or *execute*.

- (15) a. John realized his intention.
b. John implemented / executed his decision.

Again, states of intending or acts of deciding cannot be realized or executed.

25.3.2 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 to 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.

25.3.2.1 Predicates of Correctness and Attitudinal Objects

Both propositions and attitudinal objects act as truthbearers accepting the predicate *true*. However, truth has a normative status with attitudinal objects which it does not have with 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:

- (16) 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 norms.¹² Rather it is a semantic norm 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 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:

- (18) 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 of punishing and signatures vs. acts of signing:

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

In (19a, 20a) *correct* conveys the fulfillment of a teleological norm by a content- or form-bearing object. In (19b, 20b), it conveys the fulfillment of an action-guiding norm.

Assuming that *correct* has a single meaning conveying the fulfillment of a norm, this means that with an object (attitudinal or otherwise) *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 forming an ontological category of their 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 norm on what one should believe or assert.

25.3.2.2 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 object 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 parts 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 fulfill 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:

- (21) 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*.

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

- (22) 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.

Next, let us address the question of why some attitudinal objects take predicates of acceptance rather than satisfaction. These are also attitudinal objects involving a world-word direction of fit. Where then does the difference reside? Again truthmaker semantics will be relevant. Requests and demands have both satisfiers and violators, actions that violate or ignore the request or demand. By contrast, 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. Thus, 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: attitudinal objects with the force of possibility have only satisfiers, but not violators, whereas attitudinal objects with the force of necessity have both. Predicates of acceptance select the former, whereas predicates of fulfillment select the latter.

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 must be 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, which psychological objects like decisions and intentions don't. To summarize, what determines the selection of types of attitudinal objects by different predicates of satisfaction is:

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;

The role of norms for the application of correctness and the selection of types of predicates of satisfaction indicates that truth has the status of a (teleological) norm with attitudinal objects.

By contrast, truth for propositions is not treated as a norm. This would be unsurprising if a proposition is just the reified meaning of a sentence, carrying truth conditions only by inheritance from the sentence or the attitudinal objects of which the sentence as a predicate holds.

25.3.2.3 Clauses as Semantic Predicates of Attitudinal Objects

For formulating the meaning of a *that*-clause as a predicate of attitudinal objects, 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).¹³ 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 falsemakers or violators (entities that stand in the relation \nVdash to d), as formally given below:

(23) Sentence Meanings as Properties of Attitudinal Objects

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

That is, a sentence S expresses the property of attitudinal objects d such that every satisfier of d is part of an exact satisfier 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.

25.4 Semantics of Special Quantifiers and the Compositional Semantics of Attitude Reports

25.4.1 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, which I call ‘special’ or ‘nominalizing’ quantifiers and pronouns (Moltmann 2003a, b, 2013a, 2014, 2017a). In English, these are quantifiers like *something* or *several things* and the pronouns *what* and *that*, as below:

- (24) 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):

- (25) 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 shows that such quantifiers and pronouns cannot stand for propositions, but rather stand for attitudinal objects or kinds of them. Thus, 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, as illustrated in the examples below:

- (26) 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 (17a), but rather something like John's remark or John's claim. It is not a proposition that is said to be daring in (17b), but a thought. Moreover, it is not a proposition that could have made Mary upset according to (17c), but rather a claim or remark.

Reports of sharing of content among different attitudes with special quantifiers or pronouns are about a shared kind of attitudinal object, rather than a proposition. This is reflected in constraints on sharing, illustrated below:

- (27) 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.

(27a–c) are just as unacceptable as the examples below:

- (28) 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 means that *what Mary believes* stands for a belief, an attitudinal object, rather than an abstract proposition.

Special quantifiers range over attitudinal objects or kinds of them when they take the complement position of a clausal complement. They are nominalizing quantifiers, in the sense of quantifiers that range over the sorts of things the nominalization of the verb would stand for, rather than what could be the semantic values of a *that*-clause, as in the logical form of (17b), repeated as (29a), will be as below:

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

(29b) involves existential quantification associated with the Davidsonian event argument of *think* as well as existential quantification associated with the nominalizing quantifier *something*.

Reports of sharing of the content of attitudes of different agents as in (30a) involve existential quantification associated with the Davidsonian event argument positions of the two attitude verbs as well as existential quantification associated with the special pronoun *what*:

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

There is further support for the semantic involvement of attitudinal objects in attitude reports which 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')). The compositional semantics of the complex predicate as in (31a) obviously involves attitudinal objects, as, roughly, in (31b), and thus comes close to the semantics of simple attitude verbs that was given earlier, as in (32b) for (32a):

- (31) a. John has the thought that S.
b. $\exists!d(\text{have}(\text{John}, d) \ \& \ \text{thought}(d) \ \& \ \text{that } S(d))$
- (32) a. John thought that S.
b. $\exists e(\text{think}(e, \text{John}) \ \& \ [\text{that } S](\text{att-obj}(e)))$

Attitudinal objects are thus explicitly involved in the semantics of both complex attitudinal predicates and of special quantifiers.

25.4.2 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 (33a) moves up from its lower position and incorporates into the verb *think*, as in (33b), leading to the logical form in (33c) (Moltmann 2003a, b, 2013a). Making use of the logical form of attitude reports with clausal complements, *V-thing* will express the relation between events, agents and attitudinal objects in (33d):

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

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*).

Another option one might pursue is to consider an attitude verb like *claim* to be a complex predicate consisting of a light verb (*make*) and a noun (*claim*) for an attitudinal object, *make claim* (Arsijenevic 2009). Syntactically, this could be along the lines of the analysis of *need* as *have need* of Harves and Kayne (2012) (following the analysis of full lexical verbs as combinations of a light verb and a noun in Hale and Keyser 2002). That is, *John claimed that S* would have the syntactic structure in (34a), where the noun *claim* has moved from the position of the nominal head of the complement to a position adjacent to the light verb:

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

Given the logical form in (34a), *make-claim* or what will be spelled out as the full verb *claim* will have the meaning below:

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

Something in *John claimed something* would then quantify 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 available 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 noun for an attitudinal object (*ask*, *say*) and thus can hardly be derived from a combination light verb–noun for attitudinal object. Another issue is how *something* could co-occur with *claim* in object position, before movement of the latter to the position of the verb. Finally, the view leaves unexplained the fact that clausal complements of verbs are generally obligatory, but not so clausal modifiers of nouns.

25.5 Attitudinal Objects and Their Relation to Acts

25.5.1 *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. In English, terms for actions are generally gerunds, whereas 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 mental actions and their products as well as illocutionary actions and their products.¹⁴

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 or a drawing as a product of an act of drawing. The latter differ from the former only in having a material realization. While Twardowski was not explicit about how products are to be viewed ontologically, the most plausible interpretation of the action-product distinction is that products are 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.¹⁵ A state such as a believing is an entity that is derivative upon a belief, as an abstract state of having a belief (Moltmann 2018c).

Second, there are act-related attitudinal objects that do not fare well with the action-product distinction understood as the distinction between an action and the produced artifact. 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 conclusion is not the intended product of an act of reasoning; the act of reasoning may have as its intended product only some conclusion or other, but not a specific one. Moreover, any act describable as an act of concluding that *S* is individuated by conclusion reached, not

by the mental activity pursued as such. Similarly, a judgment that *S* is not the realization of an intentional action, but what an agent arrives at when evaluating a thought for truth. Also perlocutionary acts cannot be viewed as products of actions, e.g., acts of persuading the addressee. An act of persuading is individuated by the effect it happens to have, the persuasion. For actions of recognizing, realizing, concluding, persuading and judging, it is the attitudinal object that individuates the action that culminates in its, 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, invitations, offers, and abilities. Modal objects exhibit the 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's (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 may even hold for attitudinal objects such as claims, requests and promises, which may still hold or be valid beyond the act that created them (Moltmann to appear). Some attitudinal objects thus have a modal aspect not as such captured by the Twardowskian notion of a product.

State-related attitudinal objects as well as modal objects exhibit the very same content-related properties as attitudinal objects that can be considered products of acts. This is significant philosophically since it means that the content-related properties of attitudinal and modal objects cannot be traced to the nature of a product as an artifact.

25.6 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 Strawson'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.

Notes

- 1 The notion of an attitudinal objects has been discussed in Moltmann (2003a,b, 2013a,b, 2014, 2017a, b, c, 2018).
- 2 See, for example, Stalnaker (1984) and Schiffer (2003) for the standard semantic view of propositions.
- 3 See Jubien (2001), Soames (2010), Hanks (2007), Moltmann (2003a, 2013a) for discussion and further references.
- 4 However, propositions as such need not be identified with particular abstract objects. An alternative that may be pursued 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).

- 5 Attitudinal objects and Davidsonian events have very different semantic motivations. Davidsonian events are meant to be the objects to which adverbials apply, whereas the semantic motivations for attitudinal objects come from the semantics of attitude reports and nominalizations of attitude verbs. The semantic motivations go along with the very different ontological properties of events and attitudinal objects.
- 6 Of course (2c) is compatible with Davidsonian event semantics as well, on the logical form below:

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

- 7 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.
- 8 This puzzle is addressed in Moltmann (2019) in the context of a more general discussion of ‘attributively limited objects’.
- 9 See, for example Pustejovsky (1995).
- 10 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.

- 11 The observation about satisfaction predicates when applied to nominalizations of illocutionary verbs was made by Ulrich (1976), who argued that claims, demands, and promises are *sui generis* objects. Twardowski (1911) already gave various examples with different sorts of attitudinal objects.
- 12 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).
- 13 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).
- 14 In addition and more problematically, Twardowski assumed that even physical actions can come with a product (thus an action of walking has as its product a walk and an action of jumping a jump). See Moltmann (2017a) for a critique of the physical action-product distinction.
- 15 For further arguments against a conception of beliefs and other state-related attitudinal objects as states see Machery (2016, 2017). Machery instead considers attitudinal objects like beliefs to be ‘traits’, on a par with courage, that is, as dispositions of a sort.

References

- Arsijenevic, B. (2009): ‘Clausal Complementation as Relativization’. *Lingua* 119, 39–50.
- Boghossian, P. (2003): ‘The Normativity of Content’. *Philosophical Issues* 13, 31–45.
- Carlson, G. (1977): ‘A Unified Analysis of the English Bare Plural’. *Linguistics and Philosophy* 1, 413–457.
- Davidson, D. (1967): ‘The Logical Form of Action Sentences’. In N. Rescher (ed.): *The Logic of Decision and Action*. Pittsburgh University Press, Pittsburgh, 81–95.
- Fine, K. (2017): ‘Truthmaker Semantics’. In Bob Hale, Crispin Wright, and Alex Miller (eds.): *A Companion to the Philosophy of Language*. John Wiley & Sons, Ltd, Chichester, UK.
- Frege, G. (1918/9 [1984]): ‘Thoughts’. In B. McGuinness (ed.): *Collected Papers on Mathematics, Logic, and Philosophy*. Blackwell, Oxford, 351–372.
- Gerner, M. (2017): ‘Actions and Products Worldwide’. In Moltmann, F. and M. Textor (eds.): *Act-Based Conceptions of Propositions: Contemporary and Historical Contributions*. Oxford University Press, Oxford, 325–363.
- Gibbard, A. (2005): ‘Truth and Correct Belief’. *Philosophical Issues* 15, 338–350.
- Hale, K. and S.J. Keyser (2002): *Prolegomenon to a Theory of Argument Structure*. MIT Press, Cambridge, MA.
- Hanks, P. (2007): ‘The Content-Force Distinction’. *Philosophical Studies* 34 (2):141–164.
- . (2017): ‘The Explanatory Role of Propositions’. *Analysis* 77 (2):370–379.
- Harves, S. and R. Kayne (2012): ‘Having ‘need’ and ‘needing’ have’. *Linguistic Inquiry* 43, 120–132.
- Jarvis, B. W. (2012): ‘Norms of Intentionality: Norms that don’t Guide’. *Philosophical Studies*, 157, 1–25.
- Jubien, M. (2001): ‘Propositions and the Objects of Thought’. *Philosophical Studies* 104, 47–62.
- Kayne, R. (2010): ‘Why isn’t This a Complementizer?’. In R. Kayne (ed.): *Comparisons and Contrasts*. Oxford University Press, Oxford.
- Machery, E. (2016): ‘De-Freuding Implicit Attitudes’. In M. Braunstein and J. Saul (eds): *Implicit Bias and Philosophy*. Oxford University Press, Oxford, 104–129.

- _____. (2017): 'Do Indirect Measures of Biases Measure Traits or Situations?', *Philosophical Inquiry* 28 (4): 288–291.
- Moltmann, F. (2003a): 'Propositional Attitudes without Propositions'. *Synthese* 135, 70–118.
- _____. (2003b): 'Nominalizing Quantifiers'. *Journal of Philosophical Logic* 35(5), 445–448.
- _____. (2013a): *Abstract Objects and the Semantics of Natural Language*. Oxford University Press, Oxford.
- _____. (2013b): 'On the Distinction between Abstract States, Concrete States, and Tropes'. In A. Mari, C. Beyssade, and Del Prete, F. (eds.): *Generativity*. Oxford University Press, Oxford, 292–311.
- _____. (2014): 'Propositions, Attitudinal Objects, and the Distinction between Actions and Products'. *Canadian Journal of Philosophy* 43(5–6), 679–701.
- _____. (2017a): 'Cognitive Products and the Semantics of Attitude Reports and Deontic Modals'. In Moltmann, F. and M. Textor (eds.): *Act-Based Conceptions of Propositions: Contemporary and Historical Contributions*. Oxford University Press, Oxford, 254–290.
- _____. (2017b): 'Levels of Linguistic Acts and the Semantics of Saying and Quoting'. In S.L. Tsohatzidis (ed.): *Interpreting Austin: Critical Essays*. Cambridge University Press, Oxford.
- _____. (2017c): 'Partial Content and Expressions of Part and Whole. Discussion of Stephen Yablo: Aboutness'. *Philosophical Studies* 174(3), 797–808.
- _____. (2017d): 'Natural Language Ontology'. *Oxford Encyclopedia of Linguistics*, Online.
- _____. (2018a): 'An Object-Based Truthmaker Theory for Modals'. *Philosophical Issues* 28(1), 255–288.
- _____. (2018b): 'Clauses as Semantic Predicates. Difficulties for Possible-Worlds Semantics'. In R. Bhatt, I. Frana, and P. Menendez-Benito (eds.): *Making Worlds Accessible. Festschrift for Angelika Kratzer*. University of Massachusetts at Amherst, Online.
- _____. (2018c): 'Intensional Relative Clauses and the Semantics of Variable Objects'. In M. Krifka and M. Schenner (eds.): *Reconstruction Effects in Relative Clauses*. Studia Grammatica, D Gruyter, Berlin, pp. 427–453.
- _____. (2019): 'Ontologically Dependence, Spatial Location, and Part Structure'. In Claudio Masolo, Roberta Ferrario, Stefano Borgo and Laure Vieu (eds.): *Ontology Makes Sense. Essays in Honor of Nicola Guarino*. IOS Publications, Amsterdam, 211–220.
- _____. (forthcoming): 'Outline of an Object-Based Truthmaker Semantics for Modals and Attitude Reports'. In A. Egan, P. van Elswyck, and D. Kinderman (eds.): *Unstructured Content*. Oxford University Press, Oxford.
- Moltmann, F. and Textor, M. (2017): 'Introduction'. In Moltmann, F. and M. Textor (eds.): *Act-Based Conceptions of Propositions: Contemporary and Historical Contributions*. Oxford University Press, Oxford.
- Pustejovsky, J. (1995): *The Generative Lexicon*. MIT Press, Cambridge, MA.
- Schiffer, S. (2003): *The Things We Mean*. Clarendon Press, Oxford.
- _____. (2016): 'Cognitive Propositions'. *Philosophical Studies* 173 (9), 2551–2563.
- Searle, J. (1983): *Intentionality*. Cambridge University Press, Cambridge.
- Soames, S. (2010): *What is Meaning?* Princeton University Press, Princeton, NJ.
- Stalnaker, R. (1984): *Inquiry*. MIT Press, Cambridge, MA.
- Strawson, P. (1959): *Individuals. An Essay in Descriptive Metaphysics*. Methuen, London.
- Thomasson, A. (1999): *Fiction and Metaphysics*. Cambridge University Press, Cambridge.
- Twardowski, K. (1911 [1999]): 'Actions and Products. Some Remarks on the Borderline of Psychology, Grammar, and Logic'. In J. Brandl and J. Wolenski (eds.): *Kazimierz Twardowski. On Actions, Products, and Other Topics in the Philosophy*. Rodopi, Amsterdam and Atlanta, 103–132.
- Ulrich, W. (1976): 'An Alleged Ambiguity in the Nominalizations of Illocutionary Verbs'. *Philosophica* 18(2), 113–127.
- von Wright, G. H. (1963): *Norm and Action. A Logical Inquiry*. Routledge and Kegan Paul, London.