9 Attitudinal Objects

Their Ontology and Importance for Philosophy and Natural Language Semantics

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There are two categories of entities that are generally considered central for propositional attitudes and illocutionary acts. The first is events (including actions and states), the second propositions. Both are generally taken for granted and considered well motivated, both for the purposes of philosophy and for the purposes of natural language semantics. In this paper, I argue that a third category of entities should be given even greater importance—namely, what I call *attitudinal objects* (Moltmann 2003a, b, 2013a, b, 2014, 2017a, b, c, 2018a). In addition to presenting general philosophical and linguistic arguments for this category, the paper provides significant revisions and refinements of the notion of an attitudinal object as it was developed in my previous work.

Attitudinal objects are entities like judgments, claims, beliefs, decisions, desires, fears, intentions, promises, and requests. Attitudinal objects are concrete, agent-dependent entities that come with truth or satisfaction conditions. It is common in both philosophy and linguistics to take nouns like *judgment* to stand either for an act or for a proposition, depending on the context. I reject that view: nouns like *judgment* always stand for attitudinal objects. Attitudinal objects bear a range of types of properties that jointly characterize them as an ontological category and distinguish them from events, actions, and states, as well as from propositions. Attitudinal objects are well reflected in natural language, not just in nominalizations of attitude verbs, but also in a range of generalizations regarding attitude reports, even though attitudinal objects have hardly been recognized as such in philosophy of language and linguistic semantics.

However, in a way, attitudinal objects had been recognized by one philosopher in the past—namely, Twardowski (1912)—who took them to be the (non-enduring) products of acts, in the context of a general distinction between actions and products. In this paper, I will reject this as a general characterization of attitudinal objects. Attitudinal objects should not generally be regarded as non-enduring abstract artefacts even when they result from actions. Certain types of mental acts are, in fact, ontologically derivative with respect to the attitudinal objects that are their results.

Twardowski's characterization would also not be applicable to state-like attitudinal objects such as beliefs, intentions, desires, and fears, and one might exempt them as states from the action-product distinction. In this paper, however, I will argue against an identification of state-like attitudinal objects with mental states. A belief has very different sorts of properties from a belief state, and the latter, I will argue, is ontologically derivative upon a belief and plays different semantic roles.

Attitudinal objects thus are at least, to an extent, ontologically prior to acts or states. Moreover, attitudinal objects allow us to dispense with propositions. Attitudinal objects, it will be argued, play a central role as concrete bearers of truth or satisfaction conditions in our mental life and in communication. It is, moreover, attitudinal objects rather than abstract propositions that, on the present view, are involved in the semantics of attitude and illocutionary act reports and, of course, nominalizations of attitude verbs.

The paper will first lay out the standard view about propositional attitudes and introduce the alternative view based on attitudinal objects. Second, it will present the various motivations for attitudinal objects: the semantics of nominalizations of attitude verbs, semantic generalizations about attitude reports, and intuitions about the roles and properties of attitudinal objects. Third, it will discuss the difficulties for Twardowski's action-product distinction and the relation between attitudinal objects and states and address the question of the Davidsonian event argument of stative attitude verbs. The paper will conclude with some indications about how certain puzzles regarding the individuation of attitudinal objects may be addressed.

1.   The Standard View About the Objects Associated With Mental and Illocutionary Acts

On the view that is standard both in philosophy and in natural language semantics, there are two sorts of objects associated with propositional attitudes and illocutionary acts:

(a) mental acts or states and speech acts
(b) propositions as the objects or contents of propositional attitudes or illocutionary acts

Standardly, beliefs, desires, hopes, and intentions are considered mental states, on a par with mental acts or events. Actions, events, and states are generally taken for granted ontologically or at least felt not in further need of explanation. They are equally well accepted in linguistic semantics and, in particular, posited as implicit arguments of verbs, following the influential Davidsonian analysis of action sentences (Davidson 1967).

Propositions are considered much more controversial. Propositions are generally taken to be mind- and language-independent objects that serve the roles of shareable contents of attitudes, of truth-bearers, and of the meanings of sentences (relative to a context). The notion of an abstract proposition in this sense has been the subject of various sorts of critique, both philosophical and linguistic. The philosophical critique concerns questions such as how propositions can be grasped, how propositions can act as the contents of mental attitudes, and how propositions can be true or false and have the particular truth conditions they are meant to have (the problem of the unity of the proposition) (Jubien 2001; Soames 2010; Hanks 2011; Moltmann 2003a, 2013a). It also concerns the status of propositions as objects of attitudes, that is, the view that attitudes are relations between agents and propositions. To make use of a distinction of Brentano's, propositions should be contents, rather than objects of attitudes, according to the critique.

On the standard view, the logical form of attitude reports and speech act reports looks as follows, making use both of propositions and of events (including actions and states):

(1) a. John thinks that Mary is happy
     b. $\exists e(\text{think}(e, \text{John}, [\text{that Mary is happy}]))$

In (1b), [*that Mary was happy*] is the meaning of Mary is happy, the proposition that Mary is happy. The logical form in (1b) makes clear the role of propositions in propositional attitudes, as entities propositional attitudes are directed towards, rather than as contents of attitudes.

I will outline a view according to which a third category of entities plays a central role for propositional attitudes and illocutionary acts—namely, attitudinal objects. Attitudinal objects consist in *act-related attitudinal objects*, such as judgments, decisions, claims, requests, and promises, as well as *state-related attitudinal objects*, such as beliefs, intentions, desires, and fears. In my former work, I called the former *cognitive and illocutionary products* and the latter *mental states*, terms I now consider problematic. Attitudinal objects do not just form a list of entities; rather, they share characteristic properties that jointly distinguish them from other, related types of entities. Attitudinal objects share properties of content-based causation, perception, evaluation, and memory. Moreover, they share content-related properties—namely, truth or satisfaction conditions—a part structure based strictly on partial content and the ability to stand in similarity relations based on shared content only.

Attitudinal objects are mind-dependent particulars that generally have only a limited lifespan. In particular, act-related attitudinal objects generally do not last beyond the act that has produced or triggered them. Despite being mind-dependent particulars, attitudinal objects can account for the shareability of content due to their content-related properties

Attitudinal objects allow us to dispense with propositions as truth-bearers. In fact, there are good reasons to consider attitudinal objects the primary truth-bearers and to take propositions only derivatively, if at all, to play that role (Moltmann 2018a). Unlike propositions, attitudinal objects do not act as the meanings of sentences. Attitude reports report attitudinal objects, but without attitudinal objects being the semantic values of that-clauses. How, then, do that-clauses relate to the attitudinal object that is reported? On the present view, clausal complements of attitude verbs act semantically as predicates of the reported attitudinal object, specifying its truth or satisfaction conditions (Moltmann 2014, 2017a, 2018a, b).

If the clausal complement of an attitude verb just has the function of conveying a property of the reported attitudinal object, this has important consequences regarding notorious problems for propositions. Propositions as abstract objects that are both meanings of sentences and objects of attitudes raise the question of how they can have truth values and of how, if they are structured objects, their truth values are determined (the problem of the unity of the proposition). Attitudinal objects are mind-dependent particulars, and thus their ability to represent their truth- or satisfaction-directedness can be attributed to the intentionality of the mind itself. Only abstract meaning objects pose the problem of the truth-directedness and, if they are structured, of the unity of the proposition.

Also on the present view, truth-bearers are no longer treated as the objects of attitudes; rather, having a propositional attitude means engaging (as agent or experiencer) in an attitudinal object whose truth or satisfaction conditions are given by the complement clause. Having a propositional attitude thus does not mean standing in an attitudinal relation to a meaning object and a bearer of truth conditions.

Could attitudinal objects dispense with events? I will address this question in detail later. For the moment, let us just note that attitudinal objects and Davidsonian events (that is, events in their roles as implicit arguments of verbs) have very different motivations. Davidsonian events are meant to be the objects to which adverbials apply, whereas attitudinal objects are mind-dependent entities that are bearers of truth or satisfaction conditions. As will be discussed in greater detail later, events are not bearers of truth or satisfaction conditions or other content-related properties. This is reflected in our intuitions about the attribution of truth or falsehood and, even more strikingly, of satisfaction or violation. An act of judging or claiming is intuitively not true or false, unlike a judgment or claim. Even more strikingly, an act of promising cannot be fulfilled or broken, unlike a promise; an act of demanding cannot be complied with, unlike the demand; and an act of recommending cannot be followed or taken up in the way a recommendation can.

I will follow the common assumption in semantics that all verbs have an additional argument position for events (including actions 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 2067). Applied to attitude verbs, this means that the logical form of an attitude report as in (2a) will be as in (2b):

(2) a.   John claims that Mary is guilty
    b.   ∃e(claim(e, John) & [*that Mary is guilty*](att-obj(e))

In (2a), the that-clause acts semantically as a predicate of the attitudinal object related to the implicit event argument *e* of the verb, that is, att-obj(e).

The questions I will address, then, are the following: what are the philosophical and semantic motivations for attitudinal objects, what are their characteristic properties, and how are attitudinal objects to be understood ontologically? One might be tempted to assimilate attitudinal objects to familiar ontological categories, in particular to actions, events, and states. I consider this the wrong move. First, it is unclear whether those categories are really better understood than attitudinal objects. Second, it is important to first focus on the types of properties that attitudinal objects have, and they are, in fact, rather different from the types of properties that are characteristic of actions, events, and states. Given the distinctness of attitudinal objects from events, actions, and states, it appears that some types of attitudinal objects are, in fact, ontologically prior to the actions or states they may be correlated with; that is, their correlated actions or states will have to be defined in terms of the attitudinal objects rather than vice versa.

2.   The Reflection of Attitudinal Objects in Natural Language

Attitudinal objects are extremely well reflected in natural language. In particular, attitudinal objects are the referents of nominalizations of attitude verbs, as in (3a, b):

(3) a.   John's judgment that Mary is guilty
    b.   John's claim that Mary is guilty

This means that the ontology of attitudinal objects will be reflected in the semantic behaviour of such nominalization.

There is a standard view, though, according to which such nominalizations are ambiguous or rather polysemous, standing either for events (with their causal and temporal properties) or for propositions (with the truth-related properties), depending on the predicate with which they occur. The reason is that the entities that nominalizations of attitude verbs stand for seem to display both properties of concreteness characteristic

of events and content-related properties characteristic of propositions, illustrated in (4) and (5), respectively:

(4) a. John's claim caused astonishment
     b. John's claim yesterday was astonishing

(5) a. John's claim is true
     b. John's claim implies that Mary is guilty

There are serious difficulties for that view, though. First, there are cases of co-predication involving the attribution of an event-related (causal or perceptual) predicate and a proposition-related (truth-related) predicate to the same entity:

(6) 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.[1] A better argument against polysemy comes from the fact that there are predicates applicable to what such nominalizations stand for that could neither be predicated of events nor of propositions. First, these are predicates of satisfaction, such as *satisfy, fulfil, comply with, follow, take up, violate, ignore*. The agent-related predicates of satisfaction *keep* and *break* illustrate the contrast particularly well:[2]

(7) a. John kept/broke his promise
     b. ??? John kept/broke the proposition that S
     c. ??? John kept/broke his speech act

Second, part-related expressions, such as *part of*, show that nominalizations of attitude verbs could stand for neither events nor propositions:

(8) a. part of John's claim
     b. part of John's (act of) claiming

(9) a. part of John's promise
     b. part of John's (act of) promising

(10) ? part of the proposition

(8a) and (9a) have a very clear meaning: *part of* here stands for partial contents (Moltmann 2017a, b).[3] Parts of events or actions are temporal parts. But such parts cannot, under any reading, be picked out when *part of* applies to nominalizations of attitude verbs as in (8a) and (9a). *Part of*, when applied to propositions as in (10), does not have a clear

understanding in the first place. Since *proposition* is a technical term, it depends on the conception of a proposition. Structured propositions would have as parts the components of a structured proposition. But, clearly, this is not what *part of* picks out when applied to claims or promises.

Also, considerations regarding identity statements support the view that nominalizations of attitude verbs do not stand for propositions (on one of their two putative readings). Thus, the following identity statements appear false:

(11) a. ??? John's thought that it will rain is also his remark that it will rain
     b. ??? John's discovery that it will rain is his hope that it will rain
     c. ??? John's desire to leave is his decision to leave

This is because thoughts, remarks, discoveries, hopes, and desires are simply not propositional contents.

Thus, satisfaction predicates, part-related expressions, and identity statements support the view that non-gerundive nominalizations of attitude verbs stand for attitudinal objects, rather than being polysemous between referring to propositions and referring to events or actions. Later, I will discuss in further detail the properties attitudinal objects have.

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:

(12) 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:

(13) 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:

(14) John and Bill share the belief that Mary is guilty

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

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

(15) 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 (16a, b):

(16) 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:

(17) 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 it is a claim or remark that did so. In general, restrictions of special quantifiers are to be understood as predicates of (kinds of) attitudinal objects, not (abstract) propositions.

Reports of sharing of content among different attitudes with special quantifiers or pronouns make the same point. Unlike what the standard view would predict, such reports are not really available when the two propositional attitudes are significantly different, as below:

(18) a. ?? John screamed what Mary believes—namely, that Bill was elected president

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   b. ?? John expects what Mary believes—namely, that Sue will study
       harder
   c. ?? John said what Mary believes—namely, that it will rain

The unacceptability of (18a–c) makes clear that *what Mary believes* can-
not just stand for a proposition. The unacceptability, or rather falsehood,
of the examples below, with the corresponding nominalizations, indicates
that *what Mary believes* stands in fact for a belief, an attitudinal object,
rather than an abstract proposition:

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

In (19a–c), *what Mary believes* will in fact have to stand for a kind of
attitudinal object, of the sort the belief that S, rather than a particular
attitudinal object, of the sort Mary's belief that S.

   Thus, 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, and similarly for
special pronouns. This means that the logical form of (17b), repeated as
(20a), will be as below:

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

(20b) 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
(21a) 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*:

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

   There is further support for the semantic involvement of attitudinal
objects in attitude reports, and that comes from the availability of *com-
plex 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*

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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 (22a) obviously involves attitudinal objects, as, roughly, in (22b), and thus comes close to the semantics of simple attitude verbs that was given earlier, as in (23b) for (23a):

(22) a. John has the thought that S
     b. $\exists!d(have(John, d)$ & $thought(d)$ & $that\ S(d))$

(23) a. John thought that S
     b. $\exists e(think(e, John)$ & $[that\ S](att\text{-}obj(e)))$

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

The semantics of special quantifiers raises the question of what enables them to quantify over attitudinal objects or kinds of them. There are two options to consider. One of them is that the morpheme *-thing* in (20a) incorporates into the verb *think*, leading to V-*thing* expressing a relation between agents and attitudinal objects (Moltmann 2003a, b, 2013a). Another option to consider is that the verb *think* in (20a) is somehow interpreted on the basis of the complex predicate *have the thought*. Special quantifiers and pronouns would then distribute the contribution of the nominal part *the thought*, rather than the complement clause. Both options are associated with a range of linguistic issues and challenges that will have to be discussed in greater detail elsewhere.

3.   How Can Clauses Act as Predicates of Attitudinal Objects?

So far, one important question has been left open; namely, what properties should that-clauses express so that they can act as predicates of attitudinal objects? As was mentioned, when predicated of an attitudinal object, a that-clause will specify the satisfaction conditions of the attitudinal object; it will thus express a property of attitudinal objects.

For formulating the meaning of a that-clause for that purpose, possible-worlds semantics would not be a viable approach. Possible-worlds semantics is not able to provide a single property applicable to both attitudinal objects that come with the modal force of necessity and attitudinal objects that come with the modal force of possibility, say a demand and a permission (Moltmann 2018b). The most plausible property of attitudinal objects that a that-clause *that* S should express given possible worlds semantics is $\lambda d[\forall w(w \in f(d) \rightarrow S$ is true in $w)]$, for *f(d)* being the set of

worlds compatible with *d*. But this property would be suited only for attitudinal objects with the force of necessity, not possibility. (*John gave permission for Mary* to leave does not require that all worlds compatible with the permission are worlds in which Mary leaves; just some worlds need to be that way.)

By contrast, truthmaker theory, along the lines of Fine's (2017) recent truthmaker semantics, allows formulating a single property applicable to attitudinal objects of both sorts (Moltmann 2018a, b). Truthmaker theory in its application to attitudinal objects is based not on entire worlds, but 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 violatos (entities that stand in the relation $\dashv\Vdash$ to *d*). Unlike possible-worlds semantics, truthmaker theory allows for a straightforward notion of partial content, and the idea then is that that-clauses specify a partial content of the attitudinal object to which they apply. Formally, this is given below:

(24) *Sentence Meanings as Properties of Attitudinal Objects*

[S] = λd[∀s(s $\Vdash$ d → ∃s'(s'$\Vdash$ S & s < s') & ∀s'(s'$\Vdash$ S → ∃s(s $\Vdash$ d & s < s')) & ∀s(s $\dashv\Vdash$ S→ s $\dashv\Vdash$ d, in case neg(d) ≠∅]

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. Crucially, attitudinal objects of possibility (permissions, offers, invitations) have only satisfiers, but no violators, which is what accounts for the difference between attitudinal objects of the two different forces.

4.   The Roles and Properties of Attitudinal Objects

Attitudinal objects are not only well reflected in the semantics of attitude reports and nominalizations of attitude verbs but, arguably, also play a central role in our mental life as well as in communication. 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 cannot play causal roles and thus leave content-based causation a puzzling phenomenon. Mental attitudinal objects also 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.

In addition to the roles of attitudinal objects for content-based causation and remembering, attitudinal objects have properties relating only to their contents. There are three important types of content-related properties of attitudinal objects:

(a) Attitudinal objects have truth conditions or, more generally, satisfaction conditions. John's claim and John's judgment may be true or false, as may be John's belief. By contrast, this does not intuitively hold for acts: a speech act or an (act of) claiming cannot intuitively be true or false, and neither can an act of judging. It also fails to hold for mental states described as such: a belief state is not something one would naturally say is true or false, but a belief is.

Other attitudinal objects do not have truth conditions, but rather satisfaction conditions. Thus, a request can be fulfilled or ignored, a decision implemented, a command executed. Even more so than truth predicates, entities described as acts or states resist predicates of satisfaction. An act of requesting (or a speech act) cannot be fulfilled, an act of deciding (or a mental act) cannot be implemented, and an act of command cannot be executed. Even more striking are contrasts with agent-related predicates. Advice can be followed, but an act of advising cannot be followed in that same sense. A recommendation can be taken up or ignored, but an act of recommending cannot, at least not in the same sense. Again, mental states described as such are not bearers of satisfaction conditions. A state of desiring or hoping cannot be fulfilled, but a desire or a hope can.

Attitudinal objects generally come with inherent truth or satisfaction conditions of some sort or other, but acts and entities described as states do not.

(b) Attitudinal objects that are of the same sort (involving the same kind of physical realization and force) enter similarity relations strictly on the basis of being the same in content. The relation of exact or close similarity in natural language is conveyed by *is the same as*. Thus, (25a) says that John's and Mary's beliefs are the same in content:

(25) 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:

(26) 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 makes even sense to apply *is the same as* to them); sameness of content will not be enough, as the contrast between (27a) and (27b) makes clear:

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

Thus, for exact similarity to obtain, two attitudinal objects need to be of the same type and share their content.

   (c) Attitudinal objects have a part structure based strictly on partial content, not the temporal part structure of events or states. This is most obvious from 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'. '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 be only partial contents.

   It is remarkable that even physically realized attitudinal objects fail to have a physical part structure. They differ in that respect from physically realized artefacts like books. The book as a materially realized artefact has two part structures at once. The parts of a book as an information object are partial contents, the parts of the physical copy 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 mean recalling only a partial content.

   To sum up, attitudinal objects are characterized by three types of properties: properties of content-based causation, remembering, and evaluation and pure properties of content. The next question then is, how should one make sense of attitudinal objects ontologically? One approach is to assimilate them to an already familiar ontological category, such as that of an abstract artefact. Twardowski's distinction between actions and product can be considered an attempt in that direction.

5.   The Action-Product Distinction

Twardowski (1912) was an early analytic philosopher who, in opposition to Frege, argued for a mind-dependent notion of a truth-bearer, one that

would not be subject to the objections to psychologism that were around at the time. Twardowski basically argued for the notion of an attitudinal object, but in the context of a distinction he drew between actions and products.

Twardowski's action-product distinction follows closely the linguistic distinction between two sorts of nominalizations in natural language. While Twardowski focussed on Polish, German, and French, the same kind of distinction is present in English. In English, terms for actions are generally gerunds, whereas terms for products are other, simple or derived, nominalizations. Thus, pairs of terms for actions and products are *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.[4]

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, which enables them to endure beyond the act that produced them, whereas the former, for Twardowski, last only as long as the action producing them. Products are as agent-dependent as actions, but, crucially, they enter similarity relations on the basis of shared content only. Importantly, distinct products, dependent on different agents or pertaining to different times, can share their content, in which case they are similar.

Twardowski distinguished actions and their products in terms of the predicates that can be true of them, without, though, being very systematic about the range of types of predicates. Most importantly, predicates of truth and satisfaction can be true or false of products, but not of actions, and thus products but not actions are bearers of truth or satisfaction conditions. Products last only as long as the actions that produce them. However, products allow for similar products to be produced at a later point in time, which allows for the emergence of an enduring content. For two agents to share the same propositional content, they must be engaging in actions that produce similar products. Thus, products, on Twardowski's view, are particulars that are concrete and depend on a specific agent, yet have important content-related properties—in particular truth or satisfaction conditions—and the ability to stand in similarity relations based on shared content.

Twardowski was not explicit about how products are to be viewed ontologically. However, a very plausible interpretation of the action-product distinction is that products are the non-enduring artefacts produced by the actions, that is, 'abstract' artefacts in Thomasson's (1999) sense. Artefacts, 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. Artefacts may have physical properties as well as content-related properties. Books, for example, are artefacts that come with two distinct facets, as physical objects and as information objects. Artefacts thus appear to share characteristic properties with attitudinal objects.

However, there are types of attitudinal objects that do not fare well with the action–produced artefact distinction. First of all, attitudinal objects such as beliefs, hopes, intentions, and desires cannot generally be viewed as products of actions. Attitudinal objects such as beliefs may be 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).

While attitudinal objects such as beliefs, desires, hopes, and intentions are generally considered mental states, the notion of a state is not actually suited for them, as will be discussed in the next section. Let me therefore call such attitudinal objects rather *state-related attitudinal objects*.

Another difficulty for Twardowski's notion of a product is the existence of a category of objects closely related to attitudinal objects—namely, *modal objects*. Modal objects are, for example, needs, obligations, permissions, invitations, offers, and abilities. Modal objects may exhibit features of concreteness, in particular having a limited lifespan and perhaps being causally efficacious.[5] Most importantly, 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, 2018a). While 'heavy' (or explicit) obligations and permissions, to use the 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, 2018a).

State-related attitudinal objects as well as modal objects exhibit the very same characteristic features as attitudinal objects that can be considered products of acts. Since they cannot generally be regarded products of acts, those characteristic features, and the notion of an attitudinal object as such, cannot be traced to the nature of a product as an artefact. The notion of an artefact thus is not illuminating as regards the nature of attitudinal objects.

In addition to state-related attitudinal objects, there are also act-related attitudinal objects that do not fare well with the action-product distinction understood as the distinction between an action and the produced artefact. 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 artefacts 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 the conclusion reached, not by the mental activity pursued as such. That is, such an act depends for its identity on the conclusion reached, rather than the conclusion depending for its identity on an intentional action being performed.

In the area of speech acts, the same is the case for perlocutionary acts, such as an act of persuading or an act of achieving an emotional effect on an audience by performing an illocutionary act. An act of persuading is individuated by the effect it happens to have, the persuasion, not by realizing a type of action. Thus, the act of persuading someone that S depends for its identity on the attitudinal object that is the persuasion that S, rather than the attitudinal object depending on the act.

Even an act of judging is of that sort. A judgment that S is not the realization of an intentional action but what an agent arrives at when evaluating a thought (or propositional content). 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's, being individuated as the intended product of the action.

6.   The Distinction Between Attitudinal Objects and States

While beliefs, intentions, hopes, and desires are not (or not generally) the products of actions, the notion of a state, as standardly understood, is not suitable for them either. This became already clear in the discussion of the characteristic properties of attitudinal objects. States, at least as entities we refer to as states, do not have the properties that attitudinal objects such as beliefs, intentions, hopes, and desires have. A mental state (of believing) is not intuitively something that could be true or false, but a belief certainly is. A state (of intending) cannot be realized, but an intention can. A state of hoping or desiring cannot be fulfilled, but a hope or desire can. The parts of a mental state are not intuitively partial contents, but the parts of beliefs, intentions, hopes, and desires clearly are. A part of a mental state is a temporal part, or perhaps better, a condition partly constitutive of the state (a condition that, together with others, obtains while the state endures). Also, similarity relations do not apply to states in the way they apply to attitudinal objects. Two mental states (of the same type) are not just the same if they are the same in content. Rather, our intuitions about John and Mary's mental states being the same are that their constitutive features or conditions (including strength of the attitude) need to be the same.

A state is constituted by a condition enduring in time, which appears to be why states have such fundamentally different sorts of properties from attitudinal objects like beliefs, desires, and fears. That holds even though generally, for a state-related attitudinal object, there appears to be a corresponding state that obtains under the same circumstances (John's belief that S and the state of John's believing that S appear to exist under the same circumstances, and so for John's desire that S and John's desiring that S and for John's fear that S and John's fearing that S).[6]

There is one further intuitive difference between actions and states on the one hand and attitudinal objects on the other. Events (actions) and states are often identified with space-time regions or property instantiations in space-time regions, which means that events and states have their time of occurrence essentially. By contrast, the time of occurrences seems not to be essential for attitudinal objects. A thought or a scream could easily have occurred earlier than it did, and a promise could have been made later than it was.[7]

7. State-Related Attitudinal Objects and Abstract States as Davidsonian Arguments

If state-related attitudinal objects are, in fact, distinct from the correlated states, this raises a question for the semantics of attitude reports; namely, what should the Davidsonian event argument of stative attitude verbs be, a state-related attitudinal object or the correlated state? This will have to depend on how adverbials behave since adverbials are considered predicates of the Davidsonian argument. Are adverbials of state-related attitude verbs to be understood as predicates of state-related attitudinal objects or of the correlated states? The data indicate that they are better taken to be predicates of the correlated states.

First, at least certain temporal adverbials, such as *for two weeks*, in attitude reports as below need to be understood as predicates of states rather than attitudinal objects:

(28) For two weeks, John believed that he would make the deadline

The standard view about the semantics of *for two weeks* predicts such adverbials to apply to states but not attitudinal objects. *For*-adverbials are generally taken to require a homogeneous event predicate (or a predicate satisfying a closely related condition, cf. Krifka 1989; Moltmann 1991). A (one-place) event predicate P is homogeneous just in case the sum of any two events falling under P again falls under P and any temporal part of an event falling under P also falls under P. Homogeneity requires that the Davidsonian arguments of the predicate have temporal parts, but attitudinal objects have only content-related parts. Homogeneity also requires Davidsonian arguments to form fusions in time, but attitudinal objects

form fusions that are based on a merging of content, not fusions of two temporal entities (Moltmann 2018a). Thus, *for two weeks* in (28), given the standard view, requires the Davidsonian event argument of *believe* to be a state, rather than a belief. The restriction of *for*-adverbials to states is also reflected in their applicability to nominalizations (*her week-long mental state* is better than *her week-long belief*).

Another piece of evidence that attitudinal objects are not Davidsonian event predicates comes from truth predicates across languages. Across languages, it appears, the adverbial versions of truth predicates do not generally attribute truth to the Davidsonian argument. Whereas in English *truly* (and *correctly*) does, in fact, convey the truth of the described attitudinal object, in other languages—for example, German, French, and Italian—the adverbial version of *true* in general does not convey the truth of the relevant attitudinal object, but rather the reality of the propositional attitude obtaining (Moltmann 2017a). Thus, the German, French, and Italian examples in (29a, b, c) are translations of (30a), not of (30b):

(29) a. Hans glaubt wahrlich, dass S
     b. Jean crois vraiment que S
     c. Gianni crede veramente que S

(30) a. John really believes that S
     b. John truly believes that S

The data indicate that the English adverbial *truly* does not share its meaning with 'true', but has a more derivative meaning, stating the truth of the attitudinal object associated with the Davidsonian argument, rather than of the Davidsonian argument itself.

Given such linguistic indications, it appears then that the Davidsonian argument of stative attitude verbs is, in fact, a state distinct from the attitudinal object. In the case of *John believes that* S, this would be the state of John's having the belief that S, the state constituted by the bearerhood relation between John and the belief that S. This would mean that *believe that* S and *have the belief that* S have the same meaning, and also that the Davidsonian argument of *have* itself is a state, the state of standing in the relation of possession or bearerhood to the object argument.[8] The entity that is John's believing that S will then correctly come out as distinct from John's belief that S. John's believing that S would be John's having the belief that S, rather than John's belief that S.[9]

8. Conclusion and Outlook: The Ontology of Attitudinal Objects

Even though attitudinal objects are not generally 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. They are thus part of the ontology we implicitly accept, the ontology that is the subject matter of descriptive metaphysics in Strawson's (1959) sense or natural language ontology (Moltmann 2017d).

Attitudinal objects are characterized by a range of types of properties that jointly distinguish them from other ontological categories, such as actions, events, and states. Most importantly, attitudinal objects play the roles of bearers of truth conditions (or satisfaction conditions) and of inferential relations. By entering similarity relations strictly on the basis of a shared content and forming corresponding kinds, they allow for an account of the sharing of content. Attitudinal objects also play important roles in the ontology of the mind as the objects involved in content-based causation and remembering.

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 and arguably play a central role in the semantics of attitude reports not involving explicit reference to them.

Nothing has been said in this paper about the structure or composition of attitudinal objects and, in fact, whether attitudinal objects even have a structure. The overall view of attitudinal objects this paper has presented certainly allows an attitudinal object to have satisfaction conditions without being associated with a structure. There is no reason to assume that state-related attitudinal objects come with a structure. Even more obviously, state-related modal objects do not come with a structure—objects that include light obligations and permissions, needs, and abilities. The part structure of attitudinal and modal objects is, in fact, based on partial content only, rather than, say, the structure of acts that may be involved in their creation or a temporal part structure.[10] In that respect, attitudinal and modal objects differ from artefacts such as books, which have a physical part structure as well as a content-related part structure.

The fact that a strictly content-related and thus abstract part structure is compatible with attitudinal objects having properties of concreteness is itself in need of explanation. Attitudinal objects may be objects of perception and enter causal relations, and they generally have a limited temporal lifespan. But their part structure is not related to those aspects of concreteness. The fact that the part structure of attitudinal objects is entirely independent of their features of concreteness does not cohere with standard assumptions about objects and their parts. A temporally extended concrete object should be able to have parts that are concrete as well, but that is not the case with attitudinal objects.

This puzzle may be related to the status of attitudinal objects as ontologically dependent objects, dependent on the mind of an agent. It appears that ontologically dependent concrete objects may, in general, display gaps in property spaces that other concrete objects do not

display. Some ontologically dependent objects may lack an independent spatial location—for example, holes. A hole may be in the bag and the bag may be on the table, but the hole is certainly not on the table. Holes have a location relative to the object on which they depend, but not absolutely. Another example is tropes. The painting may have great beauty and be on the wall, but the beauty of the painting won't be on the wall. Tropes, moreover, may have a part structure that is entirely independent of the spatial part structure of their bearer. The beauty of the painting may have as a part a particular colour combination, for example, but no parts that relate to its spatial location relative to its bearer. Similarly, the failure of attitudinal objects to have a physical part structure may be considered a gap in a property space that ontologically dependent objects in general may exhibit. Attitudinal objects as well as certain other types of ontologically dependent objects thus would not require the sort of completion under property specification that the standard view takes ontologically independent concrete objects to be subject to. Of course, this requires a revision of common assumptions about object individuation that will have to be pursued in greater detail elsewhere.

Acknowledgements

Notes

1. See, for example, Pustejovsky (1995).
2. 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 objects *sui generis*. Twardowski (1912) already gave various examples with different sorts of attitudinal objects.
3. For the notion of partial content, see Yablo (2015) and Fine (2017), as well as section 3.
4. 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.
5. Though modal objects have the ability to endure beyond the act that may have created them (Moltmann 2017a).

6. 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.

7. It appears at least less natural to say that about a process of thinking and particular acts of screaming or promising.

8. This would be parallel to *sick* vs *be sick*: sick takes a trope as an argument, but *be sick* a derivative state of being a bearer of the trope. See Moltmann (2015) and Maienborn (forthcoming).

9. There is one issue, and that is predicates of intensity, which do apply to *believe* but are not predicates of abstract states (*John firmly believes that* S) (Maienborn forthcoming). I will leave this as a puzzle for future research.

10. In Moltmann (2017b), I argued that attitudinal objects may come with a structure when they are products of locutionary acts, acts below the level of locutionary acts. Examples are thoughts, remarks, and screams.

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