**Chapter 3**

**Object-based Truthmaker Semantics, Norms of Truth, and Direction of Fit**

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**Introduction**

Attitudinal and modal objects come with a content, that is, they are bearers of truth or satisfaction conditions. This is reflected in the applicability of various predicates of truth and satisfaction as well as in particular constructions whose semantics consists in the attribution of content, such as clausal complementation or modification and specificational sentences.

 How should the content of attitudinal and modal nouns be conceived formally? Given standard possible-worlds semantics, one might take their content to consist in a set of worlds, the content of John’s belief being the set of worlds compatible with what John believes.[[1]](#footnote-1) There are a range of reasons not to construe the content of attitudinal and modal objects in terms of possible-worlds semantics, however. Instead, I will argue for an account in terms of truthmaker semantics, a situation-based semantics developed recently by Fine (2017, 2018a, b). In truthmaker semantics, situations, actions, and perhaps other types of entities act as truthmakers or satisfiers of content bearers, rather than entire worlds. Truthmaker semantics has been developed in order to obtain a more fine-grained notion of content than that of possible-world semantics, thereby permitting the definition of such notions as aboutness or subject matter and of partial content. Fine had developed truthmaker semantics for the content of sentences only, which can thus be distinguished as *‘sentence-based truthmaker semantics’* from the present version of *‘object-based truthmaker semantics’*, truthmaker semantics when applied to attitudinal and modal objects as content bearers.

 Besides the general advantages of truthmaker semantics for the notion of content as such, there are the following specific motivations for applying truthmaker semantics to attitudinal and modal objects, which this chapter will elaborate:

[1] Attitudinal and modal object display a part relation based on the notion of *partial content*, which truthmaker semantics specifically aims to capture.

[2] Some attitudinal and modal objects involve *actions* as satisfiers and come with agent-related satisfaction predicates.

[3] Truthmaker semantics can at least in part explain the selection of *different predicates of satisfaction* selected by different types of attitudinal and modal objects.

[4] Unlike possible worlds-semantics, truthmaker semantics permits formulating a single derived meaning of sentences as a property of content bearersapplicable to attitudinal and modal object objects of possibility and necessity.

[5] In further develoments going beyond the scope of this book, truthmaker semantics can be applied to intensional objects like searches, debts, and purchases, which share characteristic properties with attitudinal and modal objects but involve individuals-in-situations as satisfiers.

Furthermore truthmaker semantics may be extended to questions, which themselves are attitudinal objects, and they take as satisfiers answers, which are themselves attitudinal objects. The mental correlate of questions, states of inquiry, are attitudinal objects as well, taking states of knowledge as satisfiers.

 Truthmaker semantics by itself will not be able to cover all there is to the satisfaction conditions of attitudinal and modal objects. In particular, it does not account for the direction of fit, which is a normative notion and underlies the distinction between truth conditions and fulfilment conditions of attitudinal and modal objects. The notion, I will argue, can be illuminated by paying attention to the applicability and understanding of the predicate *correct*, which applies to both attitudinal objects and to satisfiers of attitudinal objects. When applied to attitudinal objects such as beliefs and claims*, correct* conveys truth, as a non-action-guiding norm; when applied to actions, *correct* can mean that those actions satisfy the relevant attitudinal object, which thus imposes an action-guiding norm.

 In what follows, I will first give an outline of Fine’s sentence-based truthmaker semantics and then show how it can be extended to attitudinal and modal objects. Then I will discuss the normativity displayed by attitudinal and modal objects and their satisfiers, the notion of direction of fit. Finally, I will make some general remarks about the notion of truth displayed by attitudinal objects, which is incompatible with deflationist or minimalist accounts of truth.

**1. Outline of sentence-based truthmaker semantics**

**Possible-worlds semantics and situation semantics**

Possible-worlds semantics certainly is the most common approach to the semantics of modals, and it is also a dominant approach to the semantics of attitude reports, at least in formal semantics in the tradition of Montague (Thomason 1974). While philosophers have discussed problems with possible-worlds semantics for quite some time, the approach continues to have a range of attractive features that have made it persevere as a central tool of analysis in formal semantics. First of all, possible-worlds semantics appears to have the very general advantage of allowing for a unified compositional semantics of intensional and extensional expressions of various sorts. In addition, possible-worlds semantics promises more specific advantages, such as being a suitable basis for accounting for various sorts of connections between modals and attitude reports, and for how utterances of sentences relate to the discourse context, which is standardly construed as a set of worlds, a context set (Stalnaker 1978, 1984, 2002).

 The main shortcomings of possible-worlds semantics are well-known, having to do with the fact that propositions construed as sets of possible worlds give too coarse-grained a notion of content. Standard possible-worlds semantics does not distinguish the meanings of logically equivalent sentences and fails to account for the intuitive notions of subject matter and of partial content. The need for a more fine-grained notion of content, especially for attitude reports, was the motivation for an alternative, structured conception of content, which replaces sets of worlds by structured propositions, commonly construed as n-tuples of objects or concepts (Cresswell 1985, Soames 1987, King 2019). The structured-propositions view comes with its own problems, however (Jubien 2001, Soames 2010, Hanks 2015, Moltmann 2003, 2013, 2014). For one thing, it raises serious conceptual problems discussed in Chapter 1 (the problems of the unity of the proposition and of the arbitrariness of the order of propositional constituents). Moreover, it is tailored for attitude reports of a certain sort, but not modals, and it is harder to make use of it for general semantic purposes, such as the semantic composition of complex expressions of different sorts.

 The present project falls within a third approach to semantic content, which makes use of situations rather than entire worlds, an approach that also gives a more fine-grained notion of content, though of a different sort. The version of the situation-based approach that I will adopt is truthmaker semantics, as recently developed by Fine (2012, 2014, 2017a, b, c, 2018a, b). Truthmaker semantics is based on the relation of exact truthmaking or satisfaction between a situation or action and a sentence (as well as a corresponding relation of exact falsification or violation). Exact truthmaking holds between a situation and a sentence just in case the situation is wholly relevant for the truth of the sentence. Truthmaker semantics is able to distinguish contents of logically equivalent sentences and gives an immediate account of the notions of subject matter and of partial content. Still the notion of content given by truthmaker semantics is not as fine-grained as that of the structured-propositions account. In particular, the content of a sentence is not taken to reflect syntactic structure in the way a structured proposition does. The following is a brief outline of Fine’s sentence-based truthmaker semantics, with just the necessary elements needed for the present aims.

 Truthmaker semantics is based on situations (and actions) rather than entire worlds, as well as on the relation ╟ of exact truthmaking (or satisfaction) holding between a situation (or action) and a sentence.[[2]](#footnote-2)

 Truthmaker semantics involves a domain *D* of situations or actions containing actual, possible, as well as impossible situations.[[3]](#footnote-3) The relation ‘part of’ will impose on *D* a partial order that is closed under fusion. *D* includes a null situation (the fusion of the empty set) and the complete situation (an impossible action or situation that is the fusion of the set of all possible actions or situations).

 A situation (or action) sstands in the relation ╟ of exact truthmaking (or exact satisfaction) to a sentence S just in case s is wholly relevant for the truth (or satisfaction) of S. This means that s should not include anything that fails to bear on the truth (or satisfaction) of S. A situation (or action) s is a falsifier (or violator) of a sentence S just in case S is wholly relevant for the falsity (or violation) of S. For Fine, situations are parts of worlds, and no further assumptions are made regarding their ontology beyond the roles they play within truthmaker semantics. Actions are a specific kind of situation, namely those that may comply with imperative sentences, rather than making them true.

 The use of the notion of exact truthmaking distinguishes truthmaker semantics from older situation-based semantic theories such as that of Barwise and Perry (1983) and Kratzer (2014), which are based on the relation inexact truthmaking or verification between situations and sentences. The notion of an exact truthmaker of a sentence is distinct from that of a minimal situation supporting a sentence, a notion defined in terms of inexact truthmaking in Kratzer (2002, 2014). There are two important reasons for using the notion of an exact truthmaker rather than that of a minimal truthmaker (Fine 2017). First, there are sentences that have exact verifiers, but lack minimal verifiers, for example *there are infinitely many natural numbers*.[[4]](#footnote-4) Second, a sentence such as *it is windy or it is rainy and windy* has two exact verifiers, a situation in which it is (just) windy and a situation in which it is (just) windy and rainy, but it would have only one minimal verifier (a situation in which it is windy) (Fine 2017).

 The domain of situations (and actions) divides into actual, possible as well as impossible situations (and actions). Actual situations are part of the actual world; impossible situations are part of impossible worlds and would be truthmakers of contradictory sentences. The domain of situations is ordered by a part-whole relation < (a partial order) and is closed under fusion (sum).

 The truthmaking / satisfaction relation ╟ applies to both declarative and imperative sentences: declarative sentences are made true by situations that are their exact truthmakers, imperatives are complied with by actions that are their exact satisfiers. The following standard conditions on the truthmaking of sentences with conjunctions, disjunctions, and existential and universal quantification then hold, where ⊕ is the operation of fusion:[[5]](#footnote-5)

(1) a. s ╟ S *and* S’ iff for some s’ and s’’, s = s’ ⊕ s’’ and s’ ╟ S and s’’ ╟ S’.

 b. s ╟ S *or* S’ iff s ╟ S or s ╟ S’

 c. For a sentence S, s ╟ ∃x S iff s ╟ S[x/d] for some individual d.

 d. s ╟ ∀x S iff for a minimal set X such that for each individual d, there is an s’ ∈ X

 such that s’ ╟ S[x/d] , s = sum(X) .

 Truthmaker semantics assigns a sentence not only truthmakers or verifiers, but also falsifiers, situations or actions in virtue of which the sentence is false and that are wholly relevant for the falsity of the sentence. This allows a straightforward formulation of the truthmaking conditions of negated sentences: a truthmaker of ¬ *S* is a falsifier of *S*. With ╢ as the relation of (exact) falsification, the condition on the truthmaking of a negated sentence is given below: [[6]](#footnote-6)

 (2) s ╟ *not* S iff s ╢ S.

Also complex sentences are assigned both truthmaking and falsitymaking conditions. For conjunctions and disjunctions the falsitymaking conditions are those below:

(3) a. s ╢ S *and* S’ iff s ╢ S or s ╢ S’.

 b. s ╢ S *or* S’ iff for some *s’* and *s’’*, s = sum(s’, s’’) and s’ ╢ S and s’’ ╢ S’.

 Given sentence-based truthmaker semantics, a sentence *S* will have as its meaning a bilateral content, a pair <pos(s), neg(S)> consisting of a *positive denotation* of S, the set *pos(S)* of verifiers of *S*, and a *negative denotation* of S, the set *neg(S)* of falsifiers. I will adopt this meaning as the underived meaning [S] of a sentence S. That is:

(4) The underived meaning (bilateral content) of sentences

 For a sentence S, [S] = <pos(S), neg(S)>

 In truthmaker semantics, the contents of sentences are considerably more fine-grained than in possible-worlds semantics. In particular, logically equivalent sentences will have different truthmaker-based meanings whenever they are about different things. Possible-worlds semantics moreover fails to give a notion of aboutness or subject matter (Yablo 2015). By contrast, truthmaker semantics provides a straightforward account of the notion of subject matter of a sentence:

(5) The *subject matter* of a sentence S is the fusion of the verifiers of S and the falsifiers of S

 (fus(pos(S) ∪ neg(S))).

 Possible-worlds semantics also is unable to provide a notion of partial content. By contrast, truthmaker semantics allows for a straightforward account of the notion (Yablo 2015, Fine 2017a):

(6) For sets of situations (or actions) A and B, B is a *partial content* of A iff every exact

 truthmaker (or satisfier) of A contains an exact truthmaker (or satisfier) of B and every

 exact truthmaker (or satisfier) of B is contained in an exact truthmaker (or satisfier) of A.

Given the notion of partial content, the content of the sentence *it is cold* is part of the content of the sentence *it is raining and it is cold* (since every situation in which it is just cold is part of a situation in which it is raining and it is cold, and every situation in which it is cold and it is raining has a situation as part in which it is just cold). However, the content of the sentence *Paris is Paris* is not a part of the content of *it is raining and it is cold*, though it is a logical consequence of it. Moreover the content of *it is snowing or it is raining* won’t be part of the content of *it is raining*, though again it is a valid inference from it. Partial content provides the basis for a relation of analytic entailment, as distinct from classical entailment. A sentence *S1* *classically entails S2* iff *S2* is true in any model in which *S1* is true. A sentence *S1* *analytically entails* a sentence *S2* iff the content of *S2* is a partial content of the content of *S1*.[[7]](#footnote-7)

 Imperatives for Fine have the same sort of semantic values as declarative sentences, a pair consisting of a set of satisfiers and a set of violators, the only difference being that the satisfiers and violators of imperatives are actions, whereas the satisfiers and violators of declaratives are situations. Imperatives provide an important application of the notion of partial content, namely to Ross’ paradox, the intuitive invalidity of the inference below, which is valid given standard deontic logic:[[8]](#footnote-8)

(7) Post the letter!

 Post the letter or burn the house!

Fine explains the invalidity of (17) by taking inferences among imperatives to be based on analytic entailment rather than classical entailment. That is, an imperative *S2* follows from an imperative *S1* just in case the content of *S2* is a partial content of the content of *S1*. (17) then is not valid because there are satisfiers of the conclusion, actions of burning the house, that are not part of a satisfier of the premise, an action of taking an apple. In contrast to imperatives, entailments among declaratives, for Fine, are not based on analytic entailment, but on classical entailment.

 Imperatives can be used not only for commands, but also for permissions (*Take an apple!)*.[[9]](#footnote-9)No distinction is made on Fine’s account between imperatives used to convey permissions and imperatives used to convey orders.[[10]](#footnote-10)

**2. Truthmaker-based content of attitudinal objects**

**2.1. Partial content and partial satisfaction for attitudinal and modal objects**

In Fine’s truthmaker semantics, the notions of exact truthmaking or satisfaction and of falsemaking or violation apply to declarative and imperative sentences, the very same notion, however, carries over to attitudinal (and modal) objects. A rudimentary truthmaker view of mental states and mental and illocutionary acts can in fact already be found in Searle (1983), who takes intentions, decisions and requests to be satisfied by actions and assertions and beliefs to be satisfied by states of affairs.

 If attitudinal and modal objects are assigned as their content a pair consisting of a set of verifiers and a set of falsifiers, the notion of subject matter given in the last section applies to them in the same way as to sentences. Moreover, the relation of partial content applies to positive extensions of attitudinal and modal objects and derivatively to attitudinal and modal objects themselves:

(8) A set *B* of situations or actions is a *partial content* of an attitudinal or modal object *o* iff

 *B* is a partial content of *sat(o).*

 Truth, satisfaction, and validity permit partial application, resulting in notions of partial truth or satisfaction as well as partial validity. The obligation for Mary to work on weekends may be satisfied only partially, and it may obtain only in part. An offer may hold only partially, and it may be taken up only in part. Given the notion of partial content, the two notions of partial satisfaction (truth) and partial validity can be defined as follows:

(9) a. An (attitudinal or modal) object *o* is *partially satisfied (true)* iff there is an actual

 situation or action *s* and a partial content *B* of *o* such that *s* ∈ *B*.

 b. A (potential) modal object *o* is *partially valid* if there is a partial content *B* of *o* such

 that for some (potential) modal object *d*, *d* is valid (exists) and *B* = *sat(d)*.

(9b) is a condition on potential modal objects, modal objects that may or may not obtain or be valid, yet are well-defined in terms of their content (sets of satisfiers and violators) and type of modality. (9b) presupposes that for every partial content *B* of a potential modal object, there is a potential modal object with *B* as its (complete) content.

 Partial truth or satisfaction and partial validity are well-reflected linguistically in the use of adverbials like *partly* modifying predicates of truth, satisfaction, and validity in the examples below:

(10) a. John’s belief is partly true.

 b. Mary’s desire was partly satisfied.

 c. The offer was partly taken up.

 d. The offer is now only partly valid.

*Partly* as a predicate modifier in (10) relates to the content-based part structure of an attitudinal object. Thus, (10a) – (10e) are equivalent to (11a) – (11e):

(11) a. Part of John’s belief is true.

 b. Part of Mary’s desire was satisfied.

 c. Part of the offer was taken up.

 d. Only part of the offer is now valid.

Partial satisfaction is also available for agent-related predicates of satisfaction:

 (12) a. John partly satisfied the demand.

 b. John partly followed Mary’s advice.

Note that partial (but not complete) fulfillment of an order goes along with partial ignorance or violation of the order, whereas partial (but not complete) taking up of an offer does not go along with any sort of violation. Failure to fulfill part of an order is partly violating it, whereas failure of taking up part of an offer is no violation of any sort. This has to do with the fact that illocutionary products of the sort of orders have violators, whereas those of the sort of offers do not, an issue that will be discussed in the next section.

 Modal objects likewise allow for partial satisfaction:

(13) a. John partly fulfilled his obligation.

 b. John partly followed the law / the rule.

Partial satisfaction of a modal object, one might think, can be reduced to the partial truth of the proposition that the modal object is satisfied, that is, the validity of part of a modal object would be reduced to the partial truth of a statement of the modal object’s validity. But this is not the case, as the nonequivalence of (14a) and (14b) and of (15a) and (15b) shows:

(14) a. The students fulfilled part of the requirement.

 b. That the students fulfilled the requirement is partly true.

(15) a. The police force ignored part of the order.

 b. That the police force ignored the order is partly true.

(14a) cannot have a reading on which part of the students fulfilled the requirement, but (14b) can have such a reading. Similarly, (15a) cannot have a reading on which part of the police force ignored the order, but (15b) can have such a reading.

**2.3. Attitudinal and modal objects and their satisfiers and possible violators**

Truthmaker semantics when applied to attitudinal and modal objects differs in one important respect from truthmaker semantics applied to sentences. Whereas sentences come with a set of verifiers and a set of falsifiers, not all attitudinal and modal objects can have falsifiers or violators. The ability to have falsifiers or violators distinguishes attitudinal and modal objects of different modal forces. Claims do have falsifiers, namely situations in virtue of which they are false (situations completely relevant for the falsity of the claim). Requests and obligations have violators, actions that violate or ignore the request or obligation. However, attitudinal and modal objects with the modal force of possibility do not have falsifiers or violators. What distinguishes proposals, permissions, offers, and invitations from requests and obligations is that they cannot be violated. Not taking up an offer or accepting an invitation is not a violation, but not satisfying a demand or fulfilling a promise is. Moreover, whatever action is performed in virtue of which a request fails to be satisfied, that action is a violator of the request.

 The difference is reflected in the absence of any predicates of violation applicable to permissions, offers, and requests. Obligations can be ‘violated’ or ‘contravened’, and rules or laws can be ‘broken’. Offers and invitations can be ‘declined’ or ‘refused’, but that does not amount to a violation. The predicate *ignore* conveys violation with attitudinal and modal objects of necessity (request, obligation), but with those of possibility (invitation, offer, permission) it conveys simply lack of acceptance. Ignoring an invitation, offer, or permission does not mean violating it, but ignoring a request or obligation does. What we refer to as ’options’, ‘strategies’, and ‘possibilities’ are teleological modal objects of possibility. They can be ‘taken’ or ‘pursued’, but not ‘violated’. A strategy may fail, of course, but here failure is a property of the attitudinal object, not its satisfier. An option may be rejected, but that means not taking it, rather than violating it.

 The difference in modal force is also reflected in the way satisfiers are evaluated. An action of fulfilling a request is ‘correct’, but an action taking up a permission is not ‘correct’, but perhaps ‘legitimate’.

 The difference between modal forces thus resides in a difference in the truthmaker-based content of attitudinal and modal objects. This permits a new, non-quantificational approach to modality. There appears to be significant linguistic support for a nonquantificational approach to modality in that crosslinguistically, modality seems to never be expressed by explicitly quantificational expressions, unlike for time (every time, always etc) (Schmitt forthcoming)

**2.4. Possible-worlds-based and truthmaker-based contents for sentences as predicates of content bearers**

The present view is that sentences act as predicates of content bearers. Given the truthmaker-based meaning of sentences as bilateral contents, this requires positing a derived meaning of sentences as a property of content bearers.

 The task of formulating the meaning of sentences as properties of such content bearers is of course shared by semanticists hold the predicativist view of clauses, but adopt possible-worlds semantics. There is a serious problem that arises for the possible worlds semantics when combined with a predicativist view of clauses, a problem that gives a significant advantage to truthmaker semantics. Given possible-worlds semantics, the property below would be the most obvious candidate for the meaning of sentences as predicates of content bearers, where f(d) is the set of worlds compatible with the content of d (or in which the conditions represented by d are fulfilled):[[11]](#footnote-11)

(16) Possible-worlds-based meanings of sentences as predicates of content bearers

 [S] = λd[∀w(w ∈ f(d) 🡪 S is true in w)]

Such a possible-worlds-based content would not allow distinguishing between attitudinal and modal objects with different forces, such as permissions and obligations. In application to modal objects of possibility, sentences as predicates would have to stand for the property below (given the standard view of modals of possibility):

(17) [S] = λd[∃w(w ∈ f(d) & S is true in w)]

But then clauses as complements of modal predicates would not have a single meaning, but would be ambiguous, depending on the lexical meaning of the embedding predicates, which, of course violates compositionality. The very same compositionality problem arises for complements of illocutionary verbs associated with necessity and with possibility (*demand, request* vs. *give permission, invite, offer*).

 By contrast, truthmaker semantics is able to assign a sentence S a single meaning as a predicate of content bearers. This is the property prop(S) that holds of an object *d* just in case *d* has the same satisfiers as *S* and, if *d* has violators, *d* shares the same violators as *S*:[[12]](#footnote-12)

(18) Truthmaker-based derived meanings of sentences (as predicates of content bearers)

 For an (imperative or declarative) sentence or clause S,

 prop(S) = λd[pos(d) = pos(S) & (neg(d) ≠ Ø 🡪 neg(d) = neg(S))].

Here pos(d) is the set of satisfiers and neg(d) the set of violators of an attitudinal or modal object d.

 The very same sentence meaning in (18) is applicable to modal objects of different flavors and forces as well as to imperatives on the request and the permission reading.

 To sum up, the predicativist view of embedded clauses goes along well with truthmaker semantics, while it faces a serious difficulty with possible worlds-semantics, which is added to the familiar problem for possible-worlds semantics (that of giving an insufficiently fine-grained notion of content with its failure to account for notions of aboutness and of partial content).

**2.5. Modal products and modal states for strong and weak permissions:**

There is a further well-known problem for possible-worlds semantics which object-based truthmaker semantics offers a novel solution to. That is the inability for possible-worlds semantics to distinguish between strong (explicit) permissions and weak (implicit) permissions.[[13]](#footnote-13)

 The distinction has generally been taken to consist of two distinct readings of deontic modals, but it is also reflected linguistically in the contrast between simple predicates (*be* + impersonal adjectival passive) as in (19a), which display the weak reading (as well as a strong one), and complex predicates (light verb + nominal), as in (19b), which display the strong reading only, just as (19c) of course:

(19) a. Mary is permitted to take a walk.

 b. Mary has (the) permission to take a walk.

 c. John gave the permission for Mary to take a walk.

Possible-worlds-based semantics would attribute the same meaning to the two permission sentences: for a permission sentence such as (19a) and (19b) to be true, the clausal complement would have to be true in some world compatible with the agent’s obligations. But having a permission means more than that: it means that there was an act whose content is, at least in part, given by the complement clause and whose product, the permission, can be taken up by performing the act described by the complement clause. Moreover, giving or receiving a permission does involve a change, but not in the set of worlds compatible what the agent is obliged to do. Rather it involves a change in a set of options to act that are at the agent’s disposal.[[14]](#footnote-14)

 The linguistic difference between (10a) and in (10b) is revealing as to the source of weak and strong permission readings. The complex predicates in (10a, b) involve explicit reference to a permission, the product of an act of permission, and the complement clause serves to give the content of that product. By contrast, (10a) contains a stative predicate is permitted to describing a deontic state, rather than the product of an act, and it is that state that the complement relates to. The strong reading thus will go along with the compositional semantics of complex predicates as in (10a, b), and the weak or strong reading with that of a simple stative predicate. As expected, action verbs like *offer* and *invite*, can only serve to describe explicit forms of permission. I will elaborate the semantics of weak and strong permissions more formally in Chapter 4.

**2.6. Truthmaker-related ontological operations for attitudinal and modal objects**

Attitudinal and modal objects enter various ontological relations and operations. Like all individuals, they permit pluralization. Below this is formulated without any commitment as to the nature of pluralities (whether they are ‘many’ or single ‘sums’):

(20) Pluralization of attitudinal or modal objects

 For attitudinal or modal objects d and d’, the plurality of d and d’ exists.

Pluralization is needed for the semantics of conjunctions of NPs for attitudinal or modal objects (*John’s belief that it is raining and his belief that it is not raining* contradict each other, *the obligation to leave and the obligation cannot both be fulfilled*). It is also needed for the semantics of plurals like *John claims that it is raining and that it is not raining* and *the obligations to leave and to stay*.

 In addition, to the operation of pluralization, there is an operation of content merger, which amounts to conjunction of the contents of two attitudinal or modal objects that undergo fusion:

(21) Content merger for attitudinal and modal objects of the same type

 For attitudinal objects d and d’ of type T, cont-merg(d, d’) = the attitudinal object d’’ of

 type T such that s’’ ∈ neg(d’’) iff ∃s ∃s’’ ( s ∈ pos(d) & s’ ∈ pos(d’) & s’’ = s’⊕ s’ &

 s’’ ∈ neg(d’’) iff s’’ ∈ neg(d) or s’’∈ neg(d’)).

Thus the attitudinal object John’s belief that it is raining and it is cold is the ‘result’ of content merger of John’s belief that it is raining and John’s belief that it is snowing. The obligation to help Mary and to help Sue is the content merger of the obligation to help Mary and the obligation to help Sue.

 There is furthermore an operation of content separation, which allows separating attitudinal or modal objects on the basis of a part of their content:

(22) Content separation for attitudinal and modal objects

 For an attitudinal or modal object d of type T and a partial content C’ of the content C of

 d, there is an attitudinal or modal object of type T with content C’.

Further condition on modal objects only will be introduced in Chap. 4.

**3. Truth versus satisfaction: the direction of fit**

**3.1. Predicates of truth and predicates of fulfilment**

Different types of attitudinal or modal objects select different types of predicates of satisfaction. Deontic attitudinal and modal objects select predicates of fulfilment if they have the force of necessity (*fulfil, comply with*), and they select predicates of acceptance (*accept take up*), if they are of the modal force of possibility. Truthmaker semantics accounts for that difference in terms of the presence vs. absence of violators. But there is another distinction, that between truth predicates and predicates of fulfilment. Truthmaker semantics alone cannot account for that distinction, which involves a normative dimension. What exactly the normative aspect consists in can be illuminated by paying attention to the applicability and understanding of predicates of correctness, which display a striking connection between truth and correctness understood as a non-action-guiding norm.

**3.2. Correctness of attitudinal objects and the normativity of truth**

The predicate *correct* applies to attitudinal objects of the sort of beliefs, judgments, and claims by conveying their truth and just their truth:

(23) John’s belief / judgment / claim is correct.

In natural language, *correct* when applied to a belief, judgment, or claim conveys just truth, whether or not the belief or assertion is justified or warranted. This is an important fact, and it obtains regardless of any further epistemic conditions that philosophers may have imposed on the correctness of beliefs or assertion (e.g. Williamson 2000).[[15]](#footnote-15) *Correct* simply cannot convey more than truth when applied to beliefs, judgments, and claims. This is also evident from the fact that *correct* applies with that very same understanding to guesses and speculations, which do not involve any effort at justification:

(24) John’s guess / speculation / hypothesis / assumption is correct.

By contrast, propositions hardly allow for the application of *correct* with a clear intuitive understanding:[[16]](#footnote-16)

(25) ??? The proposition that Mary left is correct.

 The attitudinal objects to which *correct* applies by conveying truth are just the attitudinal objects that come with a world-to-word/mind direction of fit, or more precisely a word/mind-to-world direction of fit, which means the representation ought to fit the world.[[17]](#footnote-17) Given the understanding of *correct*, truth is treated as the norm of all attitudinal objects with a word-to-world direction of fit. *Correct* does not apply to desires and requests by conveying fulfillment, but at best by conveying the fulfillment of some contextually given norm (*the request was correct*).

 Attitudinal objects may be subject to other norms, but *correct* cannot evaluate the fulfillment of those norms. Assumptions and hypothesis might be well-chosen for the purpose at hand, but that is not what *correct* would evaluated. Rather, this is a matter for evaluation by the predicate *good* (*a good assumption, a good hypothesis*). The difference between *correct* and *good* is particularly striking for answers. A ‘correct answer’ is something quite different from a ‘good answer’. *Correct* with answers conveys truth, whereas *good* conveys fulfilment of a relevant standard.

 Like *true,* *correct* can also be predicated of sentences:

(26) a. This sentence is true.

 b. This sentence is correct.

When predicated of sentences, however, *correct* evaluates grammaticality rather than truth. This is based on the more general normative meaning of *correct*, on which *correct* holds of an object *o* just in case *o* fulfills the norm (or standard of correctness) that is associated with *o* or that is relevant in the context. The norm associated with a syntactic object is grammaticality rather than truth. Other kinds of norms are associated with other types of objects that *correct* may apply to. A choreography may be the norm for a dancer’s movement as in (28a), a logic that for a proof as in (28b) and (28c), and laws or moral values for punishments as in (28d):

(27) a. The dancer’s movements were correct.

 b. The proof was correct.[[18]](#footnote-18)

 c. The conclusion that Mary is guilty is correct.

 d. John’s punishment was correct.

For the application of *correct*, as for other truth-related predicates, the distinction between actions and products is important. When a conclusion is correct, the act of concluding itself need not be; it may go against a contextually given demand -- just like a signature may be correct, but not the act of signing. This also holds for assertions and judgments. When (28a) is true, (28b) need not be, and vice versa, and similarly for (29a) and (29b):

(28) a. John’s claim is correct.

 b. John’s making a claim that S /John’s claiming that S was correct.

(29) a. John’s judgment is correct.

 b. John’s making a judgment (that S) is correct.

*Correct* in (28a) and (29a) conveys truth; in (28b) and (29b) it conveys the fulfillment of what may just be a contextually given norm, a requirement, expectation, instruction, or purpose. Acts of making an assertion or a judgment or adopting or maintaining a belief may be correct because they follow an instruction or order, not because they capture or maintain a truth. Assertions, judgements, and beliefs, by contrast, are not evaluated as correct according to some contextually relevant norm, but only according to the norm they are intrinsically associated with, the norm of truth. Acts of judging and asserting come with products that are judgments and assertions, which are associated with the norm of truth, quite independently of what norms the acts themselves may aim to satisfy.[[19]](#footnote-19)

 In the philosophical literature, normativity is generally linked to actions. Thus, there are proposals according to which truth is constitutive of the norm associated with believing, along the lines of ‘if one ought to believe p, then p’ (Boghossian 2003, Gibbard 2003). But such conditions on adopting or maintaining a belief are problematic (Glüer and Wikforss 2009). Truth is not the aim of believing in the sense in which the fulfillment of moral values is what certain types of actions and decisions should aim for. In fact, the norms for actions of adopting or maintaining a belief may simply be contextually given norms of some sort or another. Truth as a norm is not action-guiding, but rather is strictly associated with the representational object only, as its purpose or ‘telos’ (Jarvis 2012). As a teleological norm, truth is associated with mental states like beliefs as well as products of mental or illocutionary acts such as judgments and assertions. Mental states such as beliefs and intentions need not have been produced by intentional acts at all. In fact, intentions as states arguably are prior to any intentional acts (Searle 1983).

 To summarize, *correct* applies to an object with a single reading just in case the object is intrinsically associated with a particular norm. *Correct* applies to beliefs, judgments, and claims with a single reading conveying truth because beliefs, judgments, and claims are intrinsically associated with the norm of truth. This association is quite different from the contextually given norms that actions of judging or claiming are associated with or actions of adopting or maintaining a belief.

 Conveying truth (and only truth) with beliefs, judgments, and assertions is not a lexical peculiarity of English *correct*. Other normative predicates in English do as well, for example *right* and, for falsehood, *wrong*, as do corresponding predicates in other European languages.[[20]](#footnote-20)

**3.3. The notion of direction of fit**

Truth is part of another more general notion, namely satisfaction. Various types of attitudinal objects do not have truth conditions, but rather satisfaction conditions, and perhaps both satisfaction and violation conditions.[[21]](#footnote-21) Satisfaction (and violation) conditions in turn divide into different sorts, expressed by different natural language predicates. Thus, illocutionary products that are requests, demands, promises, pieces of advice, or permissions cannot be said to be ‘true’.[[22]](#footnote-22) But they can be ‘satisfied’, ‘fulfilled’, ‘complied with’, ‘kept’, ‘followed’, or ‘taken up’. Moreover, a demand or a promise cannot be ‘false’. A demand would rather be ‘ignored’ or ‘contravened’ and a promise ‘broken’. Similarly, cognitive products like decisions cannot be said to be ‘true’, but rather would perhaps be ‘implemented’ or ‘executed’. Finally, mental states such as desires and intentions could not be said to be ‘true’, but they can be ‘fulfilled’ or ‘realized’.

 What is special about all these attitudinal objects is that they come with what Searle (1969, 1983) calls a ‘world-to-word/mind-direction of fit’, rather than a ‘word/mind-world direction of fit’. They require the world to fit the representation, rather than the representation to fit the world.

 The notion of direction of fit is generally used as an intuitive notion and as such applies to illocutionary products (or speech acts) such as assertions and requests rather straightforwardly. However, its application to mental products and states such as hopes and fears is less straightforward and requires a clarification. I will come back to that later (Sect. 3.4.).

 In its application to illocutionary products, the direction of fit is a normative notion whose normativity is reflected in attributions of correctness in the following way. An attitudinal object with a word/mind-to-world direction of fit is correct just in case there is a part of the world that makes it true. An action performed in recognition of an attitudinal object with a world-to-word/mind direction is correct in case it satisfies the attitudinal object.[[23]](#footnote-23) A word/mind-to-world direction of fit means that the attitudinal object itself needs to fulfil a norm; attitudinal objects with a world-to-word/mind direction of fit, by contrast, come with an action-guiding norm or purpose:

(30) Characterization of direction of fit applied to illocutionary products

 i. An illocutionary object *o* has a *word/mind-to-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 object *o* has a *world-to-word/mind 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*.

 *Correct* fails to convey satisfaction when applied to attitudinal objects that come with a world-to-word/mind direction of fit. A request cannot be ‘correct’ (in the sense of being satisfied), though it can be ‘correctly satisfied’.[[24]](#footnote-24), [[25]](#footnote-25) This can be attributed to the particular normative nature of a world-to-word/mind direction of fit, which imposes a norm on actions performed in recognition of the representational object, but not on the representational object itself, in contrast to a word-to-world/mind direction of fit.

 Satisfaction conditions go along best with a truthmaker approach along the lines of Fine (2017b, 2020 a, b). This means that not entire worlds stand in the satisfaction relation to a request, promise, intention, or decision, but rather relevant parts of the world, in particular actions. Actions as satisfiers of a request, promise, intention, or decision are entities that are wholly relevant for the satisfaction of the request, promise, intention, or decision. They are exact satisfiers of the request, promise, intention, or decision. Some attitudinal objects, for example requests or promises, also have (exact) violators, actions in virtue of which the attitudinal object fails to be satisfied. For directive illocutionary products (demands, requests), satisfaction (or violation) may also be conveyed by agentive verbs, with the *by-*locution describing a particular action as the satisfier (or violator) of the attitudinal object:

(31) a. John fulfilled the demand by handing in the paper in time.

 b. John followed / ignored the request by staying home.

The semantic differences among satisfaction predicates and the notions they involve provide new motivations for truthmaker theory, now applied to attitudinal objects. Also the notion of a direction of fit goes along best with a truthmaker approach, by imposing norms on actions as satisfiers.

**3.4. World-word/mind direction of fit for attitudinal objects without actions as satisfiers**

There are cases where appeal to the direction of fit is not straightforward and thus cannot immediately explain the choice of the satisfaction predicate. For example, nonfactive attitudinal objects associated with a positive emotion or preference (hopes, desires) do not have truth conditions, but fulfillment conditions. Hopes and desires cannot be true or false, but they can be ‘fulfilled’ or remain ‘unfulfilled’:[[26]](#footnote-26)

(32) John’s hope / desire that he would win yesterday was fulfilled.

Why do hopes and desires have satisfaction conditions rather than truth conditions? Certainly hopes and desires do not always require actions to satisfy them, unlike requests and commands.

 Does this mean that they have a word-to-word/mind direction of fit? If so, there would not be a correlation of the two directions of fit with fulfillment conditions and truth conditions respectively. One might suggest that instead of the direction of fit, it is the future-orientedness of hopes and desires that makes predicates like *be satisfied* or *be fulfilled* available.[[27]](#footnote-27) However, fears, which tend to be equally future-oriented, do not accept *be fulfilled*, and neither does future-oriented *believe*:

(33) a. ??? John’s fear that he would lose was fulfilled.

 b. ??? John’s belief that he would win was fulfilled.

 There is a better explanation why positive emotive attitudes go with *be fulfilled* rather than *be true* , namely in terms of what actually sets up a direction of fit. Positive emotive attitudinal objects like hopes and desires imply a positive emotive response to their satisfaction (under normal circumstances), and reaching that positive response requires for a part of the world to make such attitudinal objects true, rather than the attitudinal object aiming to represent the world. The positive emotive response that a hope is directed toward constitutes a kind of norm or purpose and as such imposes a requirement on the world, rather being subject to a requirement itself. By contrast, a merely doxastic attitudinal object such as a belief has as its norm or purpose the accuracy of the representation only, and that imposes a requirement on the belief rather than on the world. In that sense, then, hopes and desires, even though they do not require actions to be their satisfiers, involve a world-to-word/mind direction of fit, rather than the word/mind-to-world direction of fit of merely doxastic attitudinal objects.

**3.5. Satisfaction conditions for intentions and decisions**

Attitudinal objects such as intentions and decisions are generally taken to involve a world-word/mind direction of fit. But the satisfaction of intentions and decisions is not conveyed by predicates of fulfillment. Rather than being ‘fulfilled or ‘satisfied’, decisions are ‘carried out’ or ‘executed’ and intentions ‘realized’. What distinguishes requests and orders from intentions and decisions is the normative aspect that goes along with the former, but not the latter. Requests and orders impose a kind of social norm on actions performed in recognition of them: they impose a norm or purpose on another person’s actions. This is not so for decisions and intentions: not carrying out a decision or intention does not violate a norm imposed by someone else, but simply frustrates the aim of one’s own intention or decision. Social norms are imposed only when another person needs to be engaged in the satisfaction of the attitudinal or modal object. Requests can be ‘fulfilled’ because here one agent (the speaker) sets up a teleological norm to be fulfilled by another (the addressee). Promises can be ‘fulfilled’ because with a promise a speaker declares and thus shares with the addressee a norm that his/her actions will be subject to.[[28]](#footnote-28)

**4. Conclusion and further outlook**

Attiudinal and modal objects form an ontological category of content bearers with properties of concreteness as well as satisfaction conditions. Given the fact that they display a notion of content ordered by partial content and may explicitly permit actions (and well as other smaller objects) as satisfiers, their content is best construed in truthmaker semantic terms. This means like sentences attitudinal and modal objects are associated with a set of satisfiers and a set of falsifiers. Moreover, it means that sentences if they should act as predicates of such objects will have a derived meaning on which they convey truthmaker-based properties.

 The semantic differences among satisfaction predicates for different types of attitudinal and modal objects reflect the presence or absence of violators, differences in the norms imposed on attitudinal and modal objects or their satisfiers, and the presence or absence of a social norm.

**Appendix: Truth predicates in natural language and deflationist and minimalist views of *true***

A central issue in the philosophical discussion of truth is whether *true* as a syntactic predicate expresses a property in any substantial sense or whether it better goes along with a deflationist or minimalist account of some sort (Horwich 1990, Künne 2003). Clearly, natural language reflects a notion of truth that is incompatible with a deflationist or minimalist account.

 Deflationists and minimalists deny that *true* expresses a real property, but they do not necessarily make claims about the syntactic status of *true*. Horwich’s (1990) version of deflationism only says that what constitutes having the concept of truth is the knowledge of the equivalence schema below, where [S] is a nominalization function (roughly corresponding to the complementizer *that*):[[29]](#footnote-29)

(1) [(*that*) S] is true iff S.

As stated in (1), this deflationist view still makes some semantic assumptions, though. First, it gives priority to the clausal construction. (1) is applicable only when *true* applies to a *that*-clause and not when it applies to a referential NP.. Given (1), the application of the truth predicate amounts to the denominalization of the proposition-referring term (a *that*-clause) and the use of the sentence thus obtained. Besides the problematic assumption that *that*- clauses are proposition-referring terms, (1) could not be extended to the full range of truth-related predicates. (1) could not apply to the normative predicate *correct* conveying truth when applied to some objects but not others. *Correct* In fact does not even apply to propositions, it applies only to entities like beliefs and assertions. Moreover, (1) cannot be extended to predicates of satisfaction, which is particularly problematic if predicates of satisfaction are considered predicates that include *true* as a special case. For a schema like (1) to cover predicates of satisfaction, it would have to apply to what amounts to the nominalization of an imperative, let’s say to a term for a request. But the satisfaction of a request does not amount to the use of an imperative. The latter serves to *make* a request, not to satisfy it. In addition, the deflationist account could not apply to agent-related satisfaction predicates.

 There is also a general issue with what *true* is taken to apply to in (1). It is far from clear that there is such a thing as a notion of an abstract proposition -- a truth bearer -- that is not itself constituted by the notion of truth and the intentionality of agents (Boghossian 2010). Truth is intimately linked to intentionality and the ability to represent, on a par with satisfaction. Attitudinal objects as agent- and mind-dependent objects reflect that link, abstract propositions don’t.

1. See, for example, Moulton (2019, 2015) for such a view of the content of concrete content bearers. [↑](#footnote-ref-1)
2. Fine actually uses the term ‘state’, rather than situation, while being agnostic about how to understand the notion of a state ontologically. Truthmaker semantics is actually meant to be ontologically neutral: any entity can in principle play the truthmaker role, as long as it serves the overall purposes imposed by the semantics. [↑](#footnote-ref-2)
3. It should be emphasized that truthmaker semantics, unlike what the name may suggest, does not pursue the philosophical interest of grounding the truth of a sentence is actual objects. The interest of truthmaker semantics is semantic only, involving ‘naïve metaphysics’, to use Fine’s (2017b) term, rather than ‘foundational metaphysics’. [↑](#footnote-ref-3)
4. See also Kratzer (2002, 2014) for discussion. [↑](#footnote-ref-4)
5. Fine would ultimately not subscribe to the truthmakig conditions for existentially and universally quantified sentences. But his views of the truthmaking conditions for existentially and universally quantified sentences are not yet published. I will also set aside the truthmaking conditions of conditionals, as they involve issues not relevant for present purposes. [↑](#footnote-ref-5)
6. (2) also applies to imperatives that are prohibitions: *Do not smoke!* is satisfied by actions that violate the imperative *Do smoke!*, thus actions incompatible with the addressee smoking. [↑](#footnote-ref-6)
7. Strictly speaking, this is in fact analytic containment, see Fine (2015) for discussion. [↑](#footnote-ref-7)
8. Fine (2008 a, b) explains the invalidity of the corresponding inference with deontic *may* in a somewhat similar way:

(i) You may take an apple.

 You may take an apple or the gold.

But see Chapter 4. [↑](#footnote-ref-8)
9. There are particular contexts required for an imperative to be used in the weaker way (Iatridou and von Fintel 2017). [↑](#footnote-ref-9)
10. More precisely, Fine (2020 a) suggests a different logical form for imperatives of permission, T v P rather than P!, where T is the formula made true by all situations or actions. [↑](#footnote-ref-10)
11. (16) has in fact been endorsed by Kratzer (2006, 2016) and Moulton (2009, 2015). [↑](#footnote-ref-11)
12. This was proposed in Moltmann (2021a). [↑](#footnote-ref-12)
13. The notions of weak and strong permission are due to Wright (1963). [↑](#footnote-ref-13)
14. A similar issue arises for epistemic modals (and epistemic or doxastic attitude verbs), which arguably display the same sort of distinction between weak and strong readings (Przyjemski 2017). [↑](#footnote-ref-14)
15. Thomson (2008) argues that *correct* applies to assertions in two different ways depending on the meaning of *assertion*. When *assertion* stands for a proposition, *correct* conveys external correctness, such as truth; when *assertion* stands for an act of asserting, it conveys internal correctness, correct pronounciation, or use of a grammatical sentence for example. I do not think this is reflected in the linguistic intuitions. Thomson relies on the standard view according to which *assertion* is polysemous. But that view, as we have seen is problematic [↑](#footnote-ref-15)
16. The predicate *true* differs from *correct* in conveying a representation-related notion that can apply to sentences and abstract propositions. [↑](#footnote-ref-16)
17. Interestingly, *true* does not apply to all attitudinal objects with a word-to-world direction of fit. *True* hardly applies to guesses, hypotheses, assumptions, answers and impressions. This suggests that it is *true*, rather than *correct* that requires warrant. There are cases where *true* is appropriate, but not *correct*:

(i) a. The story the children were told is true.

 b. ?? The story the children were told is correct.

These seem to be cases where truth is secondary for the aim of the representation. [↑](#footnote-ref-17)
18. One may argue that proofs are correct by nature. Assertions and questions about the existence of a proof of a hypothesis seem to presuppose that. However, *proof* is in fact also used as a noun for something that may or may not be correct (*the proof he wrote down turned out to be incorrect, it contained a mistake*). Of course, the verb *prove* is factive: *John proved that* S implies the truth of S -- as well as the existence of a proof. But the verb is not the noun and the noun appears to be polysemous, able to also stand for ‘real’ as well as ‘potential’ or attempted proofs. See also Loef (1987). [↑](#footnote-ref-18)
19. Thomson (2008) argues against truth being normative and *correct* conveying normativity. Rather, for her, *correct* applies relative to a kind that fixes the standard that an object of that kind has to meet in order to count as correct. This is entirely in the spirit of the present account on which truth is the standard associated with a certain kind of attitudinal object, which an attitudinal object needs to meet if it is to count as correct. Unlike on the present view, Thomason does not take contextually given standards into consideration. Rather she takes the norms or standards associated with acts (of asserting) to be standards of ‘internal correctness’.

 For Thomson, assertions are associated with external and with internal standards of correctness, and truth is just one (external) standard that assertions are associated with. That is because on her view *assertion* is ambiguous between denoting a proposition (associated with an external standard of correctness) and denoting an action (associated with an internal standard of correctness), a view that I take to be in error (Chap. 2). [↑](#footnote-ref-19)
20. Sometimes a language displays only the normative predicate and no specific truth predicate. Thus, German has only *falsch,* the antonym of *richtig* ‘correct’, conveying mere falsehood with claims and beliefs, but, for example, failure to follow the choreography with dance movements (Moltmann 2015a).

 German *stimmen* is a predicate that expresses a more restricted notion of correctness, relating to norms of the sort of prescriptions and rules, but not moral values, as seen in (ia); yet it conveys truth (and only truth) with assertions and suppositions, as in (ib) (Moltmann 2015a):

(i) a. Der Tanzschritt / ??? Die Bestrafung stimmt.

 ‘The dance step / The punishment is correct’

 b. Die Aussage / Die Annahme stimmt.

 ‘The claim / The supposition is correct’ [↑](#footnote-ref-20)
21. In intuitionism, truth is in fact replaced by (or explained in terms of) satisfaction. Thus, rather than taking propositions to consist in truth conditions, they are taken to consist in an expectation or intention that is to be fulfilled by a proof (or evidence) (Heyting) or else in a problem or task to be resolved by a proof (or evidence) (Kolmogorov) (Löf 1987, p. 410). [↑](#footnote-ref-21)
22. A promise, of course, can be said to be a true promise or a false promise, but only in the sense of being made sincerely, not in the sense of being fulfilled. [↑](#footnote-ref-22)
23. ‘In recognition of’ is meant to capture Searle’s (1983) point that only actions by way of satisfying a request or intention can satisfy the request or intention. [↑](#footnote-ref-23)
24. Jarvis (2012) mistakenly takes correctness to also apply to conative mental states such as intentions, pointing to the possibility of an intention being ‘correctly realized’. But in *correctly realized, correctly* applies to the action that aims to realize the intention, not the intention, the mental state, itself. [↑](#footnote-ref-24)
25. The fact that *correct* evaluates actions that aim to satisfy a request or obligation, but cannot convey the fulfillment of the request or obligation is not only a conceptual truth about the direction of fit associated with satisfaction, but also a linguistic universal. The very same holds for normative predicates such as *right, wrong,* and German *stimmen*. [↑](#footnote-ref-25)
26. This holds at least if they are they are future-oriented, rather than directed to the past as below:

(i) ??? John’s hope that his wife was not his cousin has fulfilled itself.

A future-oriented hope can ‘become true’, though a present-oriented hope can neither ‘be true’ nor ‘become true’:

(ii) a. John’s hope that he would win became true.

 b. John’s hope that the key had remained in the lock was fulfilled / ??? was true / ??? became true.

By contrast, predictions, which can only be future-oriented, can always be fulfilled or become true (though, again, they could not ‘be true’). This means that *become true* does not relate to epistemic uncertainty regarding the present or past, but metaphysical indeterminacy of the future. [↑](#footnote-ref-26)
27. There is a common characteristic of attitudinal objects with a world-word/mind direction of fit and future-oriented attitudinal objects, given an open, branching future. That is, at the time at which those attitudinal and modals objects exist, there will be different actions or states of affairs in different future stages of the (actual) world that would satisfy the attitudinal object. [↑](#footnote-ref-27)
28. Of course one can promise something to oneself. In that case, the agent acts in two roles, as receiver of the declared norm and the agent to fulfill it. [↑](#footnote-ref-28)
29. The following critique also applies to Künne’s (2003) minimalist account. [↑](#footnote-ref-29)