**Chapter 3**

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

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Attitudinal and modal objects, or more generally the category of satisfiable objects, come with satisfaction conditions. This is reflected linguistically in the applicability of various predicates of 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 satisfaction conditions of satisfiables be conceived formally? Given standard possible-worlds semantics, one might take the content of attitudinal and modal objects to consist in a set of worlds: the content of John’s obligation to work would be the set of worlds compatible with John working and the content of John’s belief that it is raining the set of worlds compatible with there being rain.[[1]](#footnote-1) There are a range of reasons, however, not to construe the satisfaction conditions of satisfiables in terms of possible-worlds semantics. Instead truthmaker semantics, the situation-based semantics developed recently by Fine (2017, 2018a, b) appears much better suited for that purpose. 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 partial content. Fine had developed truthmaker semantics strictly for the content of sentences only. His semantic theory can thus be distinguished as *‘sentence-based truthmaker semantics’* from the present version of *‘object-based truthmaker semantics’*, truthmaker semantics when applied to satisfiable objects.

 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 come with a part structure 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 applicable to attitudinal and modal objects of possibility and of necessity.

[5] Truthmaker semantics can be applied to intensional objects like searches, debts, and purchases, which share characteristic properties with attitudinal and modal objects but involve entities-in-situations as satisfiers.

[6] Truthmaker semantics may be further extended to questions, which themselves are attitudinal objects. Questions 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. The notion 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, which will be considered 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. An appendix discusses deflationist or minimalist accounts of truth and show that they are inapplicable to the notion of truth displayed by attitudinal objects.

**1. Outline of sentence-based truthmaker 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 explaining various sorts of connections between modals and attitude reports, and the relation between utterances of sentences 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 2003a, 2013a, 2014, Ostertag 2019). For one thing, it raises serious conceptual problems discussed in Chapter 1 (the Problem of the Unity of the Proposition). 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 approach of this work 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 than a structured proposition. 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 *s* and a sentence *S* just in case *s* makes *S* true and *s* is wholly relevant for the truth of *S*. 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 a structured-proposition. 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 rather than entire worlds, as well as on the relation ╟ of exact truthmaking (or satisfaction) holding between a situation and a sentence.[[2]](#footnote-2)

 Truthmaker semantics involves a domain *D* of situations containing actual, possible, as well as impossible situations.[[3]](#footnote-3) 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 ⊕. *D* includes a null situation (the fusion of the empty set) and the complete situation (an impossible situation that is the fusion of the set of all situations).Actions are a specific kind of situation. Actions may satisfy (comply with) or violate imperative sentences (rather than verify or falsify them).

 A situation sstands in the relation ╟ of exact truthmaking or verification (satisfaction) to a sentence *S* just in case *s* verifies (satisfies) *S* and 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 *s* is an exact falsifier (or violator) of a sentence *S* just in case *s* falsifies (violates) *S* and *s* is wholly relevant for the falsity (or violation) of *S*. For Fine, situations are parts of worlds; but no further assumptions are made regarding their ontology beyond the roles they play within truthmaker semantics.

 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 (2002, 2014), which are based on the relation of inexact truthmaking 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*. 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 truthmaking / satisfaction relation ╟ applies to both declarative and imperative sentences: declarative sentences are made true by situations that are their exact truthmakers or verifiers, 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. Here ‘⊕’ stands for the operation of fusion, applying to two entities or a set of entities:[[4]](#footnote-4)

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

 b. *s* ╟ *S* ∨ S’ iff *s* ╟ *S* or *s* ╟ *S’*.

 c. *s* ╟ ∃x *S* iff *s* ╟ *S*[x/*d*] for some individual *d*.

 d. *s* ╟ ∀x *S* iff for a minimal set *X* of situations such that for each individual *d*, there is a

 situation s’, *s’*∈ *X*, and *s’* ╟ *S*[x/*d*], *s* = ⊕(*X*) .

 Truthmaker semantics assigns to a sentence *S* not only truthmakers (or verifiers), but also falsifiers (or violators), situations in virtue of which *S* is false and which are wholly relevant for the falsity of *S*. 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:[[5]](#footnote-5)

 (2) *s* ╟ ¬*S* iff *s* ╢ *S*.

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

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

 b. *s* ╢ S ∨ S’ iff for some *s’* and *s’’*, *s* = *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 the set pos(*S*) of exact verifiers of *S* and the set neg(S) of exact falsifiers of S. I will adopt this meaning as the basic meaning [S] of a sentence S:

(4) Truhmaker-based basic meaning (bilateral content) of sentences

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

Based on (4), a truthmaker-based derived meaning of a sentence as a property of attitudinal and modal objects will be defined in Section 2.3..

 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 fails to give a notion of aboutness or subject matter (Yablo 2015). By contrast, truthmaker semantics provides a straightforward account of that notion:

(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 furthermore is unable to provide a notion of partial content. By contrast, truthmaker semantics is able to define the notion as follows (Yablo 2015, Fine 2017a):

(6) Partial content for sets of situations

 For sets *A* and *B* of situations, *B* is a *partial content* of *A* iff every element of *A* contains

 an element of *B* and every element of *B* is contained in an element of *A*.

Here containment is to be understood as a reflexive part-of relation. 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 cold (and nothing else is the case) is part of a (possible or actual) 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 it is raining. Partial content provides the basis for a relation of analytic entailment, as an inference relation 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*.[[6]](#footnote-6)

 Imperatives for Fine have the same kind of semantic value as declaratives, a pair consisting of a set of satisfiers (verifiers) and a set of violators (falsifiers), 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:[[7]](#footnote-7)

(7) Post the letter!

 Post the letter or burn the house!

Fine explains the invalidity of (7) 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*. (7) then is not valid because there are satisfiers of the conclusion, actions of burning the house, that are not contained in a satisfier of the premise, an action of posting the letter. 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!)*.[[8]](#footnote-8)No distinction is made on Fine’s account between imperatives used to convey permissions and imperatives used to convey orders.[[9]](#footnote-9)

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

**2.1. Partial content and partial satisfaction for satisfiable objects**

In Fine’s truthmaker semantics, the notions of exact verification or satisfaction and of exact falsification or violation apply to declarative and imperative sentences. Given that truthmaker semantics is meant to be a general theory of content, the very same notion should also apply to attitudinal and modal objects and more generally satisfiables. A rudimentary truthmaker view of mental states and mental and illocutionary acts has in fact been suggested already by Searle (1983), who takes intentions, decisions, and requests to be satisfied by actions and assertions and beliefs by states of affairs.

 If satisfiables 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 the set of satisfiers of satisfiables and derivatively to satisfiables themselves, as below (focusing; simplifying, just on the set of satisfiers of satisfiables):

(8) Partial content of satisfiables

 A set *A* of situations is a *partial content* of a satisfiable *d* iff *A* is a partial content of

 pos(*d*).

 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 *d* is *partially satisfied (true)* iff there is a partial content

 *A* of *d* and an actual situation *s* such that *s* ∈ *A*.

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

 that for some (potential) modal object *d’* of the same type as *d*, *d’* is valid (exists) and

 *A* = *pos(d’)*.

(9b) says that a potential modal object is partially valid just in case it has a partial content that is the content of an existing modal object of the same type. (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. (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. This is ensured by an operation of Content Separation, which I will turn to later (Sect. 2.6.).

 Partial truth or satisfaction and partial validity are well-reflected linguistically, namely in the use of adverbials like *partly* modifying predicates of truth, satisfaction, and validity, as 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 (10a-d) relates to the content-based part structure of an attitudinal object. Thus, (10a, b, c, d) are equivalent to (11a, b, c, d) respectively:[[10]](#footnote-10)

(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 of fulfilling 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. But this is not the case. The non-equivalence of (14a) and (14b) and of (15a) and (15b) illustrates that:

(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) is a statement of the partial satisfaction of a requirement; (14b) is a statement of the partial truth of the satisfaction of the requirement. The partial truth of (14b) can consist in that only part of the students fulfilled the requirement. But this may not be a way in which part of the requirement could have been fulfilled, and thus (14b) does not entail (14a). Similarly, (15b) can have a reading on which part of the police force ignored the order, but this may not be a way in which part of the order could have been ignored, and thus (15b) does not entail (15a).

**2.2. Satisfiable objects and their satisfiers and possible violators**

Truthmaker semantics applied to satisfiables 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 satisfiables 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 of not providing a way of reaching an aim, not a property of a satisfier violating it. An option may be rejected, but that means ‘not taking it up’, 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 of taking up a permission is not ‘correct’, but would rather qualify as ‘legitimate’.

 The difference between modal forces thus resides in a difference in the truthmaker-based content of attitudinal and modal objects, which permits a new, non-quantificational approach to the semantics of modals.

**2.3. 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 is of course shared by semanticists hold the view of clauses acting a semantic predicates, but adopt possible-worlds semantics. There is a serious problem that arises for 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, however, 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 semantic 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 sentences would not have a single meaning, but would be ambiguous, depending on the lexical meaning of the embedding modal, which, of course violates compositionality. The very same compositionality problem, of course, 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* has the same violators as *S*:[[12]](#footnote-12)

(18) Truthmaker-based derived meaning of sentences

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

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

 The very same sentence meaning in (18) is applicable to modal and attitudinal objects of different flavors and forces as well as to the illocutionary objects described by imperatives on the request and the permission reading. Modal and attitudinal objects of possibility (of any flavor or type) have both satisfiers and violators; modal and attitudinal objects of necessity (of any flavor or type) have only satisfiers. The derived meaning of sentences given in (18) applies to both of them.

 To sum up, the view of clauses as semantic predicates goes along well with truthmaker semantics. But it faces a serious difficulty with possible worlds-semantics, which adds to the familiar problem for possible-worlds semantics (that of giving an insufficiently fine-grained notion of content with the failure to provide notions of aboutness and of partial content).

**2.4. 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. 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 + modal-object noun), as in (19b), which display the strong reading only:

(19) a. The patient is permitted to take a walk in the hospital garden.

 b. The patient has (the) permission to take a walk in the hospital garden.

Possible-worlds-based semantics would attribute the same meaning to the two permission sentences: for permission sentences 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 of giving a permission that provides new options to act that are at the agent’s disposal.

 The linguistic difference between (19a) and in (19b) is revealing as to the source of weak and strong permission readings. The (19 b) involve explicit reference to a permission, whereas (19a) contains a stative predicate *is permitted to* describing a deontic state. As expected, (20) only has the strong reading, as does any simple verb describing permission giving, such as *offer* ad *invite*:

(20) John gave Mary permission to take a walk.

 The semantics of weak and strong permissions will be elaborated more formally in Chapter 4.

**2.5. Truthmaker-related ontological operations for satisfiable objects**

Satisfiables enter various ontological relations and operations. What is special about ontological operations applying to satisfiables is that they are content-related. This holds in particular for the operation of sum formation or fusion.

 It is standard to assume that the domain of any type of object is closed under sum formation or fusion and that that would be needed for the semantics of definite plurals (*the students*) and conjunctions (*John and Mary*) (Link 1983 and subsequent research). But there is a particular difficulty that arises for that view when applied to satisfiables. Pluralities of satisfiables are certainly needed for the semantics of conjunctions of NPs for attitudinal or modal objects:

 (21) a. John’s belief that Mary at home and his belief that Mary is working are mutually

 compatible.

 b. The obligation to leave and the obligation to stay cannot both be fulfilled.

Predicates such as *are mutually compatible* and *cannot both be fulfilled* are plural predicates, requiring a plurality as the subject denotation, which is a plurality of satifiables in (21a, b).

 Pluralities of satisfiables are also needed for the semantics of conjunctions of *that*-clauses:

(22) a. the claims that it is raining and that it is cold

 b. the obligations to participate in the conference and to write a report

Given the view of *that*-clauses as predicates of satisfiables, conjunctions of *that-*clauses will denote properties of pluralities of satisfiables. There is a problem, however, if pluralities of satisfiables are taken to be fusions. Fusions should themselves be satisfiables again, but the fusion of two satisfiables would itself not have a content. ‘The claim that it is raining and the claim that it is cold’ (or ‘the claims that it is raining and that it is cold’) is not identical to ‘the claim that it is raining and it is cold’. In fact, the operation of fusion applied to satisfiables could not yield pluralities of satisfiables. Fusions are defined in terms of the part relation applying to the relevant domain, but the part relation applying to satisfiables is that of partial content. This means that fusion of satisfiables could only amount to content merger (‘the claim that it is raining and it is cold’), not the formation of a plurality (‘the claims that it is raining and that it is cold’). Instead of taking pluralities of satisfiables to be fusions, a plural such as *the belief that* S *and the belief that* S or *the claim that* S *and that* S’ are better treated in terms of plural reference, as terms that stand for two satsfiables at once (Oliver / Smiley 2016).

 Plural reference to satisfiables thus needs to be distinguished from an operation of content merger applying to satisfiables. Content merger corresponds to a conjunctive *that*-clause such as *that it is raining and it is cold*. Thus, the attitudinal object that is ‘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 cold’. ‘The obligation to participate in the conference and write a report’ is the content merger of ‘the obligation participate in the conference’ and ‘the obligation to write a report’. Content merger *cont-merg* applied to two satisfiables consists in the introduction of a satisfiable of the same type whose content amounts to the conjunction of the contents of the two satisfiables:

(23) Content merger for satisfiables

 For satisfiables *d’* and *d’’* of type *T*, cont-merg(*d’*, *d’’*) = the satisfiable *d* of

 type T such that pos(*d*) = { *s* | ∃*s’* ∃*s’’*(s’ ∈ pos(*d’*) & *s’’* ∈ pos(*d’’*) & *s’’* = *s’* ⊕ *s’’*}

 and neg(*d*) = { *s* | *s* ∈ neg(*d’*) v s ∈ neg(*d’’*))}

Content merger applies only to satisfiables of the same type, for obvious reasons. But even then it is not freely applicable. It does not apply to act-related attitudinal and modal objects, such as claims and strong permissions. It should apply only to state-related attitudinal and modal objects in a given context (beliefs, weak permissions).

 The opposite of content merger is content separation *cont-sep*, which introduces a new satisfiable on the basis of a partial content of a given satisfiable:[[14]](#footnote-14)

(24) Content separation for satisfiables

 For a satisfiable *d* and a partial content *C* of *d*,

 cont-sep(*d, C*) = the satisfiable *d’* that is part of *d* and has *C’* as its content.

 There are also conditions and operations on modal objects only, which will be introduced in Chapter 4.

**3. Different types of satisfaction predicates and the notion of direction of fit**

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

Different types of satisfiables 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. Object-based truthmaker semantics accounts for that difference in terms of the presence and 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 close 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 and assertions by conveying truth and just truth:

(25) a. Mary’s claim is correct.

 b. John’s belief is correct.

Propositions, by contrast, hardly allow for the application of *correct* on which *correct* conveys truth (or on which correct has a clear intuitive understanding at all):

(26) ??? The proposition that Mary is guilty is correct.

For the semantics of the predicate *correct* sharply distinguishes between actions and the corresponding attitudinal objects or products. When (28a) is true, (28b) need not be, and vice versa, and similarly for (29a) and (29b):

(27) a. John’s claim that Mary won the award is correct.

 b. John’s making a claim /John’s claiming that that Mary won the award was correct.

(28) a. The soldier’s belief that the war can’t be won is correct

 b. The soldier’s adopting /maintaining the belief that the war can’t be won is correct.

(27a) may be true without (27b) being true, for example if Mary’s winning the award was supposed to be kept confidential at the time of making the claim. Similarly (28a) may be true without (28b) being true (soldiers ought to believe the way can be won, even if that’s not true, in order to stay motivated). Acts of making an assertion or adopting or maintaining a belief may be correct because they follow a rule, instruction, order or other action-guiding norm, not because they convey, adopt or maintain a truth. Assertions and beliefs, by contrast, are evaluated as correct only according to the norm they are intrinsically associated with, the norm of truth.[[15]](#footnote-15)

*Correct* is sensitive to the contrast between actions and products also when it does not convey truth, but the fulfilment of some other standard associated with a type of object:

(28) a. The proof that S was correct.[[16]](#footnote-16)

 b. The conclusion that S is correct.

 c. The signature was correct

 d. The punishment was correct.

When a proof or a conclusion is correct, it means that it followed the rules of logic; and that is compatible with the act of proving or concluding itself not being correct (such an act may go against a contextually given demand). When a signature is correct (which means it is authentic and of the right shape), the act of signing need not be (it may have been forbidden in the context in question). When a punishment is correct, it needs to be of the appropriate sort given the crime in question, but the act of punishing itself may have been discouraged and thus not be correct.

 *Correct* simply cannot convey more than truth when applied to attitudinal objects such as beliefs and assertions. This is an important fact, which seems to go against the philosophical tradition of identifying conditions on the correctness of assertion as knowledge, justification or belief (Williamson 1996, 2000).[[17]](#footnote-17) In fact, what is discussed as the ‘correctness of assertions’ in that tradition is actually the correctness of acts of asserting, not the correctness of assertions, attitudinal objects.[[18]](#footnote-18) Correctness is taken to consist in the fulfilment of an action-guiding norm, guiding action of making assertion, not assertions themselves. The ‘correctness of assertions’ as the term is actually used is just the truth of assertions and has nothing to do with the correctness of asserting or making assertions.

 The fact that *correct* when applied to beliefs conveys just truth has been acknowledged in philosophy. In fact, a number of philosophers have argued that the prescriptive use of *correct* when it applies to actions or states should be dissociated from a representation-relate use on which *correct* conveys just truth. Those philosophers include already Hegel (Kuenne 2003: 104-105) and more recently (Hacker 2002), Hattiangadi (2006), and Thomson (2008). Hacker’s argument focuses on language, when he writes ‘while to have a true or correct belief is to believe truly or correctly, it is not the believing that is true or correct. A's believing may be wise, foolish or thoughtless, if it is wise, foolish or thoughtless of A to believe that p, in which case A believes wisely, foolishly or thoughtlessly that p. But it is not wise, foolish or thoughtless that p. If A believes truly that p, it is not true of A to believe that p. `Truly' does not characterize the believing as do `wisely', `foolishly' and `thoughtlessly', nor does it characterize the manner in which the belief is held, as do `passionately' or `tentatively'. Rather, it is what is believed, namely that p, which is true or correct Ð if it is true or correct (to say) that p.’ (Hacker 2002, 122f.). *Correct*, on that view, has non-prescriptive use with beliefs conveying just truth, but a normative, action-guiding meaning when applied to actions and states.

 Other philosophers have taken the close connection of correctness and truth in the case of belief to mean that belief is governed by a truth-directed norm. Thus it has been proposed that what is constitutive of belief is the norm that one ought to believe only what is true (Boghossian 2003,Gibbard 2005, Wedgewood 2002). On such a view, the correctness of a belief consists in the fulfilment of the a norm governing the adoption or entertaining of belief, the norm that if one ought to believe p, then p is true. If such a norm is constitutive of the notion or the nature of belief itself, this means that belief itself and perhaps mental content more generally is normative (Boghossian 2003). The view, though, has been subject of serious critique (Hacker 2002, Glüer and Wikforss 2009). Norms for actions of adopting or maintaining a belief, for example, may easily be contextually given norms of some sort or another and not compatible with a norm that one should believe only what is true.

 Still truth does seem to play a particular role for the notion of belief, as opposed to other attitudes such as assumptions. A belief that is not true is defective, but not so an assumption. Moreover, one can arbitrarily adopt or revise an assumption, whether or not one takes it to be true, but not a belief. Thus there is a significant discussion about truth being the aim of belief, which concerns questions such as whether it is possible to believe something at will without aiming at truth and how truth as the aim of belief can be constitutive of the nature or the notion of belief (Williams 1973, Vellemann 2002). The issue of truth as the aim of belief is not relevant for the present issue of, though, namely how to understand the correctness of attitudinal objects in the sense of truth. That is because the coincidence of correctness with truth pertains to other attitudes than belief as well, attitudes like assumptions that need not aim at truth.

 Thus, an important observation is that *correct* applies to a much broader range of objects when conveying just truth. These objects include guesses, speculations, hypotheses, and assumptions, attitudinal objects which do not involve any effort at justification or for which aiming at truth is hardly constitutive:

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

*Correct* conveys truth with all and only those attitudinal objects that are ‘acceptances’ (Stalnaker 1984). This holds whether or not those objects are based on the fulfilment of any epistemic conditions and whether or not the agent fulfilled any prescriptive norms whatsoever. There are no particular normative conditions that acts of putting forward a guess or speculation or of making a hypothesis or assumption could be subject to and would be in any way constitutive of those attitudinal objects themselves.[[19]](#footnote-19)

 How can the coincidence of correctness and truth with acceptances be understood if it cannot be attributed to an action-guiding norm? In fact, the notion of a norm itself need not be understood prescriptively, as applying to actions. Rather than being action-guiding, truth is better understood as a teleological norm, which is strictly associated with a type of representational object as its purpose or ‘telos’ (Jarvis 2012). As a teleological norm, truth is associated with mental states like beliefs as well as products of acts such as judgments, assumptions, and assertions.

 Truth as a non-action-guiding norm goes along well with the notion of a direction of fit. The notion of direction of fit, like correctness when conveying truth, applies to representational object, that is, attitudinal objects. Even though standardly applied to speech acts (Searle 1969, 1983), it is in fact not a notion suited for actions.[[20]](#footnote-20) The notion of direction of fit presupposes that the object it applies to constitutes a linguistic or mental representation: an object has word/mind-to-world direction of fit just in case the representation is to fit the world, and it has a world-to-word/mind direction of fit just in case the world is to fit the representation.[[21]](#footnote-21)

 The notion of direction of fit also applies to non-propositional representations such as like thermometers and measurements. A measurement comes with a world-to-word/mind direction of fit, and a measurement is correct if it matches what is being measured.

 The attitudinal objects to which *correct* when conveying just truth applies, acceptances, are just the attitudinal objects that come with a word/mind -to-world direction of fit, that is, attitudinal objects whose content ought to fit the world, rather than the other way around. Truth as norm is then associated with of all attitudinal objects with a word/mind-to-world direction of fit.

 Particular attitudinal objects may be subject to other norms in the context, but *correct* cannot evaluate the fulfillment of those norms: *correct* gives strict priority to the norm intrinsic to the type of object. Assumptions and hypothesis might be well-chosen for the purpose at hand, but that is not what *correct* would evaluate. Instead 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 or interest.[[22]](#footnote-22)

 *Correct* does not apply to attitudinal objects that come with a world-to-word/mind direction of fit such as requests, desires, fears, and hopes by conveying fulfillment. With such objects *correct* can at best by convey the fulfillment of some contextually given norm (*the request was correct*) and, in the case of desires, fears, and hopes, perhaps conditions on the appropriateness of emotions (Deonna / Teroni 2022).[[23]](#footnote-23)

 *Correct* can also be predicated of sentences, but it then does not convey truth:

(30) a. This sentence is true.

 b. This sentence is correct.

When predicated of sentences, *correct* evaluates grammaticality rather than truth. This is because the norm associated with a syntactic object is grammaticality rather than truth.

 To summarize, *correct* applies to an object with a single reading just in case the type of object is associated with a particular norm. *Correct* applies to beliefs, judgments, claims, as well as guesses and speculations with a single reading conveying truth because those attitudinal objects come with a word/mind-to-world direction of fit and are associated with the norm of truth. This association is quite different from the norms that actions of judging or claiming or actions of adopting or maintaining a belief may be subject to.

 Conveying truth (and only truth) with beliefs and assertions is not a lexical peculiarity of English *correct*. Other predicates of correctness in English display the very same reading with beliefs and assertions, for example *right* and, for falsehood, *wrong*, as do corresponding predicates in other European languages.[[24]](#footnote-24) This is of course expected if a predicate conveys the fulfillment of a norm and it is in the nature of entities like beliefs, judgments, assertions, and guesses to come with a norm that is truth.

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

Truth as a property of satisfiables is part of another more general notion, namely satisfaction. Various types of satisfiables do not have truth conditions but rather satisfaction conditions, and some have both satisfaction and violation conditions.[[25]](#footnote-25) Satisfaction (and violation) conditions in turn divide into different sorts, expressed by different natural language predicates. Illocutionary products that are requests, demands, promises, pieces of advice, or permissions cannot be ‘true’, but they can be ‘satisfied’, ‘fulfilled’, ‘complied with’, ‘kept’, ‘followed’, or ‘taken up’. [[26]](#footnote-26) A demand or a promise cannot be ‘false’, but instead a demand can be ‘ignored’ or ‘contravened’ and a promise ‘broken’. Mental objects such as desires and hopes could not be ‘true’, but they can be ‘fulfilled’. Finally, decisions and intentions cannot be true, but would be carried or implemented.

 What characterizes attitudinal objects is of this kind is that they come with a world-to-word/mind-direction of fit, rather than a ‘word/mind-to-world direction of fit. They require the world to fit the representation, rather than the representation to fit the world. Thus, illocutionary objects like demands and promises are fulfilled if an action of a particular type is performed, as specified by the complement clause.

 In its application to attitudinal and illocutionary objects, the direction of fit is a normative notion that is reflected in attributions of correctness to either the object or its satisfiers in the following way.[[27]](#footnote-27) An attitudinal object with a word/mind-to-world direction of fit (assertion, belief, assumption) is correct just in case it is true, or, in truthmaker-semantic terms, there is a part of the world that makes it true. An action performed in recognition of an illocutionary object with a world-to-word/mind direction is correct in case it satisfies the attitudinal object.[[28]](#footnote-28) An attitudinal or illocutionary object that comes with a word/mind-to-world direction of fit is itself subject to a norm (truth); an illocutionary object that comes with a world-to-word/mind direction of fit, by contrast, imposes an action-guiding norm or purpose:

(31) Characterization of direction of fit

 i. An attitudinal object *d* 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 *d* true.

 ii. An illocutionary object *d* 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 *d* (‘is correct’) in

 a world *w* iff *a* is part of *w* and satisfies *d.*.

(30ii) only mentions illocutionary objects; mental objects such as desires and hopes present a challenge to (230ii), which I will address in the next section.

 *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 of course it can be ‘correctly satisfied’.[[29]](#footnote-29) 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, unlike a word-to-world/mind direction of fit.

 The account of the notion of direction of fit in (30i, ii) made essential use of truthmaker semantics. That is because truthmaker semantics allows actions to be exact satisfiers of requests, demands, and promises and thus count as ‘correct’. The satisfaction of illocutionary objects like demands and requests may also be conveyed by agentive verbs, with the *by-*locution describing a particular action as the satisfier:

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

 b. John followed the request by staying home.

The notion of a direction of fit as construed in (31) provides an additional motivation for truthmaker semantics applied to attitudinal objects, given that correctness applies to satisfiers in (31ii).

**3.4. World-to-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 does not so obviously account the choice of the satisfaction predicate. In particular, nonfactive attitudinal objects associated with a positive emotion or preference (hopes, desires) fulfillment conditions , rather than truth conditions:[[30]](#footnote-30)

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

But it is not obvious how a world-to-word/mind direction of fit should be understood with hopes and desires, since hopes and desires do not always require actions to satisfy them, unlike requests and commands.

 One might think that instead of the direction of fit, it is the future-orientedness of hopes and desires that is responsible for them having fulfilment conditions rather than truth conditions. However, fears, which tend to be equally future-oriented, do not accept *be fulfilled* as satisfaction predicate, and neither does future-oriented *believe*:

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

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

 A better explanation why positive emotive attitudes go with *be fulfilled* rather than *be true* may be based on 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. Negative emotive responses that go along with a fear becoming true do not seem to be able to set up such a norm or purpose. 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-to-word/mind direction of fit. But the satisfaction of intentions and decisions is not conveyed by predicates of fulfillment. Rather than being ‘fulfilled’, decisions and intentions are ‘carried out’; and in addition decisions may be ‘executed’ and intentions ‘realized’.

 What distinguishes desires, requests, orders from intentions and decisions? Intentions and decisions bear a closer connection to their satisfiers in a particular sense. Requests and orders impose social norm on actions performed in recognition of them, and thus their satisfiers qualify as ‘correct’. Desires do not impose a social norm, but they impose a standard or aim on actions or situations, as was just discussed. Decisions and intentions do not impose a norm or standard: not carrying out a decision or intention does not violate a norm or standard, it only frustrates what the agent set out to do. Decision and intentions rather cause the actions performed in recognition of them that that carry them out, or at least attempts of performing such actions.

**4. Conclusion and further outlook**

There have been specific motivations to apply truthmaker semantics to satisfiables besides the general advantages of truthmaker semantics over possible-worlds semantics and the expectation that it provide a general theory of content. These motivations include the fact that satisfiables come with a notion of partial content and that only truthmaker semantics not possible semantics permits formulating a unified meaning of sentences as a property applicable to satisfiables of both necessity and possibility.

 Satisfiables display differences in satisfaction conditions not all of which can be accounted for in truthmaker-semantic terms. Three types of satisfaction conditions for satisfiables have been distinguished:

(35) Distinctions among satisfaction conditions of satisfiables

 a. Conditions of acceptance

 Satisfiables of possibility, which come with satisfiers, but no violators (suggestions,

 proposals, offers, invitations)

 b. Truth conditions

 Satisfiables that come with a word/mind-to-world direction of fit (beliefs, judgments,

 claims, guesses, epistemic modal objects)

 c. Fulfillment conditions

 Satisfiables that come with a world-to word/mind direction of fit (hopes, desires,

 requests)

 d. Realization conditions

 Satisfiables that cause attempts at their satisfaction (decisions, intentions)

Object-based truthmaker semantics is able to account only for what is distinctive about conditions of acceptance, by not attributing violators to satisfiables of possibility. It does not provide the normative notions involved in the notion of direction of fit, which underlies the distinction between truth conditions and fulfillment conditions. Likewise it does not provide causal notions at play for what distinguishes realization conditions from truth conditions and fulfillment conditions. This means that truthmaker semantics is to be embedded in a richer semantics of mental and illocutionary objects where normative and causal notions play a role as well.

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

In object-based truthmaker semantics, truth is a property of satisfiables and as such part of a greater ranger of properties of satisfaction. This view differs significantly from deflationalist and minimalist theories of truth (Horwich 1990, Künne 2003). This appendix gives a brief critical discussion of those theories, focusing on Horwich’s (1990) version of deflationism..

 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*):

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

As stated in (1), this deflationist view still makes certain semantic assumptions. 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 DP. Given (1), the application of the truth predicate amounts to the denominalization of the proposition-referring term, the *that*-clause, and the use of the sentence thus obtained.

 The assumption that *that*- clauses are proposition-referring terms, we have seen, is mistaken (Chapter 1 and also Chapter 5).

 Moreover, (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. In addition, is far from clear that there is such a thing as a mind-independent abstract proposition, a truth bearer that is not itself constituted by the intentionality of agents. Truth, on the view adopted in this book, is intimately linked to intentionality and the ability to represent. Attitudinal objects as agent- and mind-dependent objects reflect that link, abstract propositions don’t.

 Moreover, (1) cannot be extended to predicates of satisfaction, which on the present view 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, such as comply with or fulfill (*Joe complied with / fulfilled the request*).

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 meant to be ontologically neutral in the sense that any entity can in principle play the truthmaker role as long as it serves the overall purposes imposed by the semantics. I will use the term ‘situation’ as a blanket term for entities able to act as truthmakers or satisfiers, including actions and attitudinal objects (which act as truthmakers of questions and states of inquiry). [↑](#footnote-ref-2)
3. It should be emphasized that truthmaker semantics, unlike what the name may suggest, does not pursue the philosophical project of grounding the truth of a sentence in actual objects. The interest of truthmaker semantics is semantic only, involving descriptive metaphysics or ‘naïve metaphysics’, rather than ‘foundational metaphysics’(to use Fine’s 2017d terms). [↑](#footnote-ref-3)
4. Fine would ultimately not subscribe to the truthmaking conditions for existentially and universally quantified sentences given in (1c, d). 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-4)
5. (2) also applies to imperatives that are prohibitions: *Do not smoke!* is satisfied by actions that violate the imperative *Smoke!*, thus actions incompatible with the addressee smoking. [↑](#footnote-ref-5)
6. Strictly speaking, this is in fact analytic containment, see Fine (2015) for discussion. [↑](#footnote-ref-6)
7. Fine (2008a, b) explains the invalidity of the corresponding inference with deontic *may* in a somewhat similar way:

(i) You may take the apple.

 You may take the apple or the gold.

That is because the set of truthmakers of ‘the addressee taking the apple or the gold’ does not have the set of truthmakers of ‘the addressee taking the apple’ as a partial content. But see Chapter 4. [↑](#footnote-ref-7)
8. There are particular contexts required for an imperative to be used in the weaker way (Iatridou / von Fintel 2017). [↑](#footnote-ref-8)
9. More precisely, Fine (2020 a) suggests a different logical form for imperatives of permission, namely T v P rather than P!, where T is the formula made true by all situations or actions. [↑](#footnote-ref-9)
10. Note that *partly true* carries the implicature ‘partly false’, but that of course as a matter of pragmatics, rather than semantics. [↑](#footnote-ref-10)
11. (16) has in fact been endorsed by Kratzer (2006, 2016) and Moulton (2009, 2015). [↑](#footnote-ref-11)
12. See Moltmann (2018b, 2021a). [↑](#footnote-ref-12)
13. The notions of weak and strong permission are due to Wright (1963). [↑](#footnote-ref-13)
14. The application of content separation is subject to restrictions as well. The existence of ‘John’s fear that the concert will take place and he will miss it’ should not entail the existence of ‘Johns fear that the concert will take place’. In this sentence, the first conjunct provides the background for the second conjunct, which is the actual focus of the fear. [↑](#footnote-ref-14)
15. Thomson (2008) argues against truth being normative and *correct* conveying normativity. 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. 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’. [↑](#footnote-ref-15)
16. 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. But the verb is not the noun and the noun appears to be able to also stand for ‘real’ as well as ‘potential’ or attempted proofs. See also Loef (1987). [↑](#footnote-ref-16)
17. 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 the use of a grammatical sentence, for example. I do not think this is reflected in linguistic intuitions concerning the noun *assertion*. Thomson relies on the standard view according to which *assertion* is polysemous. But that view, as we have seen in Chapter 1 and 2, is untenable. [↑](#footnote-ref-17)
18. See Pagin and Marsili (2021) for an overview of that discussion. [↑](#footnote-ref-18)
19. *True* actually does not apply to all attitudinal objects with which *correct* conveys just truth. *True* hardly applies to guesses, hypotheses, assumptions, answers and impressions. It is not even good with thoughts:

(i) a. ??? Joe’s guess / impression is true.

 b. ??? Mary’s thought was true.

This suggests that it is in fact *true*, rather than *correct* that requires warrant in addition to truth.

 There are also cases where *true* is appropriate, but not *correct*:

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

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

A plausible reason is that the aim of the story is not truth, but, say entertainment. This would also hold for things like propaganda and publicity, attitudinal objects, in a sense, whose aim is not truth, but influencing the mental states of the audience. [↑](#footnote-ref-19)
20. Searle, like the majority of analytic philosophers, of course failed to make the distinction between illocutionary acts and illocutionary objects (roughly, the action-product distinction). [↑](#footnote-ref-20)
21. The notion of direction of fit was applied to mental states by Searle (1983) and also by Velleman (2002), who draws the distinction between cognitive states (mind-to-world direction of fit) and conative states (world-to- mind direction of fit). [↑](#footnote-ref-21)
22. This holds even for stories and propaganda. See Fn 19. [↑](#footnote-ref-22)
23. Deonna and Teroni (2022) argue that emotions are subject to correctness conditions. On their view, for example, Joe’s fear of bears is correct in case bears are dangerous. Note, however, that predicates like *correct* or *right* do not apply very well to emotions, conveying the fulfilment of such conditions:

(i) ?? Joe’s fear / desire is correct / right.

Note, though, that fears may be ‘warranted’ or ‘justified’.

They apply to the state of the agent having those emotions, though, which is something different:

(ii) a. Joe is right in fearing bears.

 b. Joe’s fearing bears is right. [↑](#footnote-ref-23)
24. 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-24)
25. In intuitionism, truth is in fact replaced by (or explained in terms of) satisfaction. Thus, rather than taking propositions to consist in truth conditions, propositions 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-25)
26. 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-26)
27. What follows holds for predicates of correctness in general, including *right* and *wrong.* [↑](#footnote-ref-27)
28. ‘In recognition of’ is meant to capture Searle’s (1983) point that only actions by way of recognizing a request or intention can satisfy the request or intention. Thus, if my intention to kill my neighbor makes me so distracted that I cause a car accident by which my neighbor is killed, my intention won’t have been carried out and the action of killing my neighbor won’t count as a satisfier of the intention. [↑](#footnote-ref-28)
29. 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-29)
30. Note, though, that hope can also be directed toward the past:

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

Note also that 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 indicates that *become true* does not relate to epistemic uncertainty regarding the present or past, but metaphysical indeterminacy of the future. [↑](#footnote-ref-30)