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**Simple and Complex Modal and Attitudinal Predicates**

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**1. Introduction**

Simple predicates:

*Believe that S, think that S, assume that S*

*That S is possible, that S is permitted, that S is obligatory*

Complex predicates:

*Have the belief that S, have the thought that S, make the assumption that S*

*Have the permission to do V, have the obligation to do V*

Issues:

What does the alternation between complex and simple predicates mean for the semantics of attitudinal and modal predicates in general?

Is the complex or the simple predicate a better reflection of the meaning of modal and attitudinal predicates in general?

Should the complex predicate be viewed as syntactically / semantically derivative?

Are there semantic differences between complex and simple predicates?

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**2. Types of complex predicates**

**2.1. Factives and response-stance verbs**

(1) a. Bill notice / that p

 b. Bill noticed the fact that p

(2) a. Bill repeated that p

 b. Bill repeated the claim that p

(3) a. Mary confirmed that S.

 b. Mary confirmed the hypothesis that S.

**2.2. Indefinite vs definite NP with clausal complement**

(4) John has a plan, namely to develop a new product

(5) John has the plan to develop a new product

Semantic equivalence (?)

**2.3. Complex and simple predicates**

1-1 correspondence

(6) a. Jon believes that S.

 b. John has the belief that S.

(7) a. John thinks that S.

 b. John has the thought that S.

More than one complex predicate

(8) a. John has a proposal, namely S / that S / namely to do X.

 b. John made the proposal that S

(9) a. have an offer

 b. make an offer

(10) a. make a request / the request to do X

 b. receive a request / the request to do X

(11) a. have a suggestion, namely that S

 b. make the suggestion that S

(12) a. have an advice, namely that S

 b. give the advice that S

Generalizations about complex predicates

Can only involve product nominalizations, not act nominalizations (Twardowksi 1911)

Action-product distinction

Terms for actions and products

thinking – thought, judging – judgment, believing – belief, claiming – claim, deciding – decision, assuming, assumption, screaming – scream

nonenduring products : mental and illocutionary products

enduring products: writing, drawing

Products as *(abstract) artifacts* (Thomasson 1999) produced by acts (Moltmann 2014, 2017a).

Problem with the action-product distinction

belief, fear, hope, intention etc: not products of acts (at least not necessarily)

They are mental states -- in a certain sense.

Better:

more general distinction between *attitudinal objects* and acts

Also distinction between *modal products* and acts (Moltmann 2017a)

Promising – obligation, permitting -- permission

Also here more general notion of a *modal object* is relevant:

Modal objects include abilities, light permissions and obligations, besides modal products

Modal objects divide into *modal states* and *modal* *products*

**2.3. Only complex predicate**

Only one complex predicate

(13) a. have the view that S

 b. have the idea that S

Different complex predicates

(14) a. have the impression that S

 b. give the impression that S

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**3. Modal predicates**

**3.1. Simple predicates**

modal auxiliaries: *may, must, should, can*

modal adjectives: *possible, necessary, obligatory, permitted, optional*

modal full verbs: *need to, have to*

**3.2. Complex predicates alternating with simple predicates**

(15) a. John needs to do X.

 b. John has the need to do X

Harves/Kayne (2012):

The simple predicate is derivative: the verb *need*  is underlyingly ‘have (the/a) need’

(16) a. be permitted to do X

 b. have the permission to do X

(17) a. be obliged to do X

 b. have the obligation to do X

Alternation with existentials:

(18) a. There is a need to do X.

 b. It is possible to do X.

 c. There is the possibility to do X

Only complex predicate:

Italina *avoir besoin,* French *avere bisogno*

(19) have the option to do X

Only simple predicate:

modal auxiliaries

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**4. The semantics of clause-taking nominals and complex predicates**

**4.1. Nominals and their complement**

(20) a. the idea that S

 b. the plan to do X

 c. the view that S

Peculiarities of clausal complements of nouns

- Clausal complement not obligatory

- Clausal complement does not necessarily involve thematic relation involving event argument (of underlying verb)

- Separation possible:

(21) The idea is that S

- Explication

(22) a. John’s idea, namely that S

 b. John’s plan, namely to do X

Clausal complement as proposition-referring, noun- clause relation interpreted as identity?

Are plans, ideas, views, beliefs, thoughts, assertions etc. just propositions?

Are needs, permissions, obligations etc. just propositions – or action types?

**4.2. The ontology of attitudinal and modal objects**

Attitudinal objects (Moltmann 2013, 2014)

States: beliefs, fears, hopes, desires, intentions

Cognitive products: thoughts, judgments, assumptions, ideas, hypotheses, views

Illocutionary products: claims, promises, demands, suggestions, proposals

Have situations or actions as satisfiers

Modal objects (Moltmann 2017a, b)

Permissions, obligations, offers, invitations, needs, abilities have actions as satisfiers

Other modal objects, needs, ‘essences’ may have situations as satisfiers

Modal and attitudinal objects share common properties that distinguish them from other objects

Unlike events and states, modal and attitudinal objects have content-related properties

Unlike propositions, modal and attitudinal objects have properties of concreteness

Characteristic content-related properties of modal and attitudinal objects

 [1] Truth or satisfaction conditions

Applicability of truth and satisfaction predicates:

(23) *is true, is correct, is satisfied /fulfilled,is complied with, is taken up, is accepted, is realized*

Truth predicates are not applicable to acts and events (Twardowksi 1911)

Predicate of satisfaction are not applicable to propositions (Ulrich 1976)

[2] Part structure based on partial content (Moltmann 2017a, b)

Applicability of *part of, partially*

(24) a. part of John’s claim / promise / demand / assumption / thought / fear / intention

 b. The promise was partially fulfilled.

 c. The claim is partly true

Attitudinal and modal objects have a part structure strictly based on *partial content.*

States (in another sense) and acts have only a temporal part structure

Part structure of proposition?

[3] Similarity based on shared content only

(25) a. John’s claim is the same as Mary’s.

 b. John’s promise is partly the same as Mary’s.

 c. John’s fear is the same as Bill’s.

**4.3. Clauses as predicates of attitudinal and modal predicates**

The approach

Clausal complements of attitude verbs and of modals (or the clausal subject or prejacent) act semantically as predicates of the attitudinal or modal object associated with the predicate and characterize it in terms of its satisfaction conditions.

Attitude reports:

(25) a. John thinks that Mary is happy.

 b. ∃e(think(e, John) & [*that* *Mary is happy*](product(e)))]

Modal sentences:

 (26) a. John needs to leave.

 b. ∃d(need(d) & [*John leave*](d))

 (27) a. John is allowed to leave.

 b. ∃d(is allowed(d) & [*John leave*](d))

Sentence meanings as properties of modal and attitudinal objects

Fine’s (2017) truthmaker semantics better suited than possible-worlds semantics for formulating a unified meaning of sentences as properties of modal and attitudinal objects (Moltmann 2018)

*Object-based truthmaker semantics* (Moltmann 2017, 2018):

Situations or actions as exact satisfiers of attitudinal or modal objects and of sentences

Difference between modals of necessity and modals of possibility:

Modal objects of necessity: have both satisfiers and ‘violators’

John’s obligation to help:

satisfiers: actions of John’s helping by way of fulfilling the obligation

violators: actions incompatible with John’s helping

Modal objects of possibility: have only ‘satisfiers’

 (28) Truthmaker based sentence meanings

 [S] = λd[∀s(s ╟ d → s ╠ S) & ∀s(s ╢ d → s ╣ S)]

╢: exact violation, ╣: inexact falsemaking

(29) a. John asked Mary to come.

 b. John invited Mary to come.

(30) a. ∃e(ask(e, John, Mary) & [*Mary come*](product(e)))

 b. ∃e(invite(e, John, Mary) & [*Mary come*](product(e)))

 c. [*Mary come*] = λd[∀s(s ╟ d → s╠ *Mary come* & ∀s(s ╢ d → s ╣ *Mary come*))]

**4.4. Unified meaning of complex and simple predicates**

(31) a. John has the thought that Mary is happy.

 b. ∃d(have (John, d) & thought(d) & [*that* *Mary is happy*](d))]

(32) a. John has the need to leave.

 b. ∃d(need(d) & [*John leave*](d))

(33) a. John’s thought that S

 b. ιd[thought(d, John) & [*that* S](d)]

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**5. Semantic differences between simple and complex predicates**

Explicit (heavy) and implicit (light) permissions:

(34) a. John is permitted to leave the house.

 b. John has the permission to leave the house.

No duality with obligation for explicit permissions

(35) a. John is not obliged to stay.

 b. John is permitted to go.

(36) a. John does not have the obligation to stay.

 b. John does not have the permission to go.

The distinction between modal products and modal states is at stake.

Predicates that may only involve deontic products: offers, invitations

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**6. The syntactic structure of complement clauses**

Relative clauses?

*Case*-NPs: alternation between that-clauses and relative clauses:

(37) a. the case in which S

 b. der Fall, dass

 the case that

 c. die Faelle, in denen

 the cases in which

No alternation with relative clauses with nominals for attitudinal or modal objects

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