*Semantics and Philosophy in Europe* 8

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**Tutorial *Clausal Complements***

**Part II**

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**1. The standard account of clausal complements of attitude verbs**

The Relational Analysis of attitude reports

- *That*-clauses are referential terms, provide propositions as arguments of the relation expressed by the verb.

- Attitude verbs express dyadic relations between agents and propositions.

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

b. think(John, [*that Mary is happy*])

(2) a. John asked to leave the country.

b. ask(John, [*to leave the country*])

The roles of propositions in philosophy of language and semantics

- primary bearers of truth values

- the meanings of sentences and embedded clauses

- the contents or ‘objects’ of propositional attitudes and illocutionary acts

- sharable contents

Properties of propositions

- have truth conditions

- are abstract: not in time and space

- are mind- and language-independent

Propositions and the semantics of special quantifiers and pronouns

Special quantifiers and pronouns:

quantifiers and pronouns that can take the place of predicative, intensional and clausal complements

In English: *everything, something, nothing, several things, the thing that, that, what*

The Propositional Analysis of special quantifiers in sentential position

*Everything, nothing, something*: quantify over propositions;

*That, what John said* etc stands for a proposition

Propositions as semantic values of such quantifiers or pronouns are needed to account for the validity of the inferences in (2a, b) and sentences such (2c, d) (Schiffer 2003).

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

John thinks something.

b. Mary believes everything Bill believes.

Bill believes that it is raining.

Mary believes that it is raining.

c. John claimed that it was raining. Mary claimed that too.

d. John said that it is raining. What John said is true.

Formal conceptions of propositions

[1] Sets of circumstances (or functions from circumstances to truth values)

Stalnaker, Lewis, Montague, most semanticists

Circumstances: worlds, situations

(4) a. [*Mary is happy*] = {w| Mary is happy in w}

[2] Structured propositions:

Carnap, Cresswell, Lewis, Soames (previously), King

(4) b. [*Mary is happy*] = <HAPPY, Mary >

c. <HAPPY, Mary > is true in w iff Mary ∈ HAPPYw

[3] Propositions as primitives (Thomasson 1980)

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**2. The Objectivization Effect and the Substitution Problem**

The Objectivization Effect

(5) a. valid: John believes / asserted / proved / established that S.

John believes /asserted / proved / established the proposition that S.

b. invalid: John regretted / noticed / recognized that / appreciates S.

John regretted / noticed / recognized that / appreciates the proposition that S

c. invalid: John saw / knew that S.

John saw / knew the proposition that S.

d. invalid: John imagined / feared that S.

John imagined / feared the proposition that S.

The Objectivization Effect (Moltmann 2003, 2013):

In general a full NP complement of an attitude specifies the object the attitude is about or directed toward, whereas a clausal complement specifies the content of the attitude.

Some attitude verbs allow for substitutions by fact descriptions:

(6) a. valid: John regrets that S.

John regrets the fact that S.

b. valid: John recognized that S.

John recognized the fact that S.

Alternative to the proposition-based relational analysis

*That*-clauses may stand for propositions or facts (Asher 193), Parsons (1993), King (2014).

Problem 1

Many factive verbs do not accept fact descriptions: see, know

Factive *hear*:

(7) a. John heard that Mary was next door.

b. ??? John heard the fact that Mary was next door.

Factive *understand*:

(8) a. John understands that he will not walk again.

b. ??? John understands the fact that he will not walk again.

Problem 2

Many attitude verbs allow for substitution by descriptions of entities other than propositions or facts:

(9) a. valid: John fear that S.

John fears the possibility that S.

b. valid: John predicts that S.

John predicts the outcome that S.

c. valid (?): John confirmed that S.

John confirmed the claim that S.

d. valid (?): John repeated that grass is green.

John repeated the claim that grass is green.

e. nonfactive *hear*:

valid: John heard that S.

John heard the claim / the rumor that S.

f. valid: John expect that S.

John expect the states of affairs in which S.

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**3. The Modified Relational Analysis**

(10) The Modified Relational Analysis

*That*-clauses are ambiguous / polysemous and may stand for propositions, facts,

Possibilities, claims, thoughts, or any other *proposition-like object.*

Discussed as a theoretical option in Moltmann (2003, 2013)

Problem 1

*That*-clauses as polysemous referential terms would not be referentially independent

If *that*-clauses can stand for propositions, facts, possibilities, claims etc, they can do so only in

virtue of the syntactic / lexical context and cannot do so as (independent) referential terms.

(11) a. John recognized that he lost the election.

Only fact-reading, no possibility- or proposition-reading

(11) b. John fears that it is raining.

Only possibility reading, no proposition or fact reading

(11) c. That Bill is talented is nice.

Only fact reading, no proposition reading, but proposition-reading appears available in:

(11) d. What Mary claimed / said is nice, namely that Bill is talented

The Unique Determination Property (Moltmann 2003)

In a given syntactic/lexical context, a *that*-clause never has the choice of standing for a proposition, a fact, or a possibility, or other proposition-like object, but rather there is only a single type of entity that it can stand for in that context.

Consequence:

*That*-clauses could not be referential terms referring to propositions, facts, possibilities etc.

They could stand for a particular type of proposition-like object only as part of the meaning of the complex *that*-clause-verb (adjective).

Some case of apparently ‘ambiguous’ occurrences of *that*-clauses

Factive and nonfictive *understand*

(12) a. John understood that he can never walk.

Factive and nonfactive *hear*

(12) b. John heard that Mary is in the next room.

Problem 2

Many attitude verbs do not accept any ordinary NPs standing for proposition-like entities.

(13) a. invalid: John claims that S.

John claims the proposition that S / the fact that S / the possibility that S /

some object / some interesting thing.

b. invalid: John thought that S.

John thought the proposition that S / the fact that S / the possibility that S.

c. invalid: John hoped that S.

John hoped the proposition that S.

d. invalid: John assumed that S.

John assumed the proposition that S / the fact that S / the possibility that S.

e. invalid: John imagined that S

John imagined the proposition that S / the fact that S / ?? the possibility that S

/ ?? the content of the sentence S.

f. invalid: John said that S.

John said the proposition that S / the fact that S / ?? the possibility that S / ?? the

content of the sentence S.

A possible response:

*Claim, think, assume, imagine* do not take NPs as complements, but only CPs.

But:

They take ‘special quantifiers and pronouns’ as complements:

(14) a. John claimed everything Mary claimed

b. John said what Bill said.

c. Bill claimed / hoped / assumed imagined that too.

d. John claimed / thought / said / imagined something interesting.

King’s (2007):

Special pronouns are syntactically different, they are not ‘real’ NPs.

Problem 1

There are verbs that do not accept any NPs, including special quantifiers and pronouns:

(15) a. John remarked that S.

b. \* John remarked something / that / what Mary remarked

(16) a. John complained that S.

b. \* John complained something / that / what Mary complained.

Other contexts where substitution is excluded for syntactic reasons:

The complement position of adjectives:

(17) a. John is happy that S.

b. \* John is happy the proposition that S / the fact that S.

c. John is happy about the fact that S.

The ‘complement’ position of nouns:

(18) the idea that S, \* the idea the proposition that S

Problem 2

Special pronouns can occur in syntactic contexts in which only NPs can occur and no clauses (CP):

Complements of prepositions:

(19) a. John thought about what Sue said.

b. Sue said that S.

c. \* John thought about that S.

Complements of verbs that do not accept CPs:

(20) a. John liked what Sue said / the things that Sue said.

b. Sue said that S.

c. \* John liked that S

(21) a. John compared what Sue imagined to what Bill imagined.

b. Sue imagined that it was raining, Bill imagined that it was snowing.

c. \* John compared that it was raining to that it was snowing.

King’s (2007) account of the Objectivization Effect

Presence of ‘true’ NP complement goes along with a different meaning of the predicate than the presence of a CP-complement (and special-NP-complement).

Problem 1

CP / NP complement do not trigger unique meanings

e.g. *understand, hear* display two meanings with CP complements

Problem 2

Nominalizations fear, imagination etc still display two meanings even though they do not admit NP complements

Problem 3

Cognate objects (which are not special NPs) do not trigger a different reading:

(22) a. John thought an exciting thought.

b. John screamed a terrible scream.

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**4. Nonrelational analyses**

Verbs that do that do not permit substitution of CP complements by ordinary descriptions of proposition-like object do not express a two-place relation between agents and proposition-like objects, but involve a different semantics.

Why do *believe, assert, establish, prove* allow for substitution?

Those verbs are polysemous: one of their meanings is a dyadic relation between agents and propositions (perhaps in the sense of a philosopher’s abstraction). The inference involves a switch from one meaning to another.

Some non-relational analyses:

Attitude verbs as modal operators:

(23) a. John believes that S.

b. Belw,j  S

The Neo-Russellian analysis (Moltmann 2003, 20213a, Jubien 2001):

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

b. think(John; HAPPY, Mary)

*That*-clauses as predicates of the Davidsonian event argument:

(25) ∃e(think(e, John) & [*Mary is happy*](e))

Two adequacy conditions

- account for the possibility of using special quantifiers and pronouns in place of *that*-clauses

- account for the particular semantic behavior of special quantifiers and pronouns

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**5. The semantic behavior of special quantifiers and pronouns**

Problems for the Propositional Analysis of special quantifiers and pronouns:

Special quantifiers do not give rise to the Objectivization Effect and the Substitution Problem:

(26) a. John claims / knows / fears something.

b. John imagines / expects that.

c. John claims what Mary claims.

Restrictions on special quantifiers are not generally predicates of propositions:

(27) a. John said something nice (namely that S).

a’. ??? The proposition that S is nice.

b. John thought something very daring (namely that S).

b’. ??? The proposition that S is daring.

c. John imagined something exciting.

c’. ??? The proposition that S is exciting.

d. John said something that made Mary very upset.

d’. ??? The proposition that S made Mary very upset.

Special quantifier restrictions target things other than propositions:

(28) a. John’s claim / remark is nice.

b. John’s thought is daring.

c. John’s imagination is exciting.

d. John’s remark made Mary very upset.

[2] Problems with the view that special quantifiers and pronouns stand for shareable contents across different attitudes:

‘What is believed may be doubted, denied, disproved, or merely imagined’ (Soames 2010))

Not obvious: data from Moltmann (2003b, 2013, Ch 4):

(29) a. ?? John imagined what Mary believes, that he would become king.

b. ?? John thought what Bill denied, that Mary is happy.

c. ?? John hopes what Mary mentioned, namely that Bill will win the election.

d. ?? John expects what Mary believes, namely that Sue will study harder.

e. ?? John said what Mary observed, namely that it will rain.

Could not be accounted for on the Modified Relational Analysis:

No quantification over facts and propositions

(29) ??? John regrets what Mary claims, that Bill lost the election.

No quantification over propositions and claim

(30) ??? John proved what Mary repeated, namely that Bill is guilty.

No quantification over facts and claims

(31) ??? John recognized what Bill repeated that the Sue lost the election.

But:

Crossattitudinal quantification also excluded with different factive verbs:

(32) a. ??? John understood what Bill heard, that Mary was in pain.

b. ? John heard what Bill saw, that Mary was awake.

Crossattitudinal quantification also excluded with different non-factive verbs not permitting any substitution:

(33) a. ??? John thought what Mary said, that he lost the election.

b. ??? John claimed what Mary imagined, that they it is raining.

Improvement with focus and adverbial modifiers:

(34) a. Mary firmly believes what Bill only suspects, namely that Joe is guilty.

b. Mary finally said what so many people believe, namely that Joe is guilty.

c. Bill demanded what Mary asked for, that everyone be treated equal.

Matches unacceptability of identity statements with nominalizations:

(35) a. ?? John suggested what Mary believes, namely that Bill was elected president.

b. ?? John expects what Mary believes, namely that Sue will study harder.

c. ?? John said what Mary believes, namely that it will rain.

(36) a. ?? John’s suggestion was Mary’s belief.

b. ?? John’s expectation is Mary’s belief.

c. ?? John’s claim was Mary’s belief.

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**6. *That*-clauses as predicates of attitudinal objects**

Attitudinal objects:

Cognitive products: thoughts, claims, decisions, imaginations etc

Illocutionary products: claims, requests, promises, threats etc

Mental states: beliefs, intentions, fears, hopes

‘Product’ in the sense of Twardowski (1912) as non-enduring products

Davidsonian event and attitudinal objects

Cognitive and illocutionary products are products of Davidsonian event arguments.

Mental states are themselves Davidsonian event arguments (and their own ‘products’).

Function of *that*-clauses

predicates of the products of Davidsonian event arguments

Different ways for clauses to characterize attitudinal or modal objects

- specify composition of product in terms of smaller products: concept-conveying products, predicational products, referential / identificational products etc.

- specify truth- or satisfaction conditions of attitudinal objects

- combination of both

The general logical form of attitude reports

(37) a. John thought that S

b. ∃e(think(e, John) & [*that* S](product(e)))]

c. John has the thought that S.

d. ∃d(have(John, d) & thought(d) & [*that* S](d))

The semantics of ‘special’ quantifiers and pronouns

(38) a. John said something nice.

b. ∃e∃e’(say(e, John) & nice(e’) & e’ = product(e))

(39) a. John thought what Mary thought.

b. ∃e∃e’∃e’’(think(e, John) & e’ = product-kind(e) & think(e’’, Mary) & e’ = product-

kind(e’’))

(40) a. John hopes what Mary fears.

b. ∃e∃e’∃e’’(believe(e, John) & pos(e) & e’ = product-kind(e) & believe(e’’, Mary) &

neg(e’’) & e’ = product-kind(e’’)) (roughly!!)

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**7. Nonattitudinal predicates taking clausal complements**

*is true, is correct, is possible, is likely* etc

The Substitution Problem with nonattitudinal predicates

(41) a. valid: That grass is green is true.

The proposition that grass is green is true.

b. invalid: That grass is green is correct.

The proposition that grass is green is correct.

c. valid (?): That grass is green is true / correct.

The claim that grass is green is true / correct.

d. I nvalid: That the sun is shining is possible.

The proposition that the sun is shining is correct.

*Correct, true* as predicates of contextually given claims (Moltmann 2015)

*Possible* as a predicate of modal objects with the *that*-clause predicated of the modal object (Moltmann to appear).

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**References**

Asher, N. (1993): *Reference to Abstract Objects in Discourse*. Kluwer, Dordrecht.

Bach, K. (1997): 'Do Belief Reports Report Beliefs?'. *Pacific Philosophical Quarterly* 78,

215-241.

Boer, S. (2009): Propositions and the Substitution Anomaly’. *Journal of Philosophical Logic*

38, 549-586.

Devitt, M. (to appear): ‘The Myth of the Problematic de se’. In *Attitudes De Se: Linguistics,*

*Epistemology, Metaphysics*. A. Capone / N. Feit, eds. CSLI, Stanford.

Frege, G. (1918/9): ‘Thoughts’. In *Collected Papers on Mathematics, Logic, and Philosophy*,

ed. by B. McGuinness. Blackwell, Oxford, 1984, 351-372.

Jubien, M. (2001): ‘Propositions and the Objects of Thought’. *Philosophical Studies* 104,

47-62.

King, J. (2002): ‘Designating Propositions’. *Philosophical Review* 111, 341-471.

--------- (2007): *The Nature and Structure of Content*. Oxford UP, Oxford.

--------- (2004): ‘Naturalized Propositions’. In J. King et al. (eds.): *New Thinking about*

*Propositions.* Oxford UP, Oxford, 185-214.

Moffett, M. (2003): ‘Knowing Facts and Believing Propositions’. Synthese 135, 77-118.

Moltmann, F. (2003): 'Propositional Attitudes without Propositions'. *Synthese* 135, 70-

118.

---------------- (2013): *Abstract Objects and the Semantics of Natural Language*. Oxford UP,

Oxford.

--------------- (1015): ‘Truth Predicates in Natural Language’. D. Achourioti et al. (eds.):

*Unifying the Philosophy of Truth*. Synthese Library, Springer, Dordrecht, 2015, pp. 57-83.

-------------------- (to appear) ‘Cognitive Products and the Semantics and Attitude Verbs and

Deontic Modals’. To appear in F. Moltmann / M. Textor (eds.): *Act-Based Conceptions of*

*Propositional Content*, Oxford UP, New York, New York, 2016, 35pp.

Rosefeldt, T. (2006): ‘‘That’-Clauses and Non-Nominal Quantification’. *Philosophical*

*Studies* 133, 301-333.

Schiffer, S. (2003): *The Things we Mean*. Clarendon Press, Oxford.

Soames, S. (1987): ‘Direct Reference, Propositional Attitudes, and Semantic Content’.

*Philosophical Topics* 15, 47-87.

Thomason, R. (1980): 'A Model Theory for Propositional Attitudes'. *Linguistics and*

*Philosophy* 4.1., 47-71.

Twardowski, K. (1912): ‘Actions and Products. Some Remarks on the Borderline of

Psychology, Grammar, and Logic’. In J. Brandl/J. Wolenski (eds.): *Kazimierz*

*Twardowski. On Actions, Products, and Other Topics in the Philosophy*. Rodopi,

Amsterdam and Atlanta, 1999, 103-132*.*