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3 Partial content and expressions of part and whole

- 4 Discussion of Stephen Yablo: Aboutness
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Abstract This discussion of Yablo's book *Aboutness* focuses on the way partial content and partial truth are reflected in natural language. It argues that natural language reflects a content-based notion of part structure for a much greater range of entities than Yablo acknowledges. Moreover, it argues that some of those entities involve a notion of partial satisfaction rather than partial truth as well as, to an extent, a notion of partial existence or validity.

- 15 Keywords Part-whole · Partial content · Attitudinal object · Cognitive product ·
- 16 Truthmaker semantics · Partial truth · Existence

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18 Yablo's (2014) project is to show the importance of a notion of content individuated by subject matter and not just truth conditions and to justify and formalize a notion 19 of part-of applying to such a notion of content. Partial content then serves to 20 illuminate of the notion of partial truth. In this discussion, I will set aside the formal 21 22 details of the theory of partial content and partial truth that Yablo develops and just 23 focus on the way natural language reflects those notions We will see that those notions are extremely well-reflected in natural language in the applicability of part-24 related expressions, but at the same time natural language intuitions motivate 25 26 modifications and a significant extension of the notions Yablo relies on. The 27 extension concerns the various sorts of entities that have partial content and involves 28 generalizing partial truth to partial satisfaction for a great range of those entities. 29 Natural language ontology clearly supports a notion of part applied to content. But it

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reflects a different and in fact much greater range of entities that come with acontent-based part structure than what Yablo's acknowledges.

I will also take closer look at the semantics of adverbs of completion such as *partly* and *completely* which show a peculiar behavior with the predicate *true* when they fail to relate to the actual parts of the subject referent. I will argue that this is rather expected given an independently motivated semantic analysis of such adverbs.

37 1 Part-related expressions applied to content-related entities

38 It is striking how well-reflected the notion of partial content is in natural language.

39 Most obviously, the partitive expressions part of, all of, some of, most of, none of, a

40 great part of etc apply to what is explicitly referred as a content, as below¹:

42 (1) part of/some of/all of/none of the content of the sentence

43 Yablo takes *part of* to apply to the content of sentence, a proposition. While *part of* 44 applies well to something explicitly referred to as a content, it does not seem to 45 apply well to what is explicitly referred to as a proposition, and it certainly could 46 not pick out parts of a structured proposition:

48 (2) ?? part of the proposition that the students are doing well

However, natural language displays a great range of content-related objects that do display a part structure based on partial content. These are what I call 'attitudinal

52 objects' (Moltmann 2003, 2013a, 2014, to appear). Attitudinal objects include

53 entities of the sort of claims, assertions, suggestions, remarks, thoughts, that is,

54 illocutionary and cognitive products in the sense of Twardowski's (1911) distinction

- 55 between actions and products (Moltmann 2013a, 2014, to appear). Attitudinal
- 56 objects also include what one might better consider mental states, such as beliefs,

1FL09 (ii) a. ??? parts of the furniture

1FL12IFL10 b. ??? parts of the police force

1FL13 Only mass terms that stand for objects that are organized wholes and may have functional parts permit the 1FL14 plural *parts:*

1FL15 (iii) a. parts of the support (that is, the lampstand)

1FL181FL16 b. parts of the reinforcement (of the table top)

1FL19 This indicates that the plural parts applies only to the parts of an object with a certain degree of integrity,

1FL20 parts of a functional whole, whether such a whole is referred to by a mass term or by a singular count

1FL21 term. For other observations regarding the difference between mass noun *part* and the singular count noun *1FL22 part* see Moltmann (1998).

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 ¹FL01 ¹ Note that content is treated as mass, even if the content in question consists of well-individuated parts.
 1FL02 Even in the latter case, *part* (or *a part*) needs to be chosen rather than the plural *parts*:

IFL03(i)Part of/??? Parts of what John claimed, namely that the students have passed the exam, is true: Joe,IFL04Mary and Bill have passed the exam, though not Sue.

¹FL07 Note, though, that plural-like mass nouns such as *furniture* or *police force* do not permit the plural *parts* 1FL08 either:

57 hopes, and fears (though not as states with a temporal or spatio-temporal part 58 structure).

59 Those objects all display a part structure based on partial, truth-evaluable 60 content, rather than the part structure of events or the part structure of a structured 61 proposition. This is clear from the way *part of* below is understood:

- 64 (3) a. Part of John's claim/suggestion/remark/is true.
- b. Part of John's thought/judgment concerned his dog.
- 68 (4) a. Part of John's belief is true.
- 69 b. Part of John's fear became true.

70 Part of in (3) could not pick out temporal parts of an act, and in (4) it could not pick 71 out temporal parts zof a state (in the standard sense of a state as something that 72 comes with temporal parts). Yet the terms in (3, 4) do not stand for 'pure contents'. They stand for entities that generally have a limited life span and in the case of 73 74 products, are created or established by an illocutionary or mental act. Illocutionary 75 and cognitive products generally share their life span with the act that establishes them.² This is linguistically reflected in the fact that if John's thought occurred to 76 him yesterday, then past tense needs to be used rather than present tense when 77 specifying the content of John's thought: 78

- 82 (5) a. John's thought was that Sue should study medicine.
- b. ??? John's thought is that Sue should study medicine.
- Moreover, attitudinal objects are dependent on particular agents, making the *is* of identity generally inapplicable in cases as below, as opposed to *is the same as*, which expresses close or exact similarity (which in this case amounts to 'being the same in content'):
- **90** (6) a. ??? John's remark was Mary's remark.
- 92 b. John's remark was the same as Mary's remark.

Unlike propositions, furthermore, attitudinal objects enter causal relations including
 perceptual relations, and unlike mental acts, they generally enter content-based
 causal relations, as indicated by the contrast between (7a) and (7b):

- 99 (7) a. John's remark/claim/assertion caused surprise.
- b. John's speech act caused surprise.
- 105 (8) Joe overheard John's remark.

Yes, despite being concrete particulars, attitudinal objects are largely characterized
 by their content. Besides having a part structure driven by partial content, they
 enter exact similarity relations strictly on the basis of being the same in content,

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 ² Certain illocutionary or cognitive products may have a longer life span than the act that created them.
 They include products of the sort of ideas, hypothesis, proofs etc. (which are generally described by underived nouns).

- 109 provided they are of the same type, as in (9a). Again, they may enter partial $\frac{110}{100}$ similarity relations based on partial sharing of content, as in (9b):
- 112 (9) a. John's claim was the same as Mary's: they both claimed that Sue is guilty.b. John's claim was almost/partly the same as Mary's.

The adverbial modifiers *partially, completely, in part, to some extent* etc. generally relate to the content-related part structure of an attitudinal object and then may serve to convey partial truth (or, equivalently, correctness):

118 (10) a. John's judgment/belief is partly true.b. John's claim is partly correct.

119 But they may also serve to specify that part of or all of the content an attitudinal 120 object is involved in an act of, for example, understanding, agreement, or 121 remembering described by the verb:

123 (11) a. John partly understood Mary's claim.b. John partly agrees with Mary's claim that S.c. John in part recalled Mary's suggestion.

 $\frac{124}{25}$ Not all attitudinal objects come with truth conditions. There is a great range of 126 attitudinal objects that come with satisfaction conditions instead, of various sorts. 127 Such attitudinal objects typically involving a world-word/mind-direction of fit, rather than a word/mind-world direction of fit, to use Searle's (1969, 1983) terms. 128 129 Thus, requests, demands, promises, pieces of advice, and permissions would be 130 satisfied, fulfilled, complied with, kept, followed, or taken up, rather than true. Moreover, a demand can be ignored or contravened and a promise broken, but 131 neither can be false.³ Similarly, cognitive products like decisions can only be 132 implemented or executed, but not be true, and so for mental states such as desires 133 134 and intentions, which can only be fulfilled or realized. All such attitudinal objects 136 come with a part structure based on partial content:

- 137 (12) a. Part of the demand/request was fulfilled.
 - b. Part of Mary's desire was satisfied.
 - c. Part of the offer was taken up.
- For products of directive illocutionary acts, satisfaction may also be conveyed by agentive verbs. The *by*-locution may then mention a particular action as the satisfier

agentive veros. The *by*-focution may then mention a particular action as the satisfier

- 140 or violator of the attitudinal object (which thus plays the same role as a truthmaker
- 142 or falsemaker of a truth-directed attitudinal object):
- 143 (13) a. John fulfilled the demand by handing in the paper in time.b. John followed/ignored the advice by staying home.c. John realized only part of his intention.

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 ³ The applicability of predicates of satisfaction makes particularly clear that nouns like *demand, request, 3FL02 promise* etc. could not stand for acts or propositions: neither acts nor propositions can be fulfilled,
 satisfied, taken up, or broken (Ulrich 1976). Rather such nouns stand for entities of a third kind—
 attitudinal objects—which come with intrinsic satisfaction conditions.

- 144 Satisfaction-directed attitudinal objects also permit predication of what corresponds 14ā to partial truth, namely partial satisfaction:
- 149 (14)a. The request/demand/desire was partly fulfilled.
- b. The permission/offer was partly taken up. 150
- 154 a. John partly satisfied the demand. (15)
- 156 b. John partly followed Mary's advice.
- 157 c. John to a great extent realized his intention.

158 Note that for distinguishing illocutionary products of the sort of requests and demands from attitudinal objects of the sort of permissions, an assignment of 160 content will not be enough. Partial (but not complete) fulfillment of an order goes 161 along with partial ignorance or violation of the order, whereas partial (but not 162 complete) taking up of a permission or offer won't go along with any sort of 163 164 violation.

165 Partial satisfaction of an attitudinal object cannot, as one might think, be reduced 166 to the partial truth of a proposition about the (complete) satisfaction of the attitudinal object, in terms of an equivalence 'd is partly satisfied iff the proposition 167 that d is satisfied is partly true'. A least this won't be possible for the complete 168 violation an attitudinal object. While (16b) may be considered equivalent to (16a), 169 (17b) is hardly acceptable and certainly not equivalent to (17a): 170

- 173 (16)a. That John partly fulfilled the request is true. 174 b. That John fulfilled the request is partly true.
- 176 a. That John completely violated the order is true. (17)177
 - b. ???That John violated the order is completely true.

178 Attitudinal objects constitute a significant class of content-bearing entities 180 displaying precisely the sort of content driven by subject matter that Yablo aims to account for, but they are not of the sort of propositions. 181

182 One might think that there are also pure contents, that is, propositions, that natural language permits reference to. One such case could be the semantic values 183 of relative-clause constructions of the sort what John believes. Relative clauses of 184 185 this sort allow for the same part-related expressions, which will then pick out partial 186 content:

- 199 a. part of what John believes (18)
- b. part of what John decided 191
- 192 c. part of what John demanded
- 194 (19) What John said/believes is completely/partly true.

195 However, relative clauses of this sort, it appears, do not stand for propositions. 196 Rather they also stand for attitudinal objects (or kinds of them). That is because they permit the same sorts of predicates as nominalizations that stand for attitudinal 197 objects, for example causal predicates or evaluative predicates, as below: 198

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- 199 (20) a. What John claimed caused a commotion.b. John's claim caused a commotion.
- 200 (21) a. What John thought is shocking.b. John's thought is shocking.

201 Such predicates would not be applicable to propositions or pure contents, which 202 could not enter causal relations and could not be 'shocking'.

Moreover, relative-clause constructions of the relevant sort stand for things that
 need not have truth conditions, but may have satisfaction conditions instead,
 depending on the illocutionary verb they contain:

- 207 (22) a. ???? What John demanded (that Bill should help) was true.b. What John demanded was complied with.
- 208 (23) a. ??? What Mary promised, namely that she would help, turned out to be true.

b. Mary did not fulfill what she promised.

In fact, *what* is arguably not an ordinary relative pronoun, but a nominalizing device, permitting reference to the very same entities as are the semantic values of the corresponding (product) nominalizations (Moltmann 2013a, 2015a, b).

There are some cases where *partly* and *completely* relate to a *that*-clause and thus apparently the semantic content of a sentence. First, *that*-clauses in subject position seem to go along with *partly* and *completely* as adverbial modifiers:

215 (24) a. That John's family is German is partly true.b. That John committed the crime is to a great extent implausible.

In addition, p*artly* and *completely* may relate to a *that*-clause complement while
modifying certain types of attitude verbs:

- (25) a. John partly denied that the students failed the exam.b. John partly agreed that Bill is lazy.
- (26) a. John partly recognizes that he failed.b. John partly acknowledges that he made serious mistakes.

222 However, *that*-clauses in these contexts do not in fact serve as proposition-referring 223 terms. Subject-clauses as in (24a, b) generally serve to characterize a contextually 224 given claim rather than standing for a proposition (Moltmann 2015a). Also with so-225 called 'response-stance verbs' as in (25a, b), that-clauses generally serve to 226 characterize something like a contextually given claim, allowing for the substitution 227 of the *that*-clause by (*with*) the claim that S.⁴ With factive verbs as in (26a, b), that-228 clauses serve to characterize a fact, allowing for substitution of the *that*-clause by 229 the fact that S.

Are there other entities besides attitudinal objects (that is, illocutionary and cognitive products and mental states in a relevant sense) that display a part structure

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⁴FL01 ⁴ The notion of a response-stance verb is due to Cattell (1978), who argues that response-stance verbs 4FL02 share relevant syntactic properties with factive verbs.

based on partial content? There is one class of objects that should be added, and
these are what I call 'modal products', entities such as obligations, laws, rules,
permissions, and offers (Moltmann 2015b, to appear). The *part of*-construction
applies naturally to deontic modal products, picking out a partial content:

- 238 (27) a. Part of John's obligation is to help Mary.
- b. Part of the offer is to use the house in summer.
- 240 c. Part of the law concerns children.

241 Deontic modal products result generally from directive illocutionary acts, such as 242 acts of commanding, offering, or promising, or acts of declaring or passing a law. 243 Unlike illocutionary products, modal products may endure way past the time of the 244 act that establishes them. But like illocutionary products of directive speech acts, 245 modal products come with satisfaction conditions. Thus an obligation or law can be 246 fulfilled, a rule followed, and an offer taken up. Modal products then also allow for 247 partial satisfaction:

249 (28) a. John partly fulfilled his obligation.

251

b. John partly followed the law/the rule.

252 There are other modal objects that in a way display a part structure based on 254 partial content, though they are not the product of acts. These are entities of the sort 255 of abilities, habits, implicit rules, and dispositions. With them, part of picks out part 256 of the constitutive conditions making up the modal objects (as in part of John's 257 special ability, part of John's habit). Of course, modal objects of the sort of abilities 258 and habits cannot be true or false or even satisfied or ignored (that is, not satisfied), 259 but they can be manifested and then in fact partly manifested. An activity that is a partial manifestation of an ability is a manifestation of part of the ability. 260

261 Besides truth and satisfaction, there is another notion that may involve partial 262 content and that is validity or existence when applied to modal objects. Note that 263 validity amounts to existence for modal objects such as obligations, laws, rules, promises and offers. Thus, if an obligation partly no longer exists, this means that a 264 part of it, a partial content or part of the conditions making it up, no longer is in 265 266 place or valid. In the same way, a law or promise may partly be no longer valid, which means that a partial content or part of its constitutive conditions may no 267 268 longer be 'in place'. Partial existence or validity is of course an entirely different notion than partial satisfaction, but both notions involve the very same part 269 270 structure, based on partial content.

The content-based part structure of modal products also accounts for the ability of modal products to exist—or, equivalently, hold, obtain, or be valid—at different temporal or spatial locations.⁵ Thus, the following statements may be true:

276 (29) a. The obligation to pay taxes still exists/holds in this country.277 b. The law is valid in several countries.

 ⁵ *Exist* is not the only existence predicate applicable to modal products; *hold, obtain,* and *be valid* are in fact better applicable as existence predicates to modal products such as obligations, permissions, and promises. See Moltmann (2013b) for a discussion of existence predicates in natural language.

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- c. The permission to skip a class obtains only in this school.
- d. John's promise is still valid today.

280 As Fine (2006) has pointed out, certain objects may exist not just at different times, but also at different spatial locations. Entities that clearly can exist at different 281 282 spatial locations are, for example, kinds and languages, and more generally objects 283 whose parts are 'abstract' parts (Moltmann 2013b). Only abstract parts can all be 284 'present', that is, instantiated or otherwise 'in place', throughout the spatial location of the object. This matches the traditional (if controversial) view of endurance 285 according to which the existence of an object at a temporal location amounts to its 286 287 complete presence throughout that location, that is, to the presence of (more or less) all its parts at any subinterval of that temporal location.⁶ Generalizing that view to 288 289 existence at a spatial or temporal location means that the existence of an object d at 290 a location *l* amounts to the complete presence of *d* throughout *l*. Clearly then, given 291 their ability to exist at different times and spatial locations, modal products could 292 not be viewed as states with a spatio-temporal part structure. Rather their parts 293 should be considered partial contents. Only then can modal objects be wholly 294 present at different locations, with their content parts being 'in place' at those 295 locations, that is, with their constitutive conditions holding at those locations.

296 To summarize then, partial content and partial truth are extremely well-reflected 297 in the application of part-related expressions in natural language, but there is a 298 different and much greater range of objects that have a part structure based on 299 partial content than is acknowledged by Yablo, or so our linguistically reflected 300 intuitions tell us. In addition, partial content plays an equally important role for 301 satisfaction as it does for truth with that range of objects and it may play a role for the notion of existence as well. This, of course, also means that Yablo's project as 302 such has a much greater scope and range of applications than what it so far has set 303 304 out to cover, and it is further indicative of how important the project is.

305 2 The semantics of adverbs of completion

Partial truth does not generally amount to truth of a part, as Yablo (2014, p. 48f)
 acknowledges. That is the equivalence below does not generally hold:

308 (30) p is partly true iff part of p is true.

As Yablo points out, if a sentence is partially true, then there need not be part of the sentence that is true. Partial truth of a content bearer does not amount to truth of a part of the content bearer, but rather to truth of a part of the content. Here are a few other cases where partial truth does not amount to truth of a part, now involving tarme yeary similar to the ones for attitudinal phicets:

313 terms very similar to the ones for attitudinal objects:

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 ⁶ For a defense of that view as the one operative for the application of existence predicates in natural language see Moltmann (2013b). Fine (2006) does not adopt that view, though, and he gives different examples for space-relative existence, which I consider problematic (Moltmann 2013b).

- **316** (31) a. What John said is partly true.
- b. Part of what John said is true.
- **319** (32) a. John's utterance is partly true.
- b. Part of John's utterance is true.
- 322 (33) a. What John wrote down is partly true.
- b. Part of what John wrote down is true.

That is, the a-sentences above are not equivalent to the b-sentences. *What John said* and *what John wrote down* refer to products of an act of saying or writing, that is, an utterance (or token) or a piece of writing. A product of an act of saying or writing has its parts physical or structural parts, parts which are not partial contents, making the part relation inapplicable.

Only for products of illocutionary or cognitive acts or belief states does the equivalence in (30) hold. That is, (34a) and (34b) are equivalent to (34c), and (35a) and (35b) are equivalent to (35c):

- 333 (34) a. What John believes is partly true.
- b. John's belief is partly true.
- c. Part of John's belief is true.
- 338 (35) a. What John claimed is partly true.
- b. John's claim is partly true.
- c. Part of John's claim is true.

(30) holds only for entities whose parts are contents and not structural or physical
parts of content bearers. This raises a semantic question, namely the question of
what the semantics of *partly* actually is, given that it cannot simply be considered a
quantifier ranging over the parts of the referent of the relevant noun phrase.

More generally, this is the question of the semantics of adverbs of completion, adverbs like *partly, completely, to some extent* etc. In Moltmann (1997), I had developed a semantic analysis of adverbs of completion based on the possibility for the part structure of the described event to be multidimensional. This analysis can also shed light on the particular semantic behavior of *partly* with the predicate *true*. Like *partly, completely* can relate to the part structure of the subject referent. But

351 it also has another reading, available for the sentences below⁷:

- 353 (36) a. The buildings in the city were completely destroyed.
- b. The sky is completely black.

In addition to the part-related reading according to which (36a) is equivalent to 'every building in the city was destroyed' and (36b) to 'every part of the sky was black', there are what one may call 'degree-related readings'.⁸ On such a reading,

 ⁸ FL01
 8 Note that *true* does not permit degree-related readings, which indicates that the philosophy of language
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⁷FL01 ⁷ For some reason, no degree-related reading is available for *partly*:

⁷FL03 (i) The sky is partly black.

(36a) basically, says that the buildings in the city have reached the highest degree of
destruction (though some building might have been spared entirely), and (36b)
means something like 'the sky has reached the highest degree of blackness' (while a
small part of the sky may not be black at all).

The degree-related reading makes clear that *completely* cannot be a quantifier 363 364 ranging the parts of the participant. Instead, *completely* in (36a) is better considered an expression relating the parts of a particular event to the parts of a type of event. 365 366 Crucially, both the particular event and the event type may have at least two part structures: a participant-related part structure and a degree-related part structure. 367 Completely then specifies that all the parts of one of the part structures of the event 368 type are instantiated by parts of one of the part structures of the particular event. The 369 event type of destruction described in (36a) has a participant-related part structure 370 which matches roughly the parts of the entity or collection of entities undergoing the 371 372 destruction. In addition, it has a part structure corresponding to degrees of 373 destruction.

374 For adjectives like *black*, tropes (that is, particularized properties) arguably play 375 the very same semantic role as events play in the semantics of verbs within Davidsonian event semantics. For (36b) this would be the trope that is 'the 376 377 blackness of the sky'. Completely in (36b) will then relate a particular trope to a 378 type of trope, specifying that all the parts of one of the part structures of the trope 379 type are instantiated by parts of one of the part structures of the particular trope. The trope type of blackness will have one part structure that corresponds to the parts of 380 381 the bearer (that is, parts of the sky) and another part structure that corresponds to degrees of blackness. 382

383 Given this account, the logical form of (36b) will be roughly as below, where the 384 meaning of the adjective *black* is taken to be a relation between tropes and types of 385 tropes and T(P) is the type of entity instantiating the property P, that is, a type of 386 trope:

387 (37) $\exists t completely(t,T(\lambda t'([black(t', the sky)])))$

The meanings of *partly* and *completely* will then be relations between events or tropes and event types or tropes types, as below:

- 390 (38) The semantics of adverbs of completion
 - a. For an event or trope e and an event type or trope type E, partly(e, E) iff one of the part structures of e instantiates some parts of one of the part structures of E
 - b. For an event or trope e and an event type or trope type E, *completely*(e, E) iff one of the part structures of e instantiates all the parts of one of the part structures of E.

391 Given this, adverbs of completion will not directly apply to parts of objects, but 392 rather relate particular events or tropes to event types or trope types in terms of one 393 of their part structures. A part structure of an event or trope that is induced by a

participant need not directly correspond to the parts of the participant, but rather the

395 participant may just be associated with a part structure that imposes a part structure

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- on the event or trope. This would be the case with participants that are content 396 397 bearers, which impose a content-related part structure on the event or trope type.
- Note that with other predicates than *true*, *partly* and *completely* can relate to 398 399 structural parts of a sentence or utterance:
- 402 (40) a. The sentence is partly ungrammatical. 403
 - b. What John said was partly inaudible.

 $\frac{484}{485}$ Whereas *partly* and *completely* allow for various participant-related part 406 structures, other expressions of completion may impose particular restrictions on 407 the part structure they may relate to. Fullyis restricted to event types with a particular boundary and as such may relate only to a structured part structure, such 408 409 as that of a structured content bearer, as in (41a, b), not a content-based part structure, as in $(41c, d)^9$: 410

- 413 (41)a. The sentence is fully grammatical.
- 414 b. Mary has not fully understood what John said/John's utterance.
- 415 c. ??? John's claim is fully true.
- d. ?? Mary has not fully understood what John claims/John's claim. 416

413 To summarize, a semantic analysis of adverbs of completion that takes into 419 account their more general semantic behavior can shed light on a semantic 420 peculiarity of *partly*, namely that with a sentence as subject referent, *partly* is able to 421 relate to the parts of the content of the sentence rather than the parts of the sentence 422 itself.

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⁹ Some adverbs of completion, for example, *entirely* may relate only to a part structure corresponding to 9FL01

- 9FL02 a participant, and not a degree-related part structure, for example English entirely:
- 9FL03 (i) The sky is entirely black.

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