

Pseudo coordination is not subordination

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1. Pseudo coordination

In English and many other languages, there is a subset of coordination structures which seem to be different to garden-variety coordination, namely ‘subordinating’ coordination, also described in traditional grammars as the *hendiadys* construction. Henceforth, I will call this construction pseudo coordination (PCO) and verbs like *sit* and *go* which enter into it PCO verbs.

- (1) What has John sat and done all day?
‘What has John done with his time all day?’
- (2) What has John gone and done all day?
‘What has John done with his time all day?’

These constructions are distinguished from garden-variety coordination by several properties which have been well described in the literature (Wiklund (1996), Jaeggli & Hyams (1993), Carden & Pesetsky (1977), Ross (1967) *inter alia*). These include the fact that the first conjunct is restricted to limited number of verbs, notably *come* and *go*.¹ Pseudo coordination also allows systematic violations of the coordinate structure constraint (henceforth CSC) (see (1) and (2)) and yields aspectual interpretations (notably durativity), as well as ‘surprise’ (Carden & Pesetsky 1977) and pejorative readings. Finally, both verbs must have the same morphological form. These are the focus of the following section.

2. Pseudo coordination is not coordination

Several studies argue that PCO is different from garden-variety coordination. Arguments supporting this view include the fact that extraction may occur from

the second conjunct, conjuncts may not be reordered and that semantic bleaching occurs concomitant with aspectual interpretations.

Extraction cannot occur from the second conjunct of an garden-variety coordination (3a) in the absence of ATB. It is nevertheless possible to extract from a PCO construction (3b,c).²

- (3) a. *What has John painted a house and eaten?
- b. What has John gone and done now?
- c. What has John sat and done all day?

Garden-variety coordination, as in (4), allows one to reorder the conjuncts provided there is no consecutive ordering of events inferred from encyclopedic knowledge. This is not possible with PCO (5) and (6).

- (4) a. John cut a mushroom and washed an apple
- b. John washed an apple and cut a mushroom
- (5) a. John went and blushed a deep red
- b. *John blushed and went a deep red
- (6) a. John sat and read a newspaper
- b. *John read and sat a newspaper

In garden-variety coordination, the full lexical meanings of both verbs are always accessible. However, in PCO constructions the first conjunct (*come*, *go*, *sit* etc) appears to be semantically bleached.

- (7) a. Somebody went and read the constitution!
- 'A person actually read the constitution'
- b. Somebody walked and read the constitution
- 'A person physically walked and read the constitution at the same time'
- (8) It went and rained again on Friday

In example (7a) the first conjunct (*went*) is bleached insofar as it does not require a deictic/movement interpretation as in example (7b). Furthermore, (7a) is felicitous even in contexts where no physical movement is required; for instance the reader may be bedridden, reading the constitution to pass the time. Even the expletive subject of weather verbs can occur in a PCO construction (8) where a deictic interpretation is impossible.

Sit seems to retain more of its lexical meaning than *go*, although there are still examples of bleaching.

- (9) Big companies (Fortune 500) hire contractors to come in and do something or set the foundation. The employees sit and age³
- (10) In Konitsa we finally had some sun during the day and we had a new moon (no moon at all) at night, which let all the stars sit and shine in the expansive heavens, surrounded by the mountains as the clouds came and went⁴

Example (9) concerns employees who are not physically sitting insofar as they are involved in managing a company (which involves many other actions than merely sitting). Also note that a contractor could potentially take months to complete a project; this time period is consistent with aging, but not with sitting. Clearly, *sit* has durative aspect in this example. Example (10) also exhibits semantic bleaching insofar as stars are inherently unable to ‘sit’ in the sky.

Garden-variety coordination typically conjoins elements of the same semantic sort.⁵ PCO with *sit* and *go* differs from garden-variety coordination in that the former but not the latter requires that both verbs have the same morphological specification.⁶ This is illustrated in (11) for PRES.3SG, by (12) for PAST and (13) for participle morphology.

- (11) a. John goes and throws a tantrum again
b. *John goes and throw a tantrum again
c. *John go and throws a tantrum again
- (12) a. John went and threw a tantrum again
b. *John went and throws a tantrum again
c. *John go and threw a tantrum again
- (13) a. John has gone and thrown a tantrum again
b. *John has gone and throws a tantrum again
c. *John has go and thrown a tantrum again

The fact that the ‘sameness’ condition applies to the morphology in PCO constructions marks them as being different to garden-variety coordination.⁷

Given these clear differences between PCO and coordination, I conclude, along with many others, including Wiklund (1996) and Carden & Pesetsky (1977), that PCO is not coordination of the garden variety. The following section will explore whether it can be analysed as subordination.

3. It isn’t subordination

PCO cannot be subordination of a monoclausal type since *sit* and *go* do not behave like auxiliaries. It also cannot be subordination of a biclausal type since the subject of the embedded clause cannot be licensed.

PCO verbs like *sit* and *go* do not behave like auxiliaries (Pollock 1994, Jaeggli & Hyams 1993, Carden & Pesetsky 1977). The operator *both* selects two separate events and can thus occur in garden-variety coordination (14a). It is blocked with *go* and *sit* (14b,c) (Carden & Pesetsky 1977).

- (14) a. John both ate and drank his fill
b. *John will both go and kiss Mary
c. *John will both sit and kiss Mary

However, *both* can modify coordinated modals and auxiliaries indicating that *go* and *sit* are neither modals nor auxiliaries.

- (15) John both can and will go to school

Another argument concerns verb raising. Modals and auxiliaries can raise across negation to T (16a) and can undergo Subject-auxiliary inversion (17a) (Pollock 1994). *Go* and *sit* can do neither.

- (16) a. I will not speak to her
b. *I go not speak to her
c. *I sit not speak to her

- (17) a. Will you speak to her?
b. *Go you speak to her?
c. *Sit you speak to her?

Sit and *go* do not appear to be auxiliaries or modals and thus cannot be explained by an analysis based on monoclausal subordination.

PCO also cannot be biclausal subordination as suggested by Wiklund (1996) since the subject position in the embedded clause cannot be filled by either PRO, *pro*, a trace of raising, nor an ATB trace given current theoretical assumptions. The central problem concerns the nature of the empty subject represented by *e* in (18).

- (18) *John_i* will go and *e_i* take Mary on a date

By analogy with infinitivals one might suggest that the empty position is PRO.

- (19) *John_i* will go and PRO_{*i*} take Mary on a date

However the fact that the embedded verb can also have person, number, tense and participle morphology (11,12,13) shows that it is *not* an infinitive and thus unable to license PRO; PRO must be ungoverned and tense is a potential governor.⁸

Another possibility is that the empty position is *pro*. However, English is not a pro-drop language and it would seem counterintuitive to postulate the existence of a category that never occurs independently in other contexts.

It is equally unlikely that the empty position is a trace left by movement. Raising occurs when a DP cannot get case in the lower clause. However, having demonstrated that the embedded verb is not an infinitive and thus perfectly able to assign nominative case, there is no rationale for a raising analysis. In addition, a true raising verb like *seem* is compatible with an expletive *there* in subject position. This is not true for *go* and *sit* (20b,c).

- (20) a. There seems to be a fly in my soup
b. *There goes and drops a fly in my soup
c. *There sits and drops a fly in my soup

The final possibility is that the subject position of the embedded verb is a trace left by ATB extraction (21).

- (21) *John*_i will *t*_{i(ATB)} go and *t*_{i(ATB)} take Mary on a date

However, this would imply that PCO constructions involve garden-variety coordination, which I have already demonstrated to be false. Thus a paradox arises. I conclude, that there is no obvious empty category which could occur in the embedded clause. Consequently, PCO constructions cannot be instances of infinitival complementation (contra Wiklund (1996)).

4. Reduplicative coordination

At this point, we are in a quandary, having shown that PCO is neither coordination nor subordination. However, there is another construction that may shed some light on PCO. With this in mind, let us step back from PCO constructions of the *go*, *sit* type and consider reduplicative coordinative constructions of the *read and read* sort (henceforth ReCo).

- (22) He begins reading about dinosaurs and tigers, and he reads and reads until the library closes⁹

There are several parallels between ReCo constructions and PCO ones. Both constructions share the same outward form, consisting of two or more verbs and a coordination marker. Furthermore, they also are subject to the sameness condition: both coordinated verbs must have the same morphological form.

- (23) a. John reads and reads all day
b. *John reads and read all day
c. *John read and reads all day

ReCo constructions can be extracted from. Thus, just like PCO constructions, they constitute exceptions to the coordinate structure constraint.

- (24) What did John read and read for three days without stopping

It might be suggested that (24) is merely ATB extraction. This is demonstrably untrue. The verb *to read up* is intransitive, any additional DP being introduced by a preposition. (25a) illustrates the reduplicative use of *read up*. (25b) shows that WH-extraction from such a construction is indeed possible. Note that (25b) cannot be ATB simply because there is no intermediate landing site for an extracted DP. (25c) illustrates what ATB would look like were it possible.

- (25) a. John read up and read up on the case until he felt he was prepared for the trial
b. What did John read up and read up on?
c. *What did John read up on *t*_{ATB} and read up on *t*_{ATB}?

Both modification is also blocked in ReCo constructions, exactly like their *sit* and *go* counterparts (cf. (14)).

- (26) a. John both reads and writes books all day long
- b. *John both reads and reads all day long

Concomitant with semantic bleaching we find aspectual readings associated with PCO constructions. They seem to denote durative, non-stative events.

- (27) *Who did John go and resemble? [States]
- (28) Which board-game did John go and win? [Achievements]
- (29) Who did John go and drive back home safely? [Accomplishments]
- (30) Which board-game did John go and play for hours? [Activities]

The *sit* class are more restricted in what aspects they can combine with. They can combine with neither states nor achievements.

- (31) *Who did John sit and resemble? [States]
- (32) *²Which board-game did John sit and win? [Achievements]
- (33) Who did John sit and drive back home safely? [Accomplishments]
- (34) Which board-game did John sit and play for hours? [Activities]

There does not seem to be a telic/atelic distinction. This is unsurprising since both accomplishments and achievements are telic, and both *go* and *sit* may combine with accomplishments.

- (35) a. John went and read a book in an hour
- b. John went and read a book for an hour
- (36) a. John sat and read a book in an hour
- b. John sat and read a book for an hour

ReCo constructions also have a durative aspectual reading. In fact, they may only combine with activities. Given that they can combine with neither achievements nor accomplishments, they are inherently atelic.

- (37) *John resembled and resembled his father [States]
- (38) *John won and won the board-game [Achievements]
- (39) *John drove and drove Mary back home safely [Accomplishments]
- (40) John walked and walked for hours [Activities]

It should be noted that ReCo constructions are not necessarily incompatible with telic predicates, merely that they always force an atelic or repetitive reading on them. This is especially clear with a verb like *drown* which has as its natural end point the death, by drowning, of the subject (41a).

- (41) a. John drowned [entails that...] John died
- b. John drowned and drowned [*entails that...] John died

This is exemplified by the following example.

- (42) And he just drowned and drowned and I saw his head go under¹⁰

The only possible reading for (42) is that drowning is a durative event and that each ‘drown’ is actually a sub-stage of the larger drowning event. It is not even necessary that the subject eventually dies in this example, in contrast to normal usage of this verb. Thus for (42) it would be perfectly felicitous to continue the story in the following way.

- (43) ... but suddenly a lifeguard put an arm around him and lifted him to safety¹¹

In the case of a predicate like *die*, a serial, iterative reading is more natural, especially in the following war-game, battlefield context where ‘deaths’ are quick, being determined by the result of a throw of dice. Note that given the nature of the game, death is punctual, not a gradual event. Thus, no internal stages of dying can be selected and contrasted by *and* to yield a durative reading. Only an iterative reading is available.¹²

- (44) Chaos Warriors died, and died, and died¹³

I have demonstrated that ReCo constructions exhibit more than a passing similarity to PCO constructions with *go* and *sit*. Assuming that these arguments are correct, ReCo constructions can shed light on PCO constructions. In particular, the aspectual possibilities of these constructions, when tabulated, indicate a gradual increase in restrictiveness with regard to which aspectual categories each can be combined with. This is potentially important because it allows us to characterize precisely the semantic contribution of each construction.

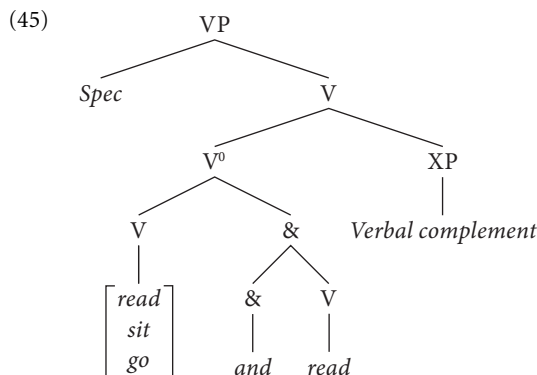
	STATES	ACHIEVE.	ACCOMPLISH.	ACTIVITIES
<i>go</i>	*	✓	✓	✓
<i>sit</i>	*	*	✓	✓
<i>read & read</i>	*	*	*	✓

5. A proposal: What is ReCo?

The question then arises as to what exactly ReCo and PCO structures are. I propose that they are complex heads derived in the syntax itself i.e. not an item stored in the lexicon. There are at least three reasons why this must be the case. Firstly, the very productivity of the construction militates against it being stipulated in the lexicon. Secondly, ReCo/PCO constructions clearly have inflectional morphological marking. Since inflectional morphology is assumed not to occur within a terminal/word itself, the presence of such marking would

militate against a lexical-compounding analysis. Finally, VV compounds seem to be a fairly systematic gap in the Germanic languages.¹⁴ I would not want to propose that VERB+AND+VERB constructions are exempt.

The proposed structure looks like this.¹⁵



This structure can immediately account for a number of characteristics of ReCo constructions. Firstly, the extraction facts described in Sections 2 and 4 follow from the fact that in structure (45) traces of movement in the verbal complement are not contained by the coordination structure. Consequently, extraction of elements such as verbal arguments etc neither entails the crossing of a minimality barrier nor a violation of the CSC.

The fact that there is no subject in the second conjunct is a by-product of the fact that there is simply no subject position available within the complex predicate. The subject position (Spec VP) is projected by the complex predicate itself. Seen from this perspective, the problems associated with licensing an empty subject category (Section 3) simply evaporate: there is no PRO or similar empty category in the second conjunct because there is no clausal complementation relation between the two conjuncts.

Similarly, the differences in the behaviour between modals and the PCO constructions follow from this analysis (Section 3). Since both verbs are merged as part of a complex predicate within the VP, both of them pattern with lexical verbs vis a vis subject-auxiliary inversion and V-T raising. The fact that *both* modification is not tolerated with ReCo constructions is a result of the fact that *both* contrasts two entire events. In garden-variety coordination contexts where two IPs are coordinated, *both* modification can thus take place. However, in structure (45), there is only a single event: the entire complex predicate is located within the VP under a single verbal label.¹⁶

In summary, structure (45) accounts for a number of the ReCo/PCO facts previously discussed, and which are difficult to handle in other analyses.

Having proposed that ReCo/PCO constructions are complex-predicate heads, I will now discuss the internal structure of these heads. When considering an

example like (22), there is only a single reading event extending over some time. Note that there is no implication that the reading event eventually culminated in the finishing of the book, in other words, it is imperfective. Whatever explanation we choose must account for the fact that there is only a single reading event and not two.

Pre-theoretically, it appears that ReCo/PCO *and* takes a single event, and divides it into two sub-stages. The function of *and* is that it marks a transition between the two sub-stages. Thus ReCo/PCo *and* is a two-place ‘sameness’ operator, each argument of which must be a sub-part of a larger event.¹⁷ Informally, by ‘sameness operator’ I mean to imply that the ‘meaning’ of *and* is basically “given X, give me more of the same kind of it”. In this respect, I take ReCo/PCO *and* to be identical in its lexical specification to the garden-variety coordinator, *and*. Semantically, both garden-variety and PCO *and* take ‘same’ categories. Syntactically, the sole difference between them is that garden-variety *and* projects an entire XP of its own, ReCo/PCO *and* projects only a head label. Thus, *and* can be defined as in (46a) and schematically represented as in (46b).

- (46) a. *and*{Stage I_ϵ , Stage J_ϵ }, where I and J are stages of an event ϵ and where *and* marks a transition between I and J.
 b. *John read and read all day long*
 $stage1_i \text{ } OP_{i/j} \text{ } stage2_j$

In this representation, *and* is an operator which requires that *i/j* are both bound by suitable sub-stages of an event. The effect of this is that *and* serves to introduce an additional layer of structure within a verbal event. Inherent in this structure is the notion that the event is non-stative and durative; stative events cannot be subdivided or have their internal event-structure modified.

However, providing internal structure to a simple event provides the grammar with a problem: how should such a complex event be interpreted?

- (47) a. John read a book
 b. John read and read a book

The principle of Full Interpretation means that there can be no superfluous symbols at LF. Thus, (47b) must necessarily crash at LF unless the additional structure (namely, the operator and the additional verb) can be semantically licensed. I propose that the complex-predicate be placed in the scope of an operator such as *and*. The resulting meaning assigned to the complex event is loosely-speaking durative and non-stative. This follows very simply from the analysis of *and* as a substage-binding operator since any event which allows its internal substages to be modified must necessarily be durative and non-stative. This operation is illustrated schematically below.

- (48) a. $and_{i \oplus j} \rightarrow \text{read read}$ [Before binding]
 b. $and_{i \oplus j} \rightarrow \text{read}_i \text{read}_j$ [After binding]

Failure to merge such an operator results in the derivation crashing at LF as a result of a violation of Full Interpretation. This predicts that sentences such as (49a–c), which lack the ‘sameness’ operator are necessarily ungrammatical.

- (49) a. *John read read a book all day
 b. *John sits reads a book all day
 c. *John goes reads a book all day

In other words, the analysis I am proposing is fully minimalist in the sense that the entire computation is driven by the requirements of the semantics interface.

6. Conclusion

I have argued that PCO cannot be analysed either as coordination of the garden variety, or as subordination (contra Wiklund (1996) and Lødrup (2002)). The resulting impasse is resolved by considering ReCo constructions, which are argued to have many properties in common with PCO constructions, including the sameness condition, extractability and aspectual readings. ReCo constructions are utilized to explore the internal structure of *go* and *sit* PCO constructions. I suggest that an analysis based on merging complex predicates is the simplest explanation consistent with the facts. This approach has the distinct advantage over biclausal analyses insofar as these approaches require *and* to be lexically specified as is regarded as some manner of infinitival marker or complementizer. In contrast, the complex-predicate analysis proposed here does not need multiple lexical entries for *and*. The lexical entries of *and* vis a vis Reco, PCo and garden-variety coordination can be unified under the assumption that the same lexical item, namely *and*, either projects an XP or an X⁰. This leads to a simplification of the representation of the lexicon.

Notes

1. In Mainland Scandinavian the class of verbs which can be first conjuncts is larger, but nevertheless a closed class.

2. It has been suggested by Cormack & Breheny (1994) that the unergativity of PCO verbs licenses violations of the coordinate structure constraint. However, the ungrammaticality of the following unergative and unaccusative examples in comparison with the well-formedness of the *sit* and *go* examples suggest that the argument structure of the first verbal conjunct does not explain the entire story.

- (i) a. *What has John talked/resigned and done now? [Unergatives]
 b. *What has John arrived/fallen and done now? [Unaccusatives]

3. <http://discuss.fogcreek.com/joelonsoftware/default.asp?cmd=show&ixPost=60168>

4. <http://www.bikeabout.org/journal/notes/104.htm>

5. Following Munn (1993) and Haspelmath (2004), I assume that the 'sameness' constraint on coordinated categories does not necessarily refer to categorial but to semantic information.
6. PCO with *try* is not subject to this restriction, and appears to differ to PCO with *sit* and *go* in a number of respects (see also Pullum (1990)). For this reason I shall not deal with it in this paper.
7. However, I do not want this phenomenon to mask the deeper semantic similarities which garden-variety *and* and PCO *and* share. I will discuss this more fully in Section 5.2.
8. A further argument against an analysis analogous to infinitivals is that there is a truth conditional distinction between infinitival *go* and PCO *go* (Jaeggli & Hyams 1993).
 - (i) a. John goes and eats [entails that...] John eats
 - b. *John goes to eat [*entails that...] John eats
9. www.whitehouse.gov/news/releases/2003/05/20030520-17.html
10. <http://www.abc.net.au/austory/transcripts/s418748.htm>
11. In the story on the web-site where this example originated, the subject died.
12. It is worth noting that insofar as *drown and drown* does not necessarily imply the death of the subject, the full semantics of *drown* do not seem to be available to the syntax. This is a parallel with the semantic bleaching evident in *sit* and *go* constructions.
13. www.eldaronline.com/fluff/fiction/astandunited.shtml
14. There are arguably some examples in Afrikaans eg. *laat spaander* 'get going'.
15. The complex-predicate analysis also captures the argument by a number of researchers that PCo constructions form complex heads (Pollock 1994, Postma 1995).
16. In approaches such as that of Travis (2000), the complex predicate would be dominated by an Event Phrase which would serve to identify the entire complex predicate as being part of a single event.
17. Van Geenhoven (2004) proposes that continuous aspect marking (in general, but also of the ReCo type) is a temporal pluractional operator.

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