

Adjuncts as Complements: Evidence from Case Assignment

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1 Introduction

Aims of the talk:

- to introduce some case assignment (CA) data into the discussion on modification;
- to show that these data provide evidence for treating (at least some) adjuncts on par with complements.

Plan:

- CA to adverbials cross-linguistically;
- the beauty of case assignment in Finnish;
- evidence for ‘Adjuncts-as-Complements’.

Caveats, disclaimers:

- ‘Adjuncts-as-Complements’ (AasC) = ‘any approach to modification in which (the relevant) adjuncts are treated on par with complements’ (cf. the use of DEPENDENTS by Bouma *et al.* (1997));
- no discussion of possible ways of formalizing AasC; see e.g. Miller (1992), Manning *et al.* (1997), Przepiórkowski (1997c), Bouma *et al.* (1997).

2 Case Assignment to Adverbials

There is a long-standing assumption that bare NP adverbials always get ‘semantic’ case by virtue of their meaning, or by idiosyncratic lexical specification (Larson, 1985).

However, a class of bare NP adverbials are known to be subject to the same syntactic case variations as complements cross-linguistically.¹ This seems to be the case, e.g., for Korean (Maling, 1989; Kim and Maling, 1993, 1996; Wechsler and Lee, 1996), Chinese (Li, 1990), Finnish (Maling, 1993), Russian (Babby, 1980; Fowler, 1987) and Polish (Przepiórkowski, 1997b).²

¹These adverbials include measure, duration and some frequency adverbials (they are termed ‘extensive measure’ adverbials by Wechsler and Lee (1996)).

²Maling (1993) mentions also Warumungu and Classical Arabic.

2.1 Korean

Wechsler and Lee (1996) argue for the following CA rule in Korean:

- (1) Korean Case Rule.
 - a. Assign ACC to any CASE dependent with an external co-argument;
 - b. Assign NOM to any CASE dependent lacking an external co-argument.

This can be illustrated with the following examples (from Wechsler and Lee (1996)):

- (2) a. *Swuni-ka cip-ul pheynthu-lul twu pen-ul chilhay-ess-ta.*
Swuni-Nom house-Acc paint-Acc twice-Acc brush-Pst-Dec
'Swuni painted the house twice.'
 - b. *Cip-i Swuni-eyuhay pheynthu-ka twu pen-i chilhay-ci-ess-ta.*
house-Nom Swuni-by paint-Nom twice-Nom brush-Pass-Pst-Dec
'The house was painted twice by Swuni.'
- (3) a. *Tom-i twu sikan-tongan-ul tali-ess-ta.*
Tom-Nom two hours-period-Acc run-Pst-Dec
'Tom ran for two hours.'
 - b. *Ku-ka cha-ka sey sikan-i philyoha-ta.*
he-Nom car-Nom three hour-Nom need-Dec
'He needs a car for three hours.'

2.2 Polish

Przepiórkowski (1997b) notes that Polish CA facts do not reflect the adjunct vs. complement dichotomy. This claim is illustrated with the Genitive of Negation (GoN) and Nominalization facts.

2.2.1 Genitive of Negation

Basic generalization: accusative complements change their case to genitive obligatorily when the verb is negated (4), adjuncts do so only optionally (5) (with a slight change of meaning):

- (4) a. *Janek pisze list/*listu.*
John writes letter_{acc/*gen}
'John is writing a letter.'
 - b. *Janek nie pisze listu/*list.*
John NEG writes letter_{gen/*acc}
'John is not writing a letter.'

- (5) a. *Rozmawiałem z nim dwie godziny / *dwóch godzin.*
 talked-I with him [two hours]_{acc/*gen}
 ‘We were talking for two hours.’
- b. *Nie rozmawiałem z nim dwie godziny / dwóch godzin.*
 NEG talked-I with him [two hours]_{acc/gen}
 ‘We weren’t talking for two hours.’

However, the adverbial complements in the examples below³ behave like adjuncts rather than complements.⁴

- (6) a. *Bielany leżą milę/*mili od Warszawy.*
 Bielany_{nom} lie mile_{acc/*gen} from Warsaw
 ‘Bielany_{nom} lies a mile a Warsaw.’
- b. *Bielany nie leżą milę/mili od Warszawy.*
 Bielany_{nom} NEG lie mile_{acc/gen} from Warsaw
 ‘Bielany_{nom} doesn’t lie a mile a Warsaw.’
- (7) a. *Ta ryba waży kilogram/*kilograma.*
 [this fish]_{nom} weigh kilogram_{acc/*gen}
 ‘This fish weighs a kilogram.’
- b. *Ta ryba nie waży kilogram/kilograma.*
 [this fish]_{nom} NEG weigh kilogram_{acc/gen}
 ‘This fish doesn’t weigh a kilogram.’

2.2.2 Nominalization

Similar difference can be observed in case of nominalization: again, in this process, accusative complements obligatorily change their case to genitive (8a). However, in case of NP adverbials, accusative, although not perfect, is markedly better than genitive (8b).

- (8) a. *pisanie listu/*list*
 writing letter_{gen/*acc}
 ‘writing a letter’
- b. *rozmawianie przez telefon ?* dwóch godzin / ? dwie godziny*
 talking through phone [two hours]_{?*gen/?acc}
 ‘talking over phone for two hours’

Again, this case variation does not depend on the adjunct (8b) vs. complement (9) status of bare NP adverbials.⁵

³The accusative/genitive NPs are obligatory dependents filling the verb’s semantic role, hence, by almost any theory of valency, they are complements.

⁴These examples (but not the analysis) come from Franks and Dziwirek (1993), where the NPs are assumed to be adjuncts (without discussion).

⁵Example (9) is acceptable in its agentive meaning, as in: *Ważenie stu pięćdziesięciu kilogramów mięsa w drobnych kawałkach zajęło mu cały dzień* ‘Weighing 150 kilo of finely chopped meat took him whole day.’

- (9) *ważenie* ?* *stu pięćdziesięciu* / ? *sto pięćdziesiąt kilogramów*
 weighing [hundred fifty]?**gen/?acc* kilo
 ‘weighing 150 kilo’

3 Finnish

3.1 The Facts

Generalizations about CA in Finnish (on the basis of Maling (1993)):

- a verb’s dependents which are not marked by the verb as bearing a lexical case receive either nominative or accusative;⁶
- only one NP dependent of the verb receives the nominative, namely the one which has the highest grammatical function;
- other dependents receive the accusative.

Thus:

- if none of the arguments bears lexical case, the subject is in the nominative and other dependents are in the accusative (10);
- if the subject bears an idiosyncratic case, it is the object that gets nominative (11);
- furthermore, if all arguments (if any) bear lexical case, the next ‘available’ grammatical function is that of an adjunct, thus one of the adjuncts receives the nominative (12)–(13).

- (10) *Liisa muisti matkan vuoden.*
Liisa_{nom} remembered trip_{acc} year_{acc}
 ‘Liisa remembered the trip for a year.’

- (11) *Lapsen täytyy lukea kirja kolmannen kerran.*
child_{gen} must read book_{nom} [third time]_{acc}
 ‘The child must read the book for a 3rd time.’

- (12) *Kekkoseen luotettiin yksi kerta.*
Kekkonen_{ill} trust_{pass} [one time]_{nom}
 ‘Kekkonen was trusted once.’

- (13) *Kekkoseen luotettiin yhden kerran yksi vuosi.*
Kekkonen_{ill} trust_{pass} [one time]_{acc} [one year]_{nom}
 ‘Kekkonen was trusted for one year once.’

Maling’s conclusions:

⁶I abstract here away from issues to do with another syntactic case, partitive, and with case assignment to subordinate clauses.

- syntactic case is assigned on the basis of grammatical hierarchy;
- (at least some) adjuncts belong to this hierarchy;
- as evidenced by (12)–(13), adjuncts do not form a single class in this hierarchy: although the frequency adverbial *yksi kerta* is nominative in (12), this case is won over by the duration adverbial in (13);
- this (and the partitive facts not discussed here) leads to extending grammatical function hierarchy for Finnish in the following way:
SUBJ > OBJ > MEASURE > DURATION > FREQUENCY

3.2 The Analysis

The Finnish CA facts can be easily modelled if:

- argument and (the relevant) non-argument dependents of a head co-occur on a single list reflecting obliqueness (or grammatical function) hierarchy of this this head; and
- syntactical case is resolved on this list (as in Przepiórkowski (1996b, 1997a)).

The basic case assignment rule for Finnish resolves the case of the first structural NP on this list to nominative, and the case of any other such NP to accusative.

4 Evidence for Adjuncts-as-Complements

Two other main approaches to modification available on the HPSG market, i.e., Pollard and Sag (1994) and Kasper (1994), can deal with the Finnish facts only at a very prohibitive cost.⁷

4.1 Pollard and Sag (1994)

Adjuncts in (Pollard and Sag, 1994):

- modify phrases;
- select them via *synsem*-valued MOD attribute;
- are attached via the Head-Adjunct Schema.

4.1.1 CA as in Pollard and Sag (1994)

No syntactic case principles, so:

- bare NP adverbials have to originate in the lexicon with their case specified;

⁷Our argument is orthogonal to the improvements by Kasper (1996).

- thus there would be two lexical entries for each adverbial taking part in the alternations exemplified in (10)–(13): one in the nominative, and another in the accusative;

What should, say, a nominative frequency adverbial such as *yksi kerta* ‘one time’ select?

- It can modify only those verbs, which do not have a structural subject or structural object, and which are not modified by a duration adverbial.
- But there is no way this information can be encoded in the MOD value:
 - Since adjuncts modify phrases, the COMPS value of the MOD synsem is an empty list, so the adjunct has no information about whether there is a structural complement on this verb or not.
 - Even worse, the adjunct has no information about other adjuncts, which might win over the nominative.

Possible solutions?

- Allow adjuncts ‘blindly’ modify any phrases, and posit global well-formedness constraints ruling out, say, structures with a nominative frequency adverbial whenever there is a structural subject, object or duration adverbial.
- Such constraints can in principle be stated,⁸ although they would have to be formulated as constraints on maximal projections (to ensure that no more adjuncts are attached), and would be fairly complex.
- Moreover, the simple empirical generalization that the nominative is assigned to the highest available grammatical function, and the accusative to any other available grammatical function, would be lost without a trace.

4.1.2 CA as in Heinz and Matiassek (1994)

Does not help:⁹

- Their Case Principle (CP) operates on local trees: it never traverses the tree.
- However, in order to model the Finnish data, exactly such a traversal would be necessary.

Why should it?

- Consider again a frequency adverbial attaching to a VP.
- Such adverbials are specified as *structural* in the lexicon.
- What would a constraint (CP) resolving the case of such a structural adverbial have to look like?

⁸Relational Speciate Re-entrant Logic (RSRL), developed by Frank Richter and Manfred Sailer (Richter, 1997) on the basis of SRL (King, 1989, 1994), is an example of a logic for HPSG which allows stating such constraints.

⁹Suggestions and accounts along similar lines to (Heinz and Matiassek, 1994) can be found in (Yoo, 1993), (Pollard, 1994), (Grover, 1995) and (Przepiórkowski, 1996a, 1995).

- There is no information about the head’s complements at the level of Head-Adjunct Schema, so this constraint would have to go down along the projection path to the *word* level.
- This, however, is still not enough as there might be a duration adverbial attaching higher than our frequency adverbial.
- Thus, this constraint would also have to ‘look up’.
- This is technically impossible, so, again, Case Principle would have to be formulated not as a constraint on *phrase*, but rather as a global constraint on maximal projections.
- This shares all the problems with the standard (Pollard and Sag (1994)) approach to case.

4.1.3 CA as in Przepiórkowski (1996b, 1997a)

Does not work at all because adjuncts are not on ARG-ST.

4.2 Kasper (1994)

Adjuncts in (Kasper, 1994):

- modify words;
- the Head-Complement Schema and the Head-Adjunct Schema are replaced with a single schema realizing complements (on COMP-DTRS) as well as adjuncts (on ADJ-DTRS);
- are ordered on ADJ-DTRS according to scope: the first one has the widest scope, the last one scopes immediately over the predicate;
- syntactically select the head, while semantically — the next adjunct on the ADJ-DTRS (or the head, in case of the last adjunct).

4.2.1 CA as in Pollard and Sag (1994)

What kind of verbs can be modified by a nominative frequency adverbial?

- It is easy now to state part of the necessary condition, namely that there cannot be any structural NPs among the arguments of the word: the MOD value of such an adverbial would have to be a synsem, whose VALENCE features (or ARG-ST) do not contain such NPs.
- However, it is still impossible for frequency adverbials to select heads not modified by durational adverbials.
- Thus, again, we would have to resort to well-formedness checking principles.
- However, this time this checking could be stated as a local tree-configurational constraint on Head-Complement Schema, thus avoiding the problem of global constraints.

4.2.2 CA as in Heinz and Matiassek (1994)

Case Principle:

- could operate on Head-Complement phrases;
- would have to be (again) fairly complex: it would have to look into VAL|SUBJ to check if the verbal phrase expects a structural subject, and then into COMP-DTRS and ADJ-DTRS, and calculate cases of all structural dependents with regard to other dependents;
- for example, in order to assign nominative to a frequency adverbial, such a principle would have to make sure that 1) the element of VAL|SUBJ is not an NP[*str*], 2) there are no NP[*str*] among elements of COMP-DTRS, 3) there are no duration adverbials on ADJ-DTRS;
- however, again, the problem of global constraints would be evaded.

4.2.3 CA as in Przepiórkowski (1996b, 1997a)

Does not work because adjuncts are not on ARG-ST.

4.2.4 Summary

The Finnish CA facts would be easier to model than in the approach of Pollard and Sag (1994), although this would still be (prohibitively) difficult:

- again, case assignment has to be tree-configurational (considered to be against the “traditional aversion within HPSG theory to tree-configurationally-based notions” by Pollard (1994));
- more importantly, the generalization reached by Maling (1993) would be lost again: instead of simply assigning the nominative to the first structural on a certain list and the accusative to all the other structural elements, the Case Principle would have to do quite a lot of unnecessary calculation.

4.3 Conclusion

I have shown that no combination of the existing HPSG accounts of modification (i.e., adjuncts via Head-Adjunct Schema of Pollard and Sag (1994) and adjuncts as sisters to complements by Kasper (1994)) with the existing approaches to case assignment (i.e., strictly lexical by Pollard and Sag (1994), configurational by Heinz and Matiassek (1994) and others, and non-configurational by Przepiórkowski (1996b, 1997a)) can elegantly account for the case assignment to adverbials data from Finnish (and, by extension, other languages). Although, technically, there are ways of saving these accounts, the price to be paid is prohibitive: loss of linguistic insights and non-negligible complexity of such an account.

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