

CHAPTER 10

Pseudoarguments and pseudocomplements

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To what extent, and in what sense, transformations hold meaning constant is a matter for investigation; but enough is known to make transformations a possible tool for reducing the complexity of sentences under semantically controlled conditions. (Zellig S. Harris 1957:340)

1. The problem of predicate–argument structure

Many attempts have been made to define the argument structure of predicates on semantic grounds. On the whole, such attempts have only been partially successful. Sometimes it seems clear that a predicate is complementary in the sense that it needs an extra term for it to make sense. An example is the predicate *build*: one cannot build without building something, which makes it look reasonable that the predicate *build* requires, besides a subject term, also a direct object term. The same goes for predicates like *be called*. One cannot be a name-bearer without there being an actual name: *I am called* is nonsense, but *I am called Pieter* is true. And an adjective like *worth* says very little about an entity to which it is applied unless it is specified what or how much the entity is worth. Yet a similar adjective like *tall* can be used absolutely of an entity, as when we say that Mount Everest is tall, even though it is not specified how tall the entity is. Both *worth* and *tallness* require measures or degrees, but the adjectives *worth* and *tall* differ in their conditions of use in that the former cannot, but the latter can, be used absolutely, without the required complementary term. The problems quickly accumulate. Consider the predicate *sit*. One cannot sit without sitting on something. Yet *sit* is rightly considered to be an intransitive verb, and the thing one sits on is denoted not by an argument term but by an adjunct of place.

As will be made clear more explicitly below, the term *adjunct* is used here for the surface structure realization of what are considered to be *adverbial operators*

in the semantic structure of sentences. Semantically, a sentence is considered to consist of a *lexical matrix*, which contains the main predicate (verb) and its argument terms, in the scope of a number of *operators*. An operator is 'abstract' predicate (i.e. specified in the lexicon as belonging to a word class that cannot function as a surface predicate) which takes an S-structure as subject term. This S-structure is its *scope* (see (9) below). The semantic function of an operator is, roughly speaking, to impose restrictions on the range of situations for which its scope, which always includes the matrix-S, is to be taken to hold.

An operator is *adverbial* just in case its surface realization is an adverb(ial particle) or PrepPhrase. Languages differ greatly in the way operators are realized in surface structure. For example, the word *just* is considered an adjunct in the English sentence *John has just left*, but not in its French equivalent *Jean vient de partir*, where *vient de* is part of the auxiliary verbal complex. And within English itself, the word *necessarily* is an adjunct in, for example, *That isn't necessarily true*, but *have to* belongs to the auxiliary verbal complex in the synonymous *That doesn't have to be true*. It is assumed, in this analysis, that operators are marked for their surface category in the underlying semantic structure that is input to the grammatical transformations.¹

Sometimes one finds an interesting tension between adjunct and argument status. Some English verbs have *prepositional objects*, which may become the subject of a corresponding passive sentence, as in (1a), but not in (1b):

- (1) a. The matter was dealt with by the manager.
b. *That day was left on by the manager.

In (1a) the main verb is clearly *deal with*, where the grammar must ensure that the preposition *with* is somehow placed over the object term (see (12) below). This is a clear case of a verb having a *lexically defined prepositional object*, which fits in naturally with the fact that *deal with* allows for passivization, as in (1a),

1. Superficially, the notion of operator used here differs from that adopted by Harris in, for example, (Harris 1978, 1981:412–435, 1982). In fact, however, there is a great deal of similarity. Whereas Harris speaks of operators in a more general sense as functions from expressions to expressions, they are defined here in a more restricted way as functions from S-expressions to S-expressions. Remarkably, Harris (1978:12, 1981:404) comes to the conclusion that "the only word classes needed for arguments are *N* [i.e. nominal; PAMS] or *O* [i.e. operator, for McCawley-Seuren: embedded S; PAMS]". This is precisely the conclusion reached by McCawley (1972:516–517) and Seuren (1985:113, 1996:25) with respect to the syntax of underlying semantic analyses.

with its stranded preposition *with*. However, matters are not always that perspicuous. Under certain conditions, English allows for passivization of prepositional objects whose argument status is less clear, as in (2a). The conditions under which such prepositional passivization is possible are not very well known, but it seems that a notion of cognitive 'distance' between what is specified in the PrepPhrase and what is specified in the main matrix clause plays a decisive role. Time adjuncts are apparently more distant from the matrix clause than adjuncts that have an intrinsic connection. Consider, for example, the following two sentences (the exclamation mark indicates pragmatic deviance):

- (2) a. This bed has been slept in.
 b. !This town has been slept in.

Clearly, the relation between sleeping and beds is as close as can be, much closer than that between sleeping and towns. Let us assume that this difference is expressed grammatically by the speaker's decision to treat the cognitively close adjunct *in the bed* as a 'low' operator, i.e. directly above the matrix-S. This very 'low' operator may be reinterpreted as being part of the matrix-S. In that case it is treated grammatically *as if it were a lexically defined prepositional object*, thus allowing for passivization. Such 'mongrel' argument terms may be called *pseudoarguments*. A cognitively more remote adjunct, however, like *in the town* in (2b) is treated as a proper adjunct of place that originates semantically as a 'higher' operator. Since a higher operator cannot be reinterpreted as if it were a lexically defined prepositional object and thus become a pseudoargument, it does not allow for passivization. The cognitive distance is then 'mirrored' in the grammatical distance. It will be shown below how this notion of grammatical distance can be made more precise.

Speakers determine the semantic rank, and thus the grammatical status, of phrases like *in the bed* and *in the town* on grounds of general knowledge and common sense. But a speaker may deviate from general common sense and decide to force a cognitive closeness between, for example, sleeping and towns. This has happened in (2b), which is not ungrammatical but only pragmatically deviant, insofar as the speaker has apparently decided that, in this case, the relation between sleeping and towns should be depicted as being as close as possible. Here the operator *in the town* has been placed just above the matrix-S, which has made it possible to treat it as a pseudoargument so that passivization is licensed. The result is a sentence that evokes the picture of a town whose streets have been messed up by, say, a garrison of soldiers that have spent the night there in tents or what not and have left behind a great deal of disorder.

In similar fashion, predicates or collocations that take on a metaphorical meaning may make a PrepPhrase change grammatical status. In (3a), for example, the verb *go* is interpreted literally, combined with a normal locative adverbial, which is too remote from the matrix clause to allow for passivization of the prepositional object. In (3b), however, the verbal collocation *go over* is naturally interpreted as a standard metaphor for dealing with an item on the agenda of a committee meeting. In that reading *go over* becomes a verb with a prepositional object as an object (pseudo-)argument that lends itself to passivization, just like *This matter has been dealt with*.

- (3) a. !The bridge was gone over by the soldiers in five minutes.
 b. The bridge was gone over by the committee in five minutes.

In general, it seems to be the case that we have at our disposal a number of reliable *necessary* conditions for argument status in relation to given predicates, but that we are still far removed from an adequate understanding of the *sufficient* conditions. That is, it looks as if all lexically defined argument positions express a function or role that is necessary for the predicate to depict a situation, but not all elements that are necessary for a predicate to do that are expressed as argument terms. Languages appear to have a certain freedom in this regard. *If this is correct, it means that even if we cannot determine that certain forms of semantic content must be expressed as an argument term, we can decide that certain forms of semantic content cannot be expressed as an argument term.* For if the semantic content in question is merely accidental to the relation expressed by the predicate, then, as a matter of principle, it cannot find expression as an argument term. This principle is important enough for it to be identified as the *Principle of the Exclusion of Accidentals* or PEA.

PEA seems to work reasonably well in the lexicon, especially with regard to nominal argument terms. If it turns out to be strictly observed by the languages of the world, it guarantees the exclusion of accidental semantic content from the argument frame of a predicate, but it does not guarantee the inclusion of nonaccidental semantic content. On the whole, this is what we find. Interestingly, however, PEA is sometimes violated, both in the *lexically fixed argument frame of predicates* and in the *grammatical assignment of argument status*. Such infractions of PEA do not seem to occur with nominal arguments but appear restricted to sentential argument terms. When this happens, we speak of *pseudocomplements*, a notion further elaborated in section 3 below.

However, before we pass on to pseudocomplements and the grammatical machinery required, let us play around a little more with nominal arguments. Verbs of giving, for example, require a beneficiary or else there can be no giving. Yet many languages do not express the beneficiary as an argument term (dative) but as a PrepPhrase or by means of a serial verb construction (SVC), as in some Creole languages (see (23d) below). The Romance languages have an obligatory PrepPhrase to express the dative, except with clitic pronouns, which occur in dative case. Some Creole languages use SVCs for datives, as has been said. English allows for either an argument term or a PrepPhrase, though the choice is not free for all verbs and those verbs that do have both constructions sometimes show subtle semantic differences. Green (1974: ch. 3) points out that verbs like *donate*, *give away* or *distribute*, for example, do not allow for an internal (argument term) dative but only for an external PrepPhrase with *to*:

- (4) a. I donated/gave away/distributed old clothes to the Salvation Army.
 b. *I donated/gave away/distributed the Salvation Army old clothes.

On the other hand, idiomatic expressions like *give a hug* only allow for internal datives:

- (5) a. She gave her sister a hug.
 b. *She gave a hug to her sister.

A semantic (though not truth-conditional) difference becomes manifest in cases like:

- (6) a. She wrote a letter to the Pope.
 b. She wrote the Pope a letter.

where (6b) evokes a relation of familiarity between the Pope and the letter writer, which is absent in (6a), where the relation is presented as formal.

The explanation is probably to be sought in the fact that entities referred to by means of a PrepPhrase tend to be accorded greater status and importance than those that are referred to by means of a canonical argument term. The difference stands out, for example, in otherwise symmetrical predicates like *shake hands with*. It is a widely known observation that (7a) will cause no surprise, whereas (7b) will make eyebrows go up owing to the importance the speaker implicitly accords to himself:

- (7) a. I shook hands with the Pope.
 b. The Pope shook hands with me.

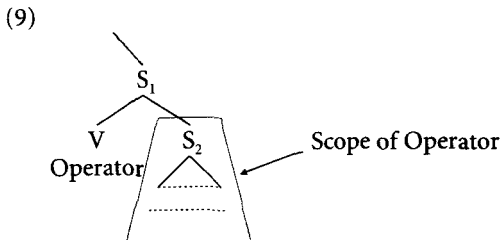
Likewise, while the active sentence (8a) sounds *normal*, (8b) may provoke some puzzlement:

- (8) a. John loves Africa.
 b. Africa is loved by John.²

2. Some grammar

2.1 An overall view

A deeper explanation of this striking phenomenon is provided if it is assumed that PrepPhrases originate in the semantic analysis (SA) as operators that contain the matrix-S (S^M) in their scope, in the following way. We express the operator-scope relation in SA as a tree structure of the form (9), where S_1 may have a second NP or S argument following S_2 , and where S_2 may again consist of a v [Operator] and an embedded S, so that the structure is recursive. We assume a *left-peripheral position* for V (McCawley 1970), which is therefore followed by its argument terms. (Surface V-final languages are represented at SA-level with right-peripheral V.)



2. Harris attributes the difference illustrated in (8) to the past participle affix *-en/-ed* having “approximately the same semantic and descriptive relation to some such completive word as *state*” (1981:401) and to “the fact that the likelihood of making a passive for particular words depends on the likelihood of having an operator such as *state*” (1981:433). That is, Harris treats the subject term in sentences whose main predicate contains a past participle as being in some way said to be in a state defined by the participial construction. I find it hard to follow Harris in this regard. My reluctance to accept his account is based on two grounds. First, the subject-predicate debate, which raged in linguistics from about 1850 till 1930 (Seuren 1998: 120–133), has shown that the grammatical notion of subject cannot be

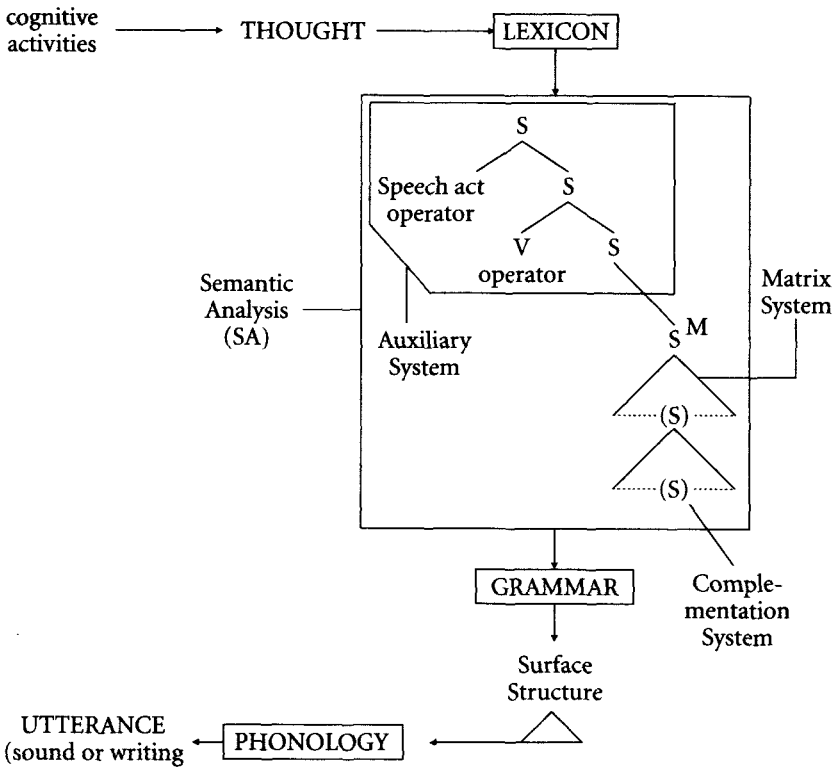


Figure 1. The architecture of a mediational top-down grammar

Languages have many different operators, all taking at least S^M in their scope, and thus occurring above S^M in the SA-tree. The upper part of the tree, which contains the operators, is called the *auxiliary system*, as opposed to the *Matrix System*, which looks at S^M , and the *Complementation System*, which deals with embedded subject and object clauses.

The overall architecture of a grammar of a natural language as envisaged here (for details see Seuren 1996) is shown in Figure 1. It follows the principle expressed in the quote from Harris (1957) heading this article. In this concept,

equated with any coherent semantic notion. Moreover, the account proposed here, based on the notion that entities mentioned in operators are assigned greater importance than entities mentioned as argument terms, has greater generality, as appears from exx. (6) and (7), which contain no passives or past participles (in (6) not even a subject term is involved).

it is assumed that the grammar mediates between thoughts and sound or writing by transforming semantically defined deep structures into surface structures. For that reason we speak of *Mediational Grammar*. The system is presented in a top-down fashion, since the bottom-up counterpart, the parser, is still in a rudimentary shape. A thought generated by a speaker (thinker) consists of a social commitment type plus a prelinguistic propositional structure that assigns a property to an entity. Given a thought, the speaker consults the lexicon of his language, where a search is carried out for the most appropriate lexical predicate available for the expression of the cognitive content contained in the thought. Some lexical items will be 'abstract' in that they do not appear as such in the surface structure for lack of a phonological specification. Other items are, as such, manifest in surface structure. The result will be an SA-structure, consisting of an auxiliary system containing operators of various kinds (including a speech act operator, not further discussed here), an S^M , and, optionally, one or more complement clauses.

In most languages, tense operators are obligatory (some languages, like Chinese, are perhaps best analysed without obligatory tenses). Other operators define modalities, place, circumstance, reason, duration, etc., mostly in the form of surface adverbials, i.e. adverbs or PrepPhrases. Quantifiers likewise function as operators, and so do negation, conjunction, and disjunction. The standard procedure for the operators of the auxiliary system is for them to be incorporated into S^M by means of the operation Lowering.

Operators are given the status of predicate (V), as they are always interpretable as expressions that assign a property to an entity, and because it simplifies and unifies the grammatical processing (McCawley 1972). The tense predicates and adverbials assign temporal and other properties to propositional objects.³ Quantifiers assign quantitative higher order properties to (pairs of) sets.

Finite clauses standardly contain two tense operators, the finite tense operator V_{11} , e.g. PAST, and the nonfinite tense operator V_{12} , e.g. SIM (=simultaneous). The combination of PAST and SIM yields what is traditionally called

3. The ontological status of what are called here 'propositional objects' is a complex philosophical question. The term 'propositional object' is used here as equivalent to the extension of a proposition p , which is (nonstandardly) defined as the set of situations in which p is true, or the valuation space of p (see Seuren et al. 2001). Tense operators thus limit the valuation space of the argument proposition to certain time intervals, and adverbials impose other kinds of restrictions.

the simple past tense. V_{t1} can be filled by either PRES or PAST, V_{t2} by either SIM or PREC (=preceding). The four possible combinations of PRES/PAST and SIM/PREC yield the four tenses of the English tense system:

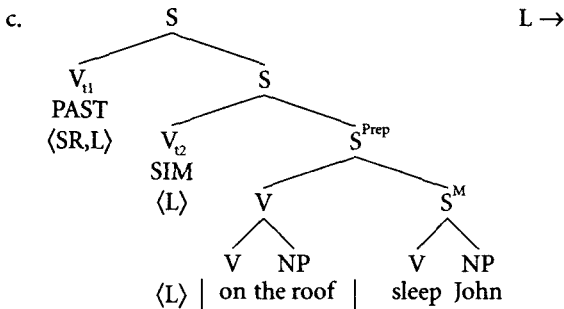
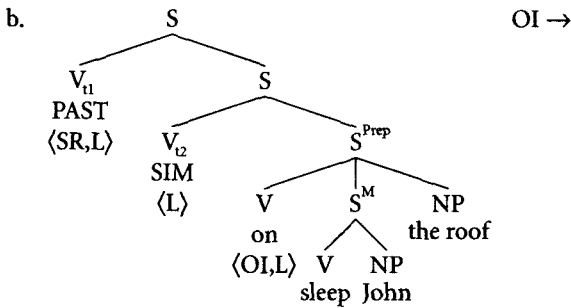
- PRES + SIM → simple present (I walk)
- PAST + SIM → simple past (I walked)
- PRES + PREC → present perfect (I have walked)
- PAST + PREC → pluperfect (I had walked)

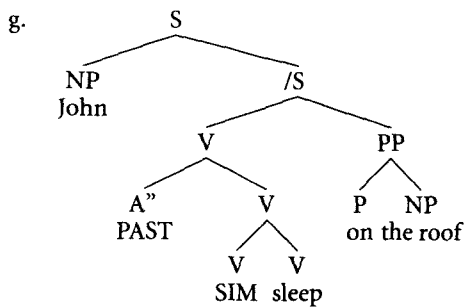
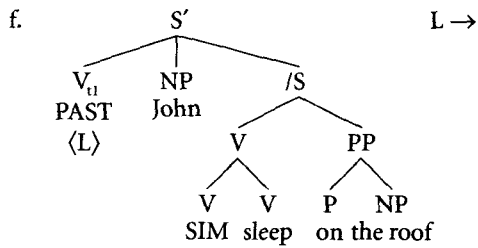
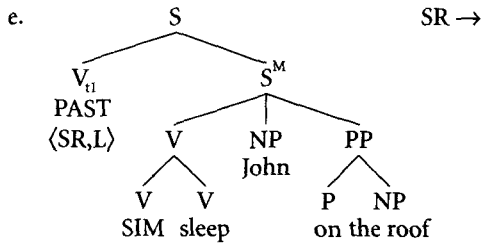
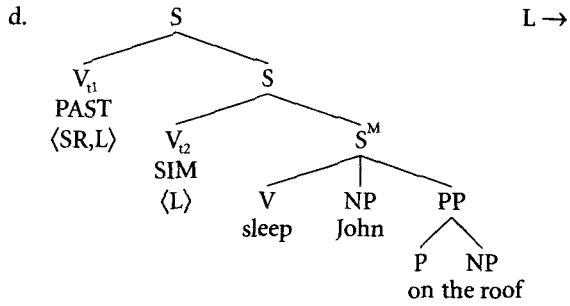
We shall, however, forgo a full discussion of the tense system, as it is not directly relevant in this context and would take up too much space. For some further discussion see Seuren (1996: 84–87).

2.2 Adjuncts, operators and (pseudo)terms

Let us now look in greater detail at prepositional operators. Consider sentence (10a), with its SA (10b) (the speech act operator has been left out):

(10) a. John slept on the roof.



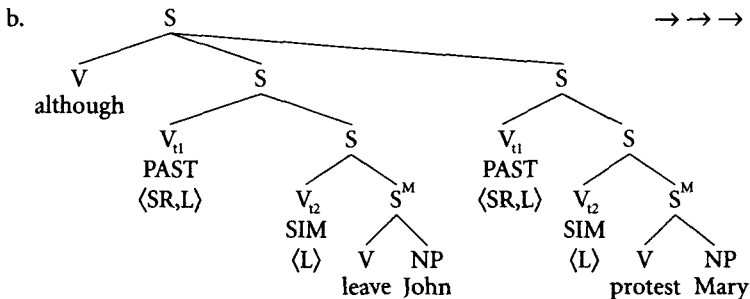


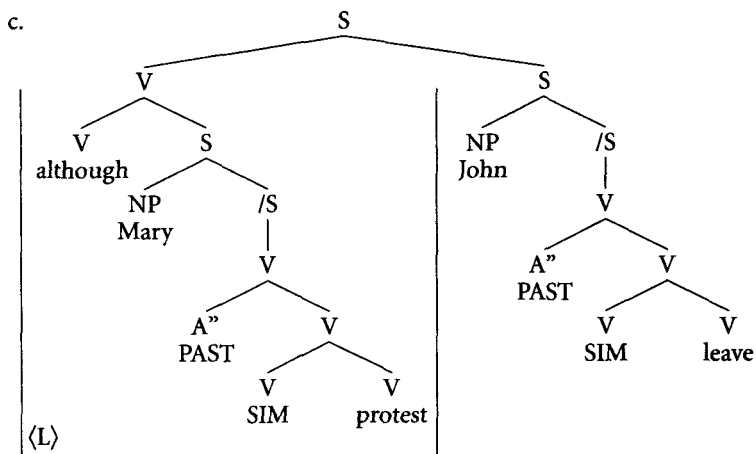
The SA (10b) is fed into the Grammar, where it first goes through the Cycle. The Cycle consists of rules that apply cyclically, i.e. it starts with the most deeply embedded S and works its way up through successive S-cycles until the top is reached. The rules to be applied, in so far as they are lexically defined for each predicate, are indicated in angled brackets for the predicate at each cycle. The first rule to be applied is Object Incorporation (OI). It takes the direct object of $S^{\text{Prep}}_{\text{NP}}$ [the roof] and adjoins it to the first commanding predicate v [on] to form a V-cluster, as in (10c). This V-cluster is then lowered into S^{M} in right-peripheral position by the rule Lowering (L), during which process the surface category labels PP (PrepPhrase) and P (Preposition) are assigned. The result is shown in (10d). Lowering of SIM on the S'' -cycle as in (10e), and Subject Raising (SR) and Lowering on the S' -cycle as in (10f, g) then give the surface structure (10g).

Note that S^{M} in (10e) is relabeled /S (i.e. incomplete S, or VP) in (10f). This is due to the general principle that any S that loses its subject-NP during the Cycle is demoted to /S (= VP). A second principle says that any S that loses its V during the Cycle is erased (no S without a V), all remaining material being united with the higher S in the order of occurrence. The postcyclic rules and the morphology will then produce the sentence (10a).

Adverbial subordinate clauses receive, in principle, the same treatment as PrepPhrases, although adverbial clauses tend to be placed higher up in the SA-tree. Consider sentence (11a), with the corresponding SA (11b). The conjunction predicate *although* takes two terms, a matrix subject term and a clausal object term, which again contains an S^{M} . Both are treated cyclically, and at the top cycle, where the two S nodes come together, the object clause is adjoined to v [although] to form the V-cluster shown in (11c). After that, the V-cluster is lowered as a whole into the subject matrix S, where it can land in left or right peripheral position. (11a) shows the right-peripheral option.

(11) a. John left, although Mary protested.



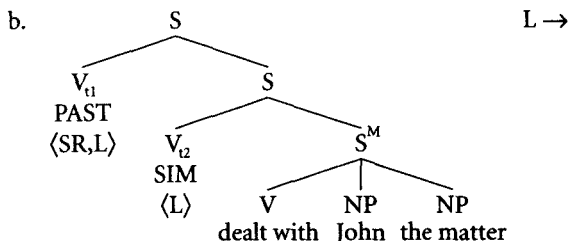


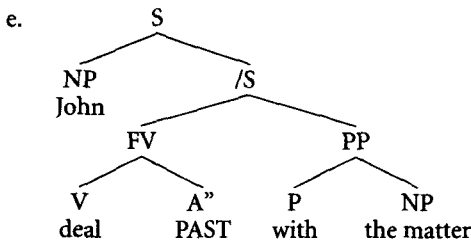
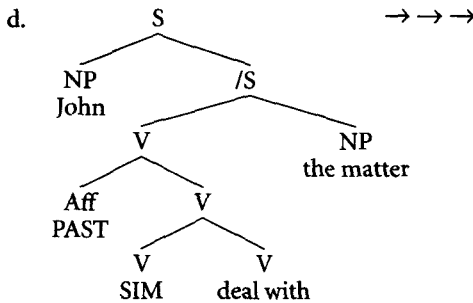
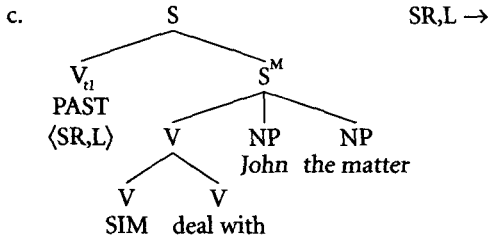
Right-peripheral Lowering of $v_l[v[\text{although}]_s[\text{Mary protested}]]$ leads to (11a), where *although* has been relabeled as a conjunction.

But let us now revert to the question that was raised at the end of Section 1: Why are entities mentioned in a semantic operator accorded greater status and importance than those that are referred to by means of a canonical argument term? Why should, for example, *to the Pope* in (6a) have a higher profile, in some not very clearly defined yet real sense, than *the Pope* in (6b)?

A similar question arises in connection with sentences like (2a,b), where passivization shows that the prepositional objects function as pseudoarguments, i.e. as if they were canonical argument terms. Apparently, the process of being turned into a pseudoargument is constrained by the condition that the pseudoargument should have a relatively low profile with regard to the matrix-S. Once a nominal object term occurring in an operator has become a pseudo-object term, the further grammatical treatment is analogous to that of (12a), which contains a genuine prepositional object:

(12) a. John dealt with the matter.





In the opening sentence of section 2.1 we spoke of 'a deeper explanation'. By this we meant that, as a matter of principle, a single argument term is semantically subordinate to a predicate–argument structure. This, one surmises, is so because a predicate–argument structure expresses a propositional thought that may be true or false and may be the object of a commitment or speech act operator, whereas an argument term is nothing but an element in a predicate–argument structure. When an S-structure S^n functions semantically as an argument term to a higher operator predicate in a higher S-structure S^{n-1} , then S^n is semantically subordinate to S^{n-1} . This may well explain why, as was observed by Steintal (1855:199), when we say *The patient slept well*, we usual-

ly mean to say that *the sleep of the patient was good*. And the negation *The patient did not sleep well* is normally interpreted as a negative comment on the quality of the patient's sleep, leaving the fact that the patient slept undenied. The manner adverb *well* is considered to represent an adverbial operator just above S^M , precisely like *to the Pope* in (6a), or *on the roof* in (10a), as shown in (10b, c). Likewise, a sentence like *Coffee grows in Africa* (Steinthal 1860: 102) will normally be used to say that the growth of coffee takes place in Africa, and its negation *Coffee does not grow in Africa* is a normal expression for the proposition that Africa is not where coffee grows.

For similar reasons, it is natural to assume that expressions like *by John* in (8b), or *with me* in (7b), or *to the Pope* in (6a) do not express terms but operators, hence predicates, and thus acquire a stronger 'profile'.⁴ Note also that the negations of these sentences:

- (13) a. Africa isn't loved by John.
 b. The Pope didn't shake hands with me.
 c. She didn't write a letter to the Pope.

are naturally interpreted as saying, respectively, that it is not by John that Africa is loved, that it is not me that the Pope shook hands with, and that it is not the Pope that she wrote a letter to (the negative sentence *She didn't write the Pope a letter* has that implication only with heavy accent on *Pope*).

2.3 Some notes on complementation

Let us now pass on to the Complementation System. In most cases the argument terms in S^M have the grammatical status of NP. However, the subject

4. Note that passivization of the prepositional object is excluded in (8b), which is already a passive, and in (7a,b), with the symmetrical predicate *shake hands* (symmetrical predicates preclude passivization), and also in (6a), whose passive would be *A letter was written to the Pope by her*. Note also that (8b) and (6a) may be taken to be instances of 'Argument Extraction', a process whereby, in the Semantic Analysis, argument material is lifted out of S^M and given the status of a (low) operator (Seuren 1996: 128–134), as a result of which the entity referred to takes on a higher profile. In English, this is a semantic option that makes for passives and external datives. Whether *with*-adjuncts to symmetrical verbs like *shake hands* (*with*), *meet* (*with*), or *agree* (*with*) can likewise be accounted for as the result of Argument Extraction from a coordinate structure subject term (*John and Harry shook hands/met/agreed*) is a matter for further investigation. In any case, it seems appropriate to assume that operators resulting from Argument Extraction cannot become pseudoarguments.

term and the direct object term, but never the indirect object term, may also be sentential. In that case the grammatical status is either S or NP-over-S, i.e. $NP[S]$. Such embedded subject or object clauses are called *complement clauses*, and, as has been said, their grammatical treatment is the Complementation System of the language in question.

In the European languages at least, complement clauses occur in six possible forms, as S' (i.e. with both tenses), S'' (with only V_{cl}), S^M , or as $NP[S']$, $NP[S'']$, $NP[S^M]$. Their standard surface realizations in English are shown in Figure 2.

$S' \rightarrow$ <i>that</i> -clause	$NP[S'] \rightarrow$ <i>that</i> -clause
$S'' \rightarrow$ infinitival	$NP[S''] \rightarrow$ participial
$S^M \rightarrow$ infinitival	$NP[S^M] \rightarrow$ participial

Figure 2. Six possible Complement-S-types

The English verb *believe*, for example, allows both for an embedded fully tensed S and for an embedded fully tensed $NP[S]$ in object position, both ending up as *that*-clauses. It also allows for an embedded S'' object clause, which ends up as an infinitival (*John believes Harry to be a linguist*).

The difference between embedded bare S and NP-over-S becomes grammatically manifest, for example, in S-anaphora: anaphoric S is *so*, as in *I believe so*, but anaphoric $NP[S]$ is *it*, as in *I believe it*. (Semantically, there is a difference in that the former is more appropriate for mundane belief-contents, whereas the latter is appropriate for major articles of faith.) For S' -embeddings it is likewise reflected in the grammatical status of the following sentences (Seuren 1996: 144–149):

- (14) a. $\sqrt{\text{Joe is likely to be ill.}}$
 b. $\sqrt{\text{It is likely that Joe is ill.}}$
 c. $\sqrt{\text{That Joe is ill is likely.}}$
- (15) a. $\sqrt{\text{Joe seems to be ill.}}$
 b. $\sqrt{\text{It seems that Joe is ill.}}$
 c. * $\sqrt{\text{That Joe is ill seems.}}$
- (16) a. $\sqrt{\text{Joe tends to be ill.}}$
 b. * $\sqrt{\text{It tends that Joe is ill.}}$
 c. * $\sqrt{\text{That Joe is ill tends.}}$

- (17) a. *Joe follows to be ill.
 b. $\sqrt{\text{It follows that Joe is ill.}}$
 c. $\sqrt{\text{That Joe is ill follows.}}$

The differences in grammaticality are explained without further ado if the following complementation types are ascribed to the predicates in question for their sentential subject term:

likely	(Adj)	Subj: $_{NP}[S']/S''$
seem	(Verb)	Subj: S'/S''
tend	(Verb)	Subj: S''
follow	(Verb)	Subj: $_{NP}[S']$

Note, moreover, that the predicates *likely* and *follow*, but not the other two, allow for NP-subjects generally, as in *John's departure followed/was likely*. Assuming now that the cyclic transformational rule Subject Raising (SR) applies whenever the structural conditions are met (see below), the facts of (14)–(17) follow automatically.

The Complementation System is characterized by a small number of cyclic rules that form its core and are regularly encountered in the languages of the world. We shall mention three of them. The first is Subject Deletion (SD), or, as it was called in the early days of Transformational Grammar, Equi-NP-Deletion. This rule deletes the subject of an embedded object infinitival clause (S'' or S^M), which therefore becomes $/S$, under conditions of referential identity with a controlling NP (usually the subject) of the commanding S^M . More relevant in the present context, however, are the rules of Subject Raising (SR) and Predicate Raising (PR).

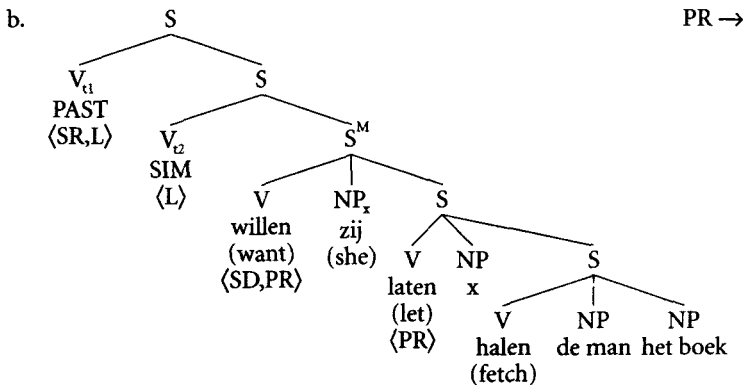
SR lifts the NP-subject of an embedded S'' or S^M , in either subject or object position, to the position of its own S , which becomes $/S$ and is shifted one position to the right. There are thus two varieties: Subject-to-Subject Raising, as in, for example, (14)–(17), and Subject-to-Object Raising, as in *She wanted him to leave*. The facts are well-known for English, but SR is typical for the complementation systems of many other languages as well. Thus Portuguese, Russian, most Caribbean Creole languages, Latin, Ancient Greek, etc. are SR-languages (in traditional grammar the term *Accusativus/Nominativus-cum-Infinitivo* is used for what is now called SR). In fact, the group of languages whose Complementation System is characterized by SR is numerous enough to speak of SR-languages as a typological class.

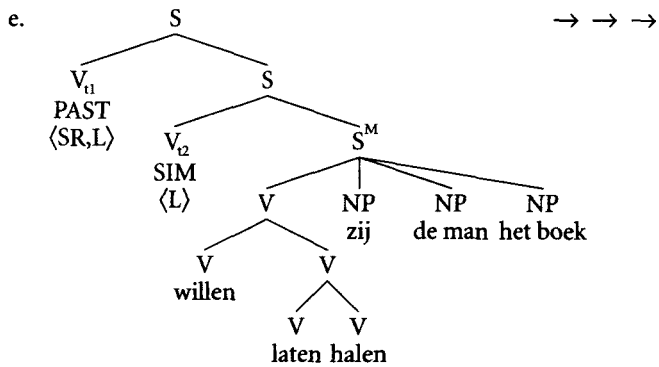
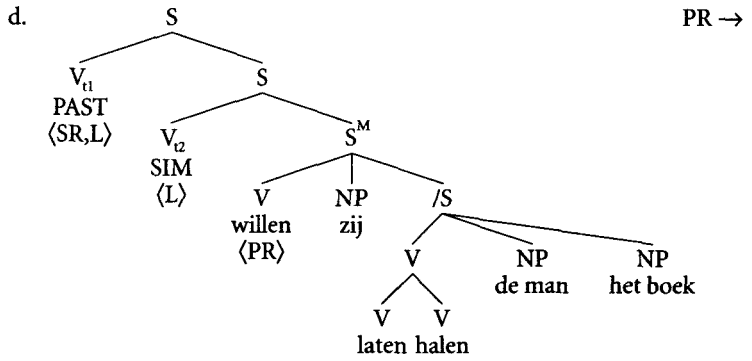
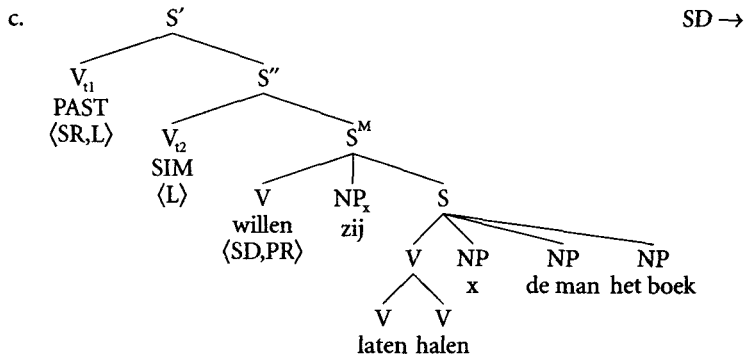
Note, however, that SR also occurs in the auxiliary system of NP-VP languages, where it is associated with V_{ti} , as shown in (10f) above. In general,

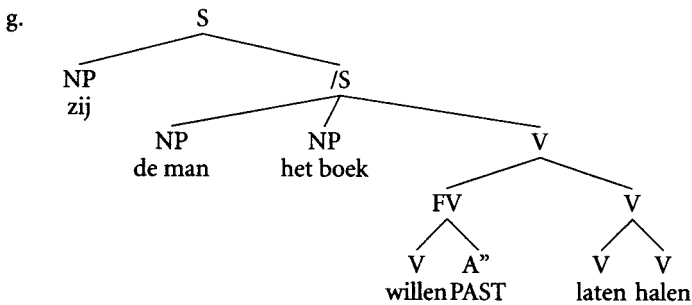
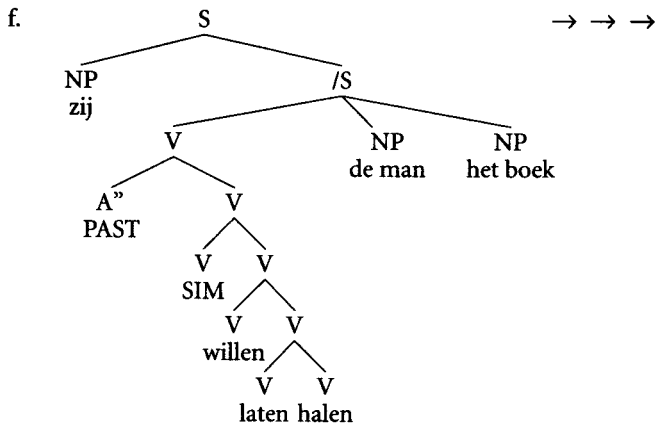
the cyclic rules may apply throughout the Cycle. Since, however, S^M is 'greedy' in that it incorporates elements from both the Auxiliary and the Complementisation Systems, the raising rules are typical of the latter, whereas lowering is typical of the former. It remains to be seen to what extent the rule system can be simplified by uniting the raising and lowering processes into one superordinate scheme.

The third cyclic complementation rule to be mentioned is Predicate Raising (PR), untypical for English, but a dominant rule in many other languages, such as German, Dutch, Icelandic, French, Italian, Luiseño, Turkish, Japanese, to mention a few. Just as we think we may speak of a typological class of SR-languages, we may speak of a typological class of PR-languages. PR takes the V-constituent of the embedded clause and adjoins it to the V of the S where the raising takes place. Repeated application of PR leads to complex V-clusters, as shown in the Dutch example (18), (it is customary to present Dutch and German example sentences in the form of subordinate clauses, since these preserve the unity of the V-clusters, whereas the V-clusters are cut up into two parts in main clauses):

- (18) a. ... *omdat zij de man het boek wilde laten halen*
 because she the man the book wanted let-INF fetch-INF
 "because she wanted to let the man fetch the book"





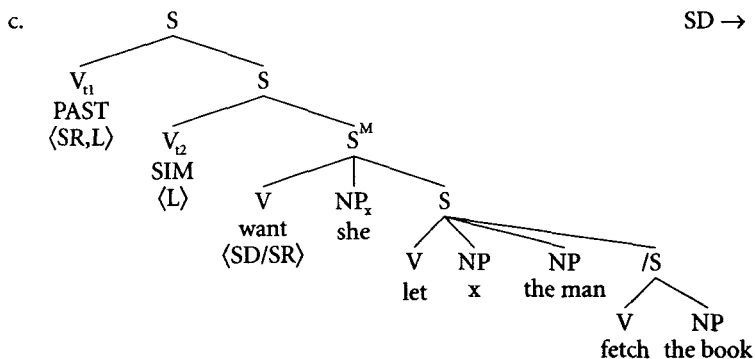
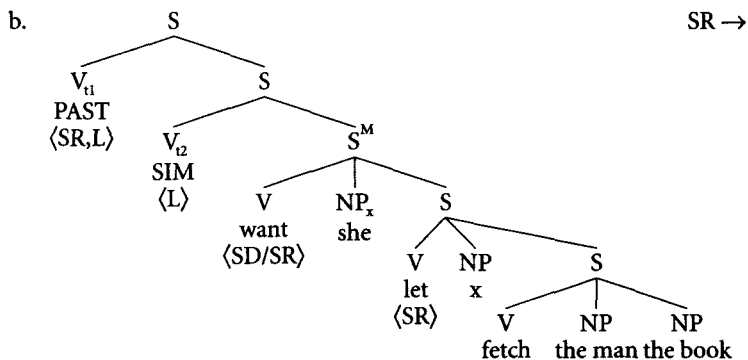


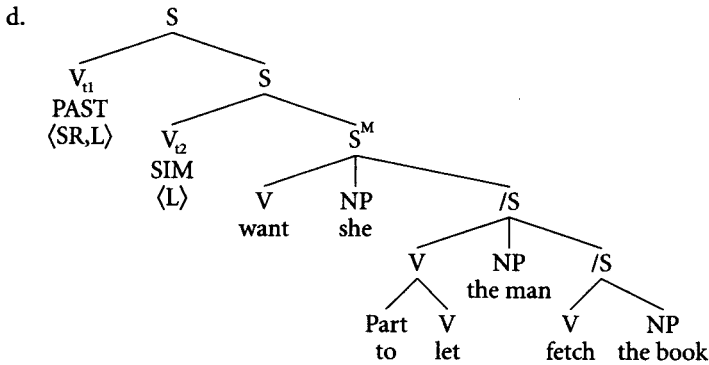
Cyclic application of PR to the SA (18b) gives (18c) (all raisings take right-attachment, resulting in a right-branching cluster). SD then deletes $_{NP}[x]$ in (18c), as the higher subject is referentially identical to the lower subject (the identity is marked by the pronominal use of $_{NP}[x]$). The dominating S is turned into /S, as shown in (18d). Renewed PR yields (18e), where all complement-Ss have disappeared as they have been incorporated into S^M . The auxiliary system now gives (18f), which is where the Cycle ends. Postcyclic treatment deletes $_{V}[SIM]$, unites $_{Aff}[PAST]$ with $_{V}[willen]$ into one finite verb form VF, and moves the entire V-cluster to the far right (as always in Dutch and German subordinate Ss). The result is (18g).

Note that, but for lexical differences and rule features, the SA (18b) is identical to its English counterpart (19b). The surface differences are caused exclusively by the rules associated with the various predicates. English *let* (in

the raising, not the control, version) takes SR instead of PR, and English *want* takes SD or SR, the former when the higher and lower subjects are referentially identical, the latter when the two are referentially distinct (as in *She wanted John to fetch the book*). The derivation of (19a), in bare outline, is thus as shown in (19b–d), where we take for granted the insertion of the particle *to* with *let* and leave out the auxiliary part, which is self-evident:

(19) a. She wanted to let the man fetch the book.



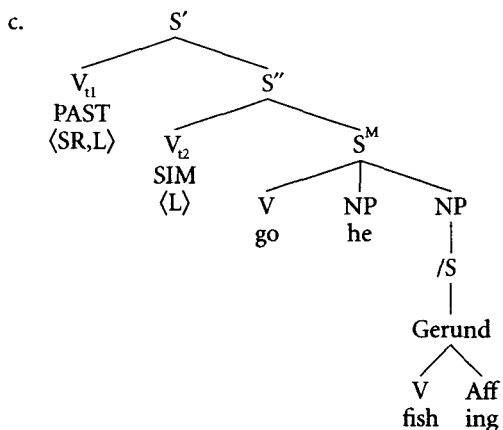
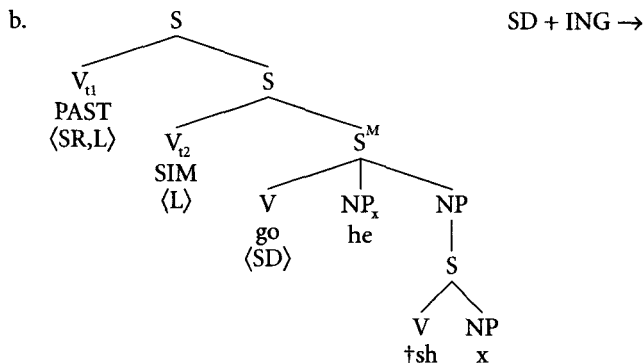


This much, incomplete and sketchy as it is, should suffice to enable one to capture the notion and the grammar of pseudocomplements, to which we now turn.

3. What is a pseudocomplement?

Let us return to the *Principle of the Exclusion of Accidentals* or PEA, mentioned above. It says that if the semantic relation of an entity e to the property expressed by the predicate P is merely accidental, then an NP referring to e cannot be an argument term of P . It was suggested that PEA is reliable for NP-arguments, and we will not try to undermine that suggestion. But we must make a serious reservation with regard to sentential arguments. For it does appear that predicates sometimes allow for object sentential complements that violate PEA. A simple case is the construction of the verb *go* with what is treated grammatically as an object-clause, as in (20).

(20) a. He went †shing.



The treatment of (20b) is transparent enough, if it is assumed that SD into an $NP[S]$ not only deletes the $NP[x]$ subject and turns the S into /S, but also adds an ING-affix and turns V into Gerund. In fact, there is no reason to treat (20a) in any way different from, for example, *He stopped fishing*, where *fishing* passes without any problem as an object clause.

In the SA (20b) *go* is given as a verb with an object $NP[S]$, even though what is expressed in this complement clause in no way satisfies a necessary condition for 'going' to take place. An event of going requires a subject term denoting the entity that goes, but it does not require a specification of the purpose of the event. Such accidental concomitants are normally expressed as

adverbial operators in the auxiliary system, and not as object clauses. They should be excluded by PEA, but, apparently, are not. The syntactic properties of *fishing* in *He went fishing* exactly match those of *fishing* in *He stopped fishing*. Treating *fishing* in (20a) as the surface representative of an adverbial operator in the auxiliary system would lead to considerable complications, making the grammatical system intolerably ad hoc, whereas treating it as a complement clause is syntactically without any problems (beyond those that exist anyway with regard to complement clauses).

The grammar thus puts the linguist under pressure to treat *fishing* in (20a) as a complement clause, even though the semantics of predicate–argument structures speaks against it. We note meanwhile that (20a) is not an isolated instance. Dutch offers many such examples, not only with the verb *gaan* (“go”), but also with verbs like *liggen* (“lie”), *lopen* (“walk”), *zitten* (“sit”), *staan* (“stand”). These are freely constructed with S-complements expressing an activity or a state, as in:

- (21) a. *Jan ging vissen.*
 Jan went fish-INF
 “Jan went fishing.”
- b. *Jan lag/liep/zat/stond te dromen.*
 Jan lay/walked/sat/stood to dream-INF
 “Jan was dreaming (while lying down/walking/sitting/standing).”

In all these cases, the literal meaning of the main predicate has been ‘bleached’: the verbs in question no longer literally mean “go”, “lie”, “walk”, “sit” or “stand”, respectively, but rather indicate a state of being, with only weak connotations of going, lying, walking, sitting or standing. The important point, however, is that in (21a,b) the finite verb forms a V-cluster with the infinitive due to PR (we remember that Dutch is a PR-language). This appears, *inter alia*, from clauses like those in (22).

- (22) . . . *dat Jan Marie de brief [liep te dicteren]*
 that Jan Mary the letter [walked to dictate-INF]
 “that Jan was dictating the letter to Mary (while walking).”

These are an exact match of cases where V-clusters arise as a result of PR applied to object clauses.

This shows with sufficient clarity that we have to do with clauses that are treated syntactically as object-complements, while, in virtue of PEA, the semantics of the predicates in question do not seem to allow for object clauses.

Such ‘spurious’ or ‘mongrel’ embedded object clauses are what we call here pseudocomplements. They express semantic content that is standardly expressed by means of an adverbial operator in the auxiliary system but has come to find a place as an object-complement. Accordingly, pseudocomplements express relations of purpose, concomitance, result, and the like.

The well-known serial verb constructions (SVCs), found, for example, in Chinese, Thai and many West-African and Creole languages, fit directly into this picture (Seuren 1990). Consider the following examples (the serial verbs are in bold):

- (23) a. *Sùk ?aw máy **maa** bāan.*
 Sook take wood come house
 “Sook brought the wood home.” Thai (Schiller 1990)
- b. *wǒ ná nèi-bǎn shū **gěi** le tā.*
 I take DEM-CL book give PERF him
 “I gave him the book.” Chinese (Kortlandt 1998:171)
- c. *Kofi fringi a tiki **fadón** naki Amba.*
 Kofi fling the stick fall hit Amba
 “Kofi threw the stick at Amba.” Sranan (Sebba 1987:129)
- d. *Kòkú pòte **kgab** ale nā mǎše.*
 Koku bring crab go to market
 “Koku brought a crab to the market.” Haitian (Lefebvre 1986:290)
- e. *A man seri a buku gi a pikin.*
 the man sell the book give the child
 “The man sold the book to the child.” Sranan

All such sentences are generated without a problem when it is assumed that the main verb in S^M has taken a pseudocomplement-S with an $NP[x]$ subject term which is deleted by SD under referential control by a higher argument term. $NP[x]$ is controlled by the higher object term in (23a, c, d), and by the higher subject in (23b, e). Note that (23c) contains two SVCs, a higher one with the verb *fadón* (“fall down”), which again embeds an SVC with the verb *naki* (“knock, hit”). Note also that the serial verb for “give” in (23b, e) fulfills the function of a prepositional dative: “to the child/him”. Yet it does not originate as a higher operator but as an embedded pseudocomplement.

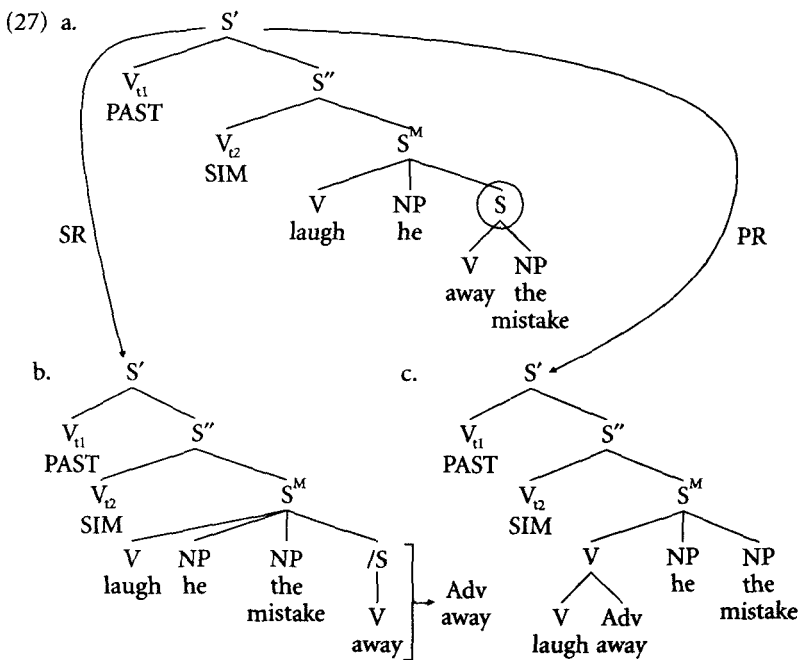
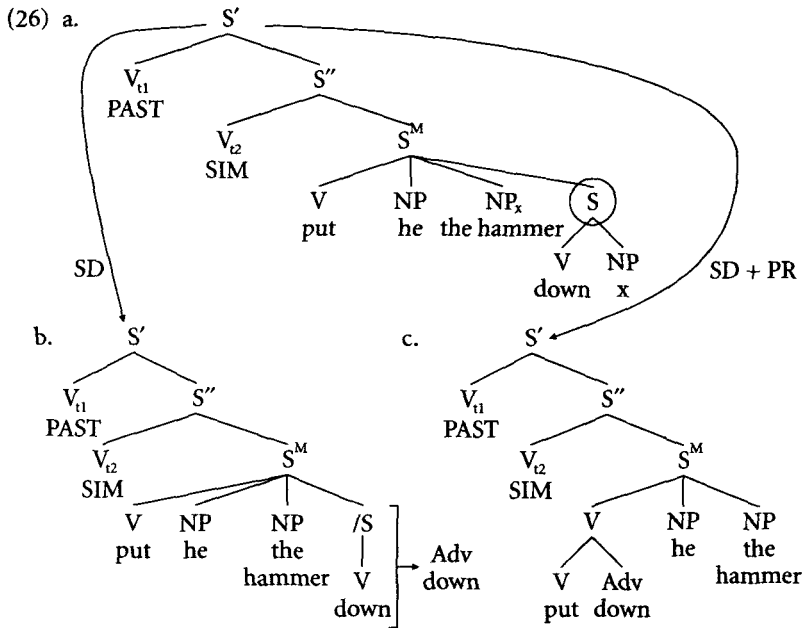
Interestingly, in many serializing languages, SVCs containing verbs of giving or going (as in (23a, b, d, e)) are in due course reanalysed as PrepPhrases

with the verb of giving or going reinterpreted as a dative or directional preposition, respectively. The fact that this does not happen with other verbs, such as those of falling or hitting, as in (23c), tells us something about the general property of language to encode certain semantic relations as prepositions but not others. Where to draw the line is a question that has, to my knowledge, not been investigated so far. In fact, the question has hardly arisen in linguistic theory, owing to the fact that it has not been customary to treat prepositions as semantic predicates.

The decision to treat prepositions as predicates also sheds a new light on English resultative (quasi-)clauses that do not contain a verb but an adverb, PrepPhrase or an adjective, as is illustrated in (24) and (25):

- (24) a. He put the hammer down.
 b. He put down the hammer
 c. He wiped the tears off his face.
 d. He painted the door blue.
 e. *He painted blue the door.
- (25) a. He laughed the mistake away.
 b. He laughed away the mistake.
 c. He talked the invader out of the room.
 d. He laughed himself silly
 e. *He laughed silly himself.

While SVCs always instantiate a control structure, with the $NP[x]$ subject deleted by SD, English has both control and raising structures in nonverbal pseudocomplements. (24a–e) show control structures, while (25a–e) show raising structures. (26a) shows the putative SA for (24a, b); (27a) for (25a, b) (the pseudocomplement-Ss have been circled):



(24a) is generated by the application of SD to the pseudocomplement; (24b) by the application of both SD and PR. It appears that PR, resulting in a complex V, is productively allowed in English only with pseudocomplements that have an adverbial predicate (like *down* or *away*). Otherwise, only SD is allowed, as in the control structures (24c, d), or only SR applies, as in the raising structures (25c, d). Thus, SR applies in the raising structure (27a), giving (27b), but PR may apply alternatively, giving (27c). Note that this account, if viable, replaces the traditional analysis in terms of the ad hoc rule of ‘Particle Hopping’ with one based on independently motivated rules and principles.

As predicted, (24c) is the result of simple SD, with $NP[x]$ deleted under control of the higher object term *the tears* in the pseudocomplement structure $s_{[V[off] NP[x] NP[his\ face]]}$, giving first ${}_s[V[off] NP[his\ face]]$, and then, by re-categorization, ${}_{PrepPhr}[Prep[off] NP[his\ face]]$. Analogously for (24d), with the adjectival predicate *blue*: $s_{[V[blue] NP[x]]} \rightarrow {}_s[V[blue]] \rightarrow {}_{Adj}[blue]$. (24e) cannot be generated, as PR is not permitted with an adjectival predicate in the pseudocomplement.

Note that the Dutch equivalent of (24e), i.e. with PR and far-right movement of the V-cluster, is the only admissible form:

- (28) ... *dat hij de deur blauw verfde*
 that he the door blue painted
 “that he painted the door blue”

Here, the word group [*blauw verfde*] forms a V-cluster with the adjective *blauw* as a nonverbal element. This appears from the fact that nonverbal elements in Dutch V-clusters cannot occur at the bottom end of a V-cluster but must move upward, and that in moving upward they can take any position in the cluster, even at the top, but not outside the cluster. Thus Dutch has:

- (29) a. ... *dat hij de deur V[had moeten kunnen blauw verven]*
 that he the door had must-INF can-INF blue paint-INF
 “that he should have been able to paint the door blue”
 b. *dat hij de deur V[had moeten blauw kunnen verven]*
 c. *dat hij de deur V[had blauw moeten kunnen verven]*
 d. *dat hij de deur V[blauw had moeten kunnen verven]*

All of these mean the same. By analogy, one concludes that [*blauw verfde*] in (28) also forms a V-cluster, which can have resulted only from PR, the standard raising rule for Dutch.

3.1 Matrix Greed

Assuming that the analysis given above is viable or perhaps even correct, the question arises of the general rationale behind the whole system. This is a second order question, which can only be sensibly posed after a satisfactory analysis has been presented, but in that case it does present itself inevitably. This question is part of the general question of why humans do not speak in the language of Semantic Analysis, why the transformational machinery of the grammar appears to be a necessity. This question has so far not found a satisfactory answer, not least because we have no clear idea of the functional demands imposed on language for its smooth and proper functioning among speakers. I will, therefore, not try to answer that question here. But a less ambitious question can perhaps be formulated and answered.

If one tries to detect overall trends or tendencies in the grammatical machinery, one thing stands out clearly. The structural frame of a sentence is, on the whole, determined by the main lexical predicate and its argument terms, in other words, by what we have called S^M , the matrix-S, in the SA of sentences. Both the Auxiliary and the Complementation Systems shrink or disappear as they are, to some extent, swallowed up by S^M , which gets fattened. This appears to be a clear overall tendency in the grammatical systems of all languages. We call it Matrix Greed.

As we have seen, it is typical for the elements in the auxiliary system to be lowered into S^M . Likewise, in nonfinite complement-Ss, subject terms disappear or are incorporated into S^M by SR, or else the embedded V is adjoined to the higher V by PR, and the remaining material of the complement-S is amalgamated with S^M by unification. We have seen, moreover, that prepositional operators that are close to S^M in SA can, under certain conditions, be turned into pseudoargument terms, forming prepositional objects that are open to passivization. What we see in the case of pseudocomplements looks very similar: what should be a subordinate clause originating as an operator turns up, in some languages, as a spurious object clause, which is then processed as if it were a normal complement clause. Unlike the 'high' subordinate clause introduced by *although* in (11) above, pseudocomplements always seem to represent very 'low' operators, as close to S^M as is possible. This being so, one wonders whether the phenomena illustrated in section 1 above could not be seen as the *nominal* part of a more general manifestation of Matrix Greed. The principle of Matrix Greed would then be seen as allowing, under both language-specific and universal conditions, 'low' prepositional and clausal

operators to be incorporated into S^M as pseudoarguments. Pseudocomplements would then represent the *clausal* part of the same phenomenon.

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