‘Small Clause Results’

Teun Hoekstra

bron

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Small clause results

Teun Hoekstra

Department of General Linguistics, University of Leiden, The Netherlands

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1. Introduction

This paper discusses resultative constructions of the type ‘He washed the soap out of his eyes’. The questions we are interested in are the following:

- what determines the distribution of this particular construction?
- how is the construction to be analyzed?
- how can the interpretation be accounted for?

What makes this type of construction interesting is that, unlike in simple transitive constructions, we cannot assume that the complementation is lexically determined. In ‘John washed his car’ we may say that wash lexically selects an internal theme argument and that the complement his car is licensed by virtue of this lexical property. In contrast, the licensing of the complement structure in the resultative construction should be determined by general principles. It thus provides a serious challenge to every theory of grammar.

We shall argue that explanatory answers to the questions raised above can be derived from the principles of government-binding theory. The properties exhibited by the construction under consideration thus follow from universal principles, and hence do not require language specific stipulations. A caveat is in order here. The fact that the properties of this construction are determined by universal principles does not imply that the construction itself is a

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universal phenomenon which is found in every language. As is the case with other
descriptive categories (e.g. passive), its occurrence and its distribution are the result
of an interplay of several components of the grammar. Variation at the
phenomenological level may result from parametric differences with respect to some
component of the grammar.

The paper is organized as follows. In section 2 we discuss a number of notions
from the theory of government-binding which are of central importance to the rest
of the argument. Section 3 is the heart of the paper, in which an analysis of resultative
constructions is developed and alternative analyses are evaluated. Sections 4 and
5 provide further support for this analysis. They are devoted to resultatives in
construction with process denoting verbs and ditransitives, respectively. Section 6
summarizes our findings.

2. Some aspects of GB-theory

This section recapitulates some of the main changes that have taken place in the
theory of generative grammar. It thus provides the background for our discussion
of resultative constructions. Specifically, we want to review the reduction of the base
component, the notion of small clause, and the treatment of ergative verbs.

2.1. No phrase structure rules

In earlier versions of generative grammar, D-structures were generated by means
of category-specific phrase structure rules. Let us illustrate this approach by means
of the PS-rule specific for the generation of the verb phrase in Dutch. This
exercise provides some background in Dutch syntax at the same time. Consider
the following examples¹:

(1)
no complement
  dat hij lachte
  that he laughed

(2)
single complement I

(a) een boek lezen
    a book read

¹ Full clausal structures are given in their subordinate variant, in order to undo the disturbing
effect of V-second which operates in Dutch main clauses.

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These examples do not exhaust the complement possibilities of verbs in Dutch. We have left out the Dutch V-raising construction and particles. We return to the particle construction below. Verb constructions as those listed in (1)-(5) have given-rise to PS-rules expanding the category V' such as the one given in (6) (cf. Jackendoff (1977)).

(6) $V' \rightarrow (NP) (NP) (PP) (AP) V (S')$
A rule such as (6) is clearly inadequate in several respects (cf. Hoekstra (1984: ch. 2) for extensive discussion). Apart from the fact that the rule is stipulatively in nature and hence non-explanatory, it suggests complement possibilities which are not exploited and most probably for principled reasons. Some of these reasons are discussed below. The way in which I have presented the various complementations to V in (1)-(5) orders the available possibilities to some extent. A distinction is made between (2)-(3) on the one hand and (4)-(5) on the other. Let us concentrate on the difference between the examples in (2) and those in (4): in both cases, the verb can take a single NP or PP. However, while the NP and PP in (4) can be regarded as predicates, those in (2) cannot. They are arguments. The same holds for the complements in (3): the two phrases that serve as complements to the verb are arguments. Let us refer to the V-constructions in (2)-(3) as ‘argument VPs’ (AVP). In (5), the verb is combined with one predicative complement and an NP. Apart from the NP, then, these V-constructions are identical to the V-constructions in (4). Let us refer to these VPs as ‘predicative VPs’ (PVP). (6) can then be replaced by two simpler rules:

(7a) AVP: (NP) (NP/PP/S’) V
(7b) PVP: (NP) (AP/NP/PP) V

Although I shall not explore the difference between predicative phrases and argument phrases very deeply, leaving the distinction mainly at the intuitive level, the following remarks should be made. In Dutch, an argument PP may freely occur on either side of the verb, whereas a predicative PP complement may only precede the verb. The distinction between these two types of PP is thus at least grammatically motivated. The distinction between argument NPs and predicative NPs is clear in those languages in which the predicative NP is Case marked under agreement with its notional subject (i.e. the predicative NP in (4) would receive nominative Case, whereas the one in (5) would receive the Case which is also assigned to the NP complement, usually the Accusative). A further argument that supports the distinction is more indirect. Some verbs select predicative complements that may be of different categorial value, e.g. the verb consider selects a predicate that may either be NP (‘consider him an idiot’) or an AP (‘consider him lucky’). Since APs are predicative by nature, it seems reasonable to assume that the NP complement that alternates with an AP is functionally predicative as well. These arguments suffice for the present to motivate the distinction that I have made in (7).
We may now ask which information that is contained in the rules in (7a) and (7b) is primitive, i.e. needs introduction by means of rules such as (7). The rule in (7a) expresses three things: the number, the categorial type and the relative order of argument complements. It is well-known that the information concerning the number and nature of complements is redundant in a PS-rule, as it essentially repeats information that is available (e.g. in the form of a subcategorization feature) in the lexical representation of individual verbs. The introduction of the Projection Principle in Chomsky (1981) ensures that subcategorizational requirements are obeyed. Hence, this type of information is superfluous. Information regarding the order of complements may not seem redundant, but the way it is expressed in PS-rules is rather unsatisfactory from an explanatory point of view. Moreover, the particular statement in (7a) is inadequate, as we noted above, since PPs may also follow the verb. Hence, the ordering of categories should derive from general principles. The following principles would seem to induce precisely the situation found in Dutch:

(8a) NPs must occur in a Case marked position  
(8b) S’ may not occur in a Case marked position  
(8c) V assigns Case to the left in Dutch

From (8a) it follows that NPs must precede the verb, given (8c). The obligatory postverbal occurrence of S’ follows from (8b). 2 Nothing is said about PP, hence their relative order is free. This is what we find in Dutch.

We may therefore conclude that (7a) is unmotivated and may therefore be eliminated from the grammar. Can the same be said about (7b)? We shall give a positive answer to this question in the following section. Given that (7b) can also be dispensed with, the same holds for (6), i.e. we may conclude that a PS-rule is not required to describe the properties of possible V’-structures. Stowell (1981) has argued that the conclusion holds more generally, suggesting that PS-rules can be removed from the grammar in toto. The descriptive content of these rules is derived from more general principles such as directionality of Case assignment. Variation between languages can be regarded as different settings of parameters in these principles, such as the directionality parameter in Case assignment.

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2 The claim in (8b) is similar to (part of) Stowell’s (1981) Case Resistance Principle. As a matter of fact, the claim as it stands is wrong, cf. Hoekstra (1984) for discussion. For our purposes here, (8b) will suffice.

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2.2. Small clauses

Let us now turn to the rule in (7b), and investigate from which principles its descriptive content can be derived. The rule stipulates that a V-construction with a predicative expression of different syntactic categories optionally takes an NP-complement as well. In this section we shall concentrate on those constructions in which such an NP is present, i.e. on examples such as those in (5), turning to the constructions in (4) in section 2.3. The first relevant observation is that the NP-complement is the semantic subject of the predicative complement. If it is assumed that a semantic subject must c-command its predicate (cf. Williams (1980)), the fact that the non-predicative complement is not a PP follows from this c-command requirement. APs are intrinsically predicative, and hence cannot be subjects. This leaves us with the categories S’ and NP. Given the statements in (8a) and (8b) it follows that S’ may not occur in this position because NP is allowed. We thus arrive at the conclusion that NP is the only candidate.

We shall go one step further, however, a step to which we are in fact forced by a strict interpretation of the Projection Principle of Chomsky (1981). As we noted above, the NP functions as the semantic subject of the predicative expression. This entails that the NP is not an argument of the verb, but rather of the predicative expression. A consequence of the Projection Principle is that each complement of the verb is an argument of the verb. Hence, interpreting the Projection Principle in its strictest sense, we must assume that the NP and the predicative expression form a single constituent which functions as an argument of the verb. This type of constituent is commonly referred to as Small Clause (henceforth SC).

The notion of Small Clause was proposed in Stowell (1981), but essentially recalls Jespersen's notion of nexus. The SC-analysis postulates a syntactic counterpart to this semantic subject-predicate relation. A further question concerns the categorial nature of this constituent. If subject is defined as [NP,S], as in Chomsky (1965), this constituent should be S. Stowell suggests, however, that the definition of subject should be generalized across categories, e.g. as [NP,X^max]. If we take S to be a projection of V, the traditional [NP,S] definition would constitute just a single instance of this more general definition with X taken as V. For the purposes of this paper nothing hinges on the choice between these two analyses of SCs, although the definitions of some of the notions involved will depend on this choice. For reasons of simplicity, I shall adopt Stowell's conception of SCs.³

³ In a recent article, Hornstein and Lightfoot (1987) argue in favour of an analysis in which SCs are non-maximal projections of an abstract INFL element. They adopt the Aoun & Sportiche (1983) definition of government to ensure that the subject of the SC is governed from outside. Although the analysis may be right to the extent that the categorial status may be INFL, the claim that the SC is a non-maximal projection is not reconcilable with Chomsky (1986b), where the subject is argued to be a specifier of IP. Hence, the presence of a subject requires the projection to be maximal. Chomsky argues that the subject is not governed by the governing verb in a direct sense, but rather through the relation of Spec-Head Agreement.
I shall now shortly review the evidence in favour of the SC-analysis, which requires that we find evidence that the semantic subject and the predicate form a constituent. Let me begin by illustrating nexus constructions with the examples in (9) and (10).

(9a) I consider [John foolish]
(9b) I find [this difficult]
(9c) I judged [him incompetent]
(9d) I want [him off my ship]
(10a) With [John behind the wheel] we …
(10b) With [his hands dirty] John …
(10c) With [football on TV] there is hardly anyone at school

Kayne (1984) provides interesting evidence for the subjecthood of the NPs in the examples (9a)-(9d). The evidence involves the assumption that all branching is binary and that extraction paths must be uniformly branching. The latter requirement is discussed in detail in Bennis and Hoekstra (1984). Kayne explains the ungrammaticality of the examples in (11) in terms of a violation of this Connectedness requirement.

(11a) *the man who we all found [the brother of e boring]
(11b) *the movies that I found [the ending of e repulsive]
(11c) the movies that I found the announcement of e yesterday
(11d) *the friends that I consider [the behaviour of e exemplary]

According to the SC analysis, the gaps in the ungrammatical examples are contained in a left branch, which forms the subject of Small Clause. The SC itself is on a right branch: hence the path from the governor of the gap to the antecedent is not uniformly branching. In (11c), in contrast, the NP from which extraction has taken place is itself on a right branch. Hence extraction does not give any problems.

A further piece of evidence for the SC analysis derives from such examples as (12). The explanation for the ungrammaticality given by Kayne is that although verbs may govern across a SC barrier in order to Case mark the
subject NP, such a crossing is not permitted for other categories, with the possible exception of certain prepositions (e.g. *with*) to which we return below.

(12a) *our consideration of Mary competent for the job
(12b) *their assumption of him able to read
(12c) *the psychiatrist's judgement of the student non-adjusted

A third motivation for the SC analysis involves the difference between subject and non-subject position vis-à-vis the Projection Principle (cf. Chomsky (1981)). In short, the presence of complement positions is determined by the Projection Principle. As such, they are always θ-positions and may therefore not function as landing sites for NP movement, since this would always result in a violation of the thematic criterion. The subject position, on the other hand, is not always determined by thematic considerations and may hence be a non-θ-position and as such function as the landing site of an NP movement operation. This is what happens in passives and subject raising constructions. This asymmetry between subjects and non-subjects is used in Chomsky (1981) to explain why subject-to-object raising is excluded in principle.

If the postverbal NP in the examples (9a)-(9d) is a subject position, we expect that, depending on the predicative expression, it may be a non-θ-position. We can test this prediction by checking whether it is possible to find non-argument expressions in this position or arguments that are related to a more deeply embedded position. Such cases are easy to find. The examples in (13) are assumed to contain non-argument expressions and those in (14) have postverbal NPs which result from movement from the position indicated by the trace.

(13a) we found there to be no excuse for his behavior
(13b) we saw it rain
(14a) I want the message delivered t at once
(14b) we found this conclusion arrived at t too easily

These examples can therefore be taken to support the analysis of the postverbal NP in (9a)-(9d) as a subject rather than as an object.

Turning to the examples in (10a)-(10c), we note that there are in principle three possible configurations, which are depicted in (15).
(15a) does not conform to the binary-branching requirement and is therefore conceptually less attractive, as theories which allow for multiple branching properly include theories that allow for binary branching only. (15b) must also be rejected because the NP does not c-command the predicate. (15c) is the representation of the SC analysis. In Beukema and Hoekstra (1983, 1984), the analysis in (15c) is supported by extensive evidence. Some of the evidence is parallel to the evidence presented above with respect to small clause complements to V. Thus, the NP following with may bind a more deeply embedded trace, as in the examples in (16).

(16a) With our city destroyed t by the enemy, …
(16b) With the children to look after t, …
(16c) With Reagan elected t president for a second term, …

Hence, the position of this NP is a possible non-θ-position, a characteristic of subjects. Secondly, the NP is not extractable, thereby showing left branch effects. In this regard, the NP patterns like the NP in the b-examples of (17)-(18), which contrast with the a-examples where the extracted NP is an object rather than a subject. The same contrast is found between the a and b examples of (19)-(21).

(17a) They hoped for something nice to happen
(17b) *What did they hope for t to happen
(17c) What did they hope for t
(18a) John talked to Mary about Peter eating fish
(18b) *Who did John talk to Mary about t eating fish
(18c) Who did John talk to Mary about t
(19a) John always stays home with Dick Cavett on TV
(19b) *Who does John always stay home with t on TV
(19c) Who does John always stay home with t
(20a) They left with the kitchen dirty
(20b) *What did they leave with t dirty
(20c) What did they leave with t
(21a) Jill performed with a funny hat up
(21b) *What did Jill perform with t up
(21c) What did Jill perform with t

An interesting piece of evidence against the structure in (15a) derives from the Dutch equivalent of the English with-absolutes. In Dutch, non-human personal pronouns may not occur in the complement position of a preposition. Instead, the preposition combines with an adverb of the class of R-forms, i.e. a class which is characterized by the occurrence of the phoneme /r/. This is exemplified in (22) (cf. Van Riemsdijk (1978) for extensive discussion).

(22a) Jan zag het paard nadat Piet het zag
    John saw the horse after Peter it saw
(22b) Jan keek naar het paard nadat Piet er naar/*naar het keek
    John looked at the horse after Peter there at/it it looked

If the structural relation between the NP following with/met in the absolute construction is not different from the normal NP complement relation to a preposition, we would expect a non-human pronoun to yield an ungrammatical result in absolute with/met constructions as well. However, this is not the case, as is shown in (23).

(23a) Met dat nog allemaal te doen, kunnen we beter door werken
    With that still all to do can we better through work
    'With all that still to be done, we had better continue with our work'
(23b) *Daarmee nog allemaal te doen, kunnen we ...
    There with still all to do, can we ...

In view of the evidence presented here, we may conclude that the SC-analysis is strongly motivated. For further evidence I refer to Beukema and Hoekstra (1983, 1984) and references given there.

2.3. Ergative verbs with SC complements

The class of intransitive verbs that appear with only a single NP, can be divided into two subclasses, an insight that is originally due to Perlmutter

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(1978). The distinctive features of these two subclasses may vary from language to language, as may the extension of the two subclasses. Burzio (1981) has extensively motivated this distinction for Italian, while the Dutch subclasses are discussed in Hoekstra (1984). The following properties characterize the distinction.

(a) class I selects the auxiliary *zijn*, whereas class II combines with *hebben* to form the perfect tense:

(24a) dat de soldaat is gesneuveld
   that the soldier is perished
(24b) dat de kinderen hebben gelachen
   that the children have laughed

(b) class I does not allow impersonal passivization, but class II does:

(25a) *dat er door veel soldaten gesneuveld wordt
   that there by many soldiers perished becomes
(25b) dat er door iedereen gelachen werd
   that there by everyone laughed became

(c) class I verbs allow a prenominal use of their participle, where the noun which is modified corresponds to its single argument, but class II verbs do not allow a prenominal usage of their participle:

(26a) de gesneuveld soldaten
   the perished soldiers
(26b) *de gelachen kinderen
   the laughed children

The first two properties distinguishing between the two relevant classes are not distinctive in English, since English has only a single perfective auxiliary and does not allow impersonal passivization for independent reasons (cf. Hoekstra (1986)). The third property is available in English, as is clear from the translations of the examples in (26). In fact, there is a clear pattern of (un)grammaticality of this prenominal use of the participle in English which parallels the pattern found in Dutch. Some examples of each class of intransitives are given in (27).
The properties of class II intransitives resemble those of transitive verbs, whereas those of class I resemble those of passives of transitives. For this reason, Burzio (1981) refers to class I intransitives as ergative verbs: their subjects are treated on a par with the objects of transitive verbs. These similarities are explained if we assume that ergative verbs select an object at D-structure, but do not assign a thematic role to the subject position. At D-structure, the representation of an ergative verb is in all relevant respects identical to the representation of a passive: the verb selects an object, but no role is assigned to the subject: in passives, because this role is ‘absorbed’, in ergatives because the verb does not assign such a role as a lexical property. In both types of D-structure, the NP object does not receive Case and consequently, the NP must move to a Case marked position at S-structure. This explains the superficial similarity of sentences with ergative verbs and those with unergative verbs.

A major reason for this particular interpretation of the properties of class I intransitives can be found in the following observation. There are two classes of intransitive verbs that have a transitive counterpart. The first is the class that is related to their transitive counterpart by what used to be called Unspecified Object Deletion (e.g. *eat*). The second involves such verbs as *break, grow, melt*, which have a causative transitive counterpart. With the latter verbs, the single argument of the intransitive counterpart corresponds to the surface object of the transitive member of the pair. What is relevant here is that this type of intransitive behaves like other ergatives, whereas the former, i.e. the pseudo-transitives, behave like unergatives. The optimal analysis for the distinction between transitive-intransitive pairs would be the minimal one: everything is the same, except for the removal of the thematic role which is absent in the intransitive counterpart. For the *break* class, this minimal hypothesis would indeed give rise to the ergative analysis suggested above.

In Hoekstra (1984) I have argued that the ergative-unergative distinction is not limited to one-place verbs, but extends to other classes of verbs as well.
Thus, we have ergative counterparts to bitransitive verbs, exemplified in (28) and the traditional subject raising triggers can be thought of as the ergative counterparts of such verbs as believe.

(28a) dat die voorvallen mijn moeder overkwamen
that those incidents my mother happened-to
‘that those incidents happened to my mother’
(28b) *dat mijn moeder door die voorvallen werd overkomen
that my mother by those incidents was happened-to
(28c) *dat er mijn moeder door die voorvallen werd overkomen
that there my mother by those incidents was happened-to
(28d) dat die voorvallen mijn moeder zijn/*hebben overkomen
that those incidents my mother are/have happened-to
(28e) de (aan) mijn moeder overkomen voorvallen
the to my mother happened-to incidents

Assuming then that in principle each type of unergative verb may have an ergative counterpart, we expect there to be ergative verbs taking SC complements as well. Such verbs can indeed be found. The most obvious candidates are the traditional copula verbs. They combine with a SC, but they fail to assign Case to the subject NP of the SC, just as normal ergative verbs fail to provide Case for their objects. Therefore, the subject of an SC complement to an ergative verb will be a trace, bound by the NP in matrix subject position. The analysis of (29a) would then be as in (29b). The assumption of a SC complement in these cases is confirmed by the absence of nominal counterparts (cf. (12)).

(29a) Mary seems absent
(29b) Mary\_i seems \text{[SC t, absent]}
(29c) *Mary’s appearance absent

This ergative-\textit{cum}-SC analysis covers the examples in (4): the verbs do not take the predicative expression as their complement, but rather a SC, the subject of which is moved to the subject position of the full clause in order to receive Case. They are thus the ergative counterparts to the constructions in (5).

Before we turn to the discussion of resultatives there is one category that requires special attention, viz. particles. These are discussed in the next subsection.
2.4. Particles as heads of small clauses

There has been considerable debate regarding the status of particles: should they be regarded as a separate category or can they be conceived of as intransitive prepositions? It would appear that there is little motivation for the introduction of a separate category, since particles seem to distribute just like full PPs. As an example of this, particles can satisfy a PP subcategorization, cf. ‘send John away/to the market’, ‘put the books on the shelf/down’, etc. More precisely, particles distribute like predicative PPs, i.e. they are never found in constructions where argument PPs are found. This difference can be used as one of the motivations for the distinction between arguments and predicates that we introduced in section 2.1. In argument PPs, it is the NP complement of the preposition which is the argument. The preposition functions as a Case assigner and possibly as a mediating θ-role assigner.

Particles, then, are heads of SCs. A similar claim about verb-particle constructions has been made in Kayne (1984b). According to Kayne's proposal the structure of (30) would be as in (31c). The two other conceivable structures of (30) are rejected: (31a) is rejected by the binary branching requirement mentioned above, (31b) by a new principle proposed by Kayne. This principle requires that sisters of V' must be thematically autonomous, like e.g. adverbial constituents. Particles are assumed not to be thematically autonomous. This assumption does not seem to be necessary to exclude (31b), if our claim that particles are necessarily predicative is correct. As predicates they must have subjects, and given our reasoning above, the postverbal NP is the only candidate. The structure of (31b) can then be rejected on the same grounds as other left-branching structures for predicative VPs, viz. the requirement that predicates have c-commanding subjects. This is a desirable result, since stipulating that particles may not be thematically autonomous makes them different from other prepositions in a way that seems unmotivated.

(30) he looked the information up

(31a) V NP Prt
(31b) [v NP] Prt
(31c) V [SC NP Prt]

The SC analysis in (31c) is supported by the fact that nominal counterparts of these verb particle constructions are ungrammatical, as is the case with SC complements in general (cf. (12) and (29)).
Similarly, the NP subjects of particle-headed SCs show leftbranch effects in extraction of subparts. The reader is referred to Kayne’s (1984b) for detailed arguments in favour of this SC analysis of particle constructions.

In the examples of SC complement constructions given in the preceding sections, the fact that the verb combines with a SC may be regarded as a lexical property of the relevant verbs. The SC-complement receives a particular θ-role from the matrix verb, a role that may also be born by a full clausal complement in the general case: ‘I find this difficult’ - ‘I find that this is difficult’.

3. The resultative construction

3.1. The SC analysis of resultatives

In the resultative construction we find a complement structure which also is best analyzed as a SC, but the verb that combines with the SC does not license it by virtue of some lexical selection. The construction is illustrated by the examples in (33)-(34). Apparently, Dutch is more liberal in the use of this construction than English. The examples in (33) are taken from Jayaseelan (1984) and Randall (1981). Randall comments in a footnote that the acceptability judgements represent those of liberal speakers.

(33a) He laughed himself sick
(33b) She laughed him out of his patience
(33c) We talked her out of her crazy schemes
(33d) They danced their days away
(33e) The joggers ran the pavement thin
(33f) The clock ticked the baby awake
(33g) I shall walk you to the station
(34a) Hij werkte zich suf
He worked himself full
(34b) Hij liep zijn schoenen scheef
He walked his shoes worn on one side
(34c) Hij schaatste het ijs kapot
He skated the ice cracked
(34d) Hij schreeuwde zijn keel rauw
   He screamed his throat sore
(34e) De boorhamer dreunde mij doof
   The jackhammer pounded me deaf
(34f) Hij zeurde mijn kop gek
   He nagged my head mad

The verbs in (33)-(34) are verbs that do not usually take an object. There is no sensible semantic relationship between the verb and the NP following it in these examples. This is also evident from the fact that it is really the combination of the NP and the following predicative expression that is added to the intransitive verb: leaving out either the NP or the predicative expression yields an ungrammatical result. As a consequence, the SC analysis of such constructions seems well motivated from a semantic point of view.

The same is true of the examples in (35)-(36). Although the verbs in these examples are normally transitive, the semantic relation between the verb and the following NP differs radically from the relation found in these examples.

(35a) He washed the soap out of his eyes
(35b) He shaved his hair off
(35c) They wrung a confession out of him
(35d) He rubbed the tiredness out of his eyes
(35e) They ate us out of house and home
(35f) The sopranos sang us sleepy
(36a) Zij at zich moddervet
   She ate herself very fat
(36b) Zij veegden de bezem aan flarden
   They swept the broom to pieces
(36c) Hij kocht de winkel leeg
   He bought the shop empty
(36d) Zij schilderden de verfpot leeg
   They painted the paint-pot empty
(36e) Hij kneep zijn ogen dicht
   He pinched his eyes shut
(36f) Hij maaide de zeis bot
   He mowed the scythe blunt

Thus, although one can eat, sweep or mow something, there is no sense in which one can eat oneself, sweep a broom, mow a scythe, etc. The postverbal
NP in these examples only has a sensible semantic relationship with the following predicate, which again motivates the SC analysis. There are further semantic similarities between (33)-(34) on the one hand and (35)-(36) on the other. The verb (or the construction as a whole) acquires a causative meaning and, related to this, the predicate has a result interpretation. These aspects are found in the examples in (37)-(38) as well. Although the postverbal NP in these examples can also combine with the verb in a simple V NP construction, I shall nevertheless, on the basis of these further semantic similarities, assume that a SC analysis should be assigned to these constructions as well.

(37a) They painted the door green
(37b) They cooked the chicken dry
(37c) They pushed him into the well
(37d) They wiped the table clean
(38a) Hij reed zijn auto in de prak
He drove his car to pieces
(38b) Hij maaid het gras kort
He mowed the grass short
(38c) Het paard schuurde zijn rug open
The horse rubbed its back open
(38d) Zij kookten de aardappels kapot
They cooked the potatoes falling apart

The correctness of this analysis is also suggested by the observation that we are always dealing with what is traditionally called an affected object, a generalization which holds throughout the examples in (33)-(38), even though the verbs in (37)-(38) can normally take an affected object as their complements. For example, the verb paint can take either an affected or an affected object in a simple V NP construction (cf. the ambiguity of ‘John paints a house’), but in the SC complement construction the postverbal NP is necessarily interpreted as an affected object, i.e. an expression referring to an entity which exists independently from the action mentioned by the verb rather than coming into existence through the action.

The implications of the sentences in (37)-(38) that e.g. the door is painted, the rice is cooked etc. result from what I call a shadow interpretation. On some occasions these implications can be cancelled, without any evidence as to a difference in structure (e.g. I have painted my fingers black and blue when I painted the walls in this room). The same phenomenon can be seen in e.g. perception verb complements, i.e. normally a sentence such as ‘I heard John sing’ will imply that I heard John, but ‘I heard the butcher slaughter a
pig’ may imply that I heard the pig, rather than the butcher. Similarly, ‘I saw the soldiers fire the cannon’ may be true if I only saw the cannon balls, but not the soldiers (cf. Kirsner and Thompson (1976)).

To conclude this section I claim that the subject and the predicative expression form a Small Clause. In the next subsection, I shall compare the SC analysis with other treatments of resultative constructions.

3.2. Result phrases as complements

Given the fact that in these examples verbs combine with SC complements that do not normally select a SC complement, it seems necessary to state the conditions under which the addition of such an SC complement is possible. Jayaseelan (1984) formulates a rule, the Small Clause Rule (SCR), which has the following three effects:

(39a) it adds a small clause complement to the verb
(39b) it eliminates the internal arguments of the verb
(39c) it gives the verb a causative reading

Although this rule seems to describe accurately what happens in the examples given above, it would be undesirable if each of the properties need to be accounted for by a construction specific rule like this. Moreover, it does not state the conditions under which the rule is applicable. Simpson (1983) notes that it is not possible to apply the SCR to each transitive verb. Perception verbs never allow it (cf. (40)), which Simpson explains by invoking a notion of affectedness: ‘perception verbs do not in general affect the object of perception’ (p. 142). It is not entirely clear to me what precisely the meaning and extension of the notion affectedness employed here is. This unclarity stands out in particular in the constructions in (33)-(36), where the postverbal NP is itself not acted upon in any direct way. It would seem more accurate to say that stative verbs do not allow a result SC (cf. section 3.3 for more extensive discussion).

(40) *Medusa saw the hero stone/into stone

The rule in (39) is inadequate in yet another respect. (39c) indicates that Jayaseelan assumes the SCR to be applicable to transitive or unergative verbs only. However, the rule also applies to intransitive verbs of the ergative type, as has been demonstrated by Simpson. She formulates the generalization in (41):

Teun Hoekstra, ‘Small Clause Results’
(41) The controller of a resultative attribute must be an OBJECT, whether that OBJECT is a surface OBJECT, as in transitive verbs, or an underlying OBJECT, as in passives and intransitive verbs of the Unaccusative class, or whether the OBJECT is a fake reflexive, as in intransitive verbs of the unergative class. Simpson (1983: 142)

The examples in (42) illustrate each type:

(42a)
He hammered the metal flat  (transitive verb)

(42b)
The icecream was frozen solid (passive verb)

(42c)
The butter melted to a liquid (ergative verb)

(42d)
He drank himself into the grave  (unergative verb + fake reflexive)

Interestingly, neither the subject of a transitive verb, nor of an unergative intransitive can control the predicate, at least not in the result interpretation (cf. the examples in (43)). Simpson correctly observes that there does not seem to be a general semantic reason to block the relevant interpretations.

(43a) *I ate the food sick (≠I ate the food until I was sick)
(43b) *I melted the steel hot (≠ I melted the steel until I was hot)
(43c) *I danced tired (≠ I danced until I was tired)
(43d) *I laughed sick (≠ I laughed until I was sick)

In order to get the required interpretations of (43c)-(43d), one has to use what Simpson refers to as a fake reflexive. Dutch provides interesting confirmation for the generalization in (41), as the class distinction between ergatives and unergatives is much clearer than it is in English. Consider the example in (44a). The fact that the reflexive zich is optional might be taken as a problem for (41). If the perfect tense counterparts in (44b)-(44d) are taken into account as well, however, the generalization is corroborated.

(44a) dat het vliegtuig (zich) te pletter vloog
that the airplane itself to pieces flew
‘that the airplane crashed’
(44b) dat het vliegtuig te pletter is gevlogen
that the airplane to pieces is flown
(44c) dat het vliegtuig zich te pletter heeft gevlogen
that the airplane itself to pieces has flown
(44d) *dat het vliegtuig te pletter heeft gevlogen
that the airplane to pieces has flown
The use of zijn in (44b) illustrates that the verb vliegen is used as an ergative verb, i.e. the surface subject of vliegen is a derived subject, which is VP internal in underlying structure. The ungrammaticality of (44d) illustrates, just like the examples in (43), that an underlying subject in (44d) is evident from the use of hebben. If we want the underlying subject to control the result predicate, we have to use the reflexive, as in (44c). In section 4 we discuss the difference between ergative and non-ergative vliegen in some detail.

What we are interested in now is how the generalization in (41) is explained. Simpson, working in the framework of LFG, provides the following rule (her (33)) to account for (41).

(45) Add a resultative attribute XCOMP
    Add the control equation: XCOMP SUBJECT = VERB's OBJECT

The rule in (45) which is supposed to operate in the lexicon, may be thought of as an alternative to Jayaseelan's SCR. I have two objections to Simpson's rule. Note that it stipulates that if the verb takes an object as a lexical property, this object is inherited, i.e. that the understood subject of the predicative expression with transitive verbs is the same as the object that the verb selects in the non-resultative counterpart. Although this might be correct for the constructions in (37)-(38), it misses the observation about the constructions in (35)-(36), where the postverbal NP does not seem to be an object of the verb at all and it requires further measures to be taken in order to capture the constructions in (33)-(34), where the verb belongs to the unergative class. As these examples show, it is not true that SC complements of the type under consideration always have a 'fake reflexive' OBJECT. In general, then, the notion of OBJECT is quite obscure here. In fact, no explanation is given as to why the fake reflexive has to occur where it occurs.\footnote{Carrier-Duncan and Randall (1986) claim that subjects of SCs with non-transitive predicates are either reflexives or body parts. Distributionally, this seems more appropriate for English than for Dutch, where the distribution is much freer, as can be seen by inspecting the Dutch examples. However, their claim is factually incorrect. Although it is certainly not as common as in Dutch, examples with NPs other than reflexives or body parts occur in English as well. I have no insights to offer for the wider distribution of Dutch vis-à-vis English.}

My second objection is theoretical in nature. Although the second part of the rule in (45) may be said to describe correctly the semantic relation obtaining between the postverbal NP and the predicate (the OBJECT and the XCOMP in Simpson's terminology), the rule is non-explanatory in the sense that it might just as well be formulated differently, e.g. stipulating instead
'XCOMP SUBJECT = 'VERB's SUBJECT'. Ideally such freedom should not be permitted, i.e. a theory that eliminates the choice between these two formulations should be more highly valued.

The theory of government-binding indeed eliminates this freedom. If the complement of the verb in resultative constructions is analyzed as a SC, the fact that the postverbal NP (the OBJECT in Simpson's terminology) is interpreted as the subject of the predicative expression comes as no surprise, since configurationally it is the subject of the SC. If the SC is indeed a complement, all the properties of this resultative construction as stipulated by Jayaseelan's Small Clause Rule and Simpson's rule (45) follow immediately from the Small Clause analysis. However, it is not immediately obvious that the SC is a complement, precisely because it is not lexically selected by the verb that it combines with. In some cases, the result SC denotes a degree, and this might be interpreted as an indication that the SC is an adjunct rather than a complement, cf. (46):

(46a)
I worked very hard  adverbial modifier

(46b)
I worked myself to death  result SC

However, I claim that this degree interpretation is not determined by the meaning of the sentence per se, but inferred from it. The general meaning of SC resultatives can be described as follows: the SC denotes a state of affairs which is presented as a consequence of the activity or process denoted by the verb. In an example such as (46b), the mere fact that the particular situation of being dead can be brought about by my working is the basis for the inference that I worked very hard; the meaning is not different from the meaning of the other examples given. Notice incidentally that this semantic characterization immediately accounts for the prohibition of the result SC in the complement of statives mentioned above (cf. (40)), as stative verbs do not denote an activity or a process. I shall go into this aspectual restriction more deeply in section 3.3.

In the remainder of this subsection I want to establish that the SC is syntactically a complement, leaving the question of what licenses this complement to section 3.3. For this purpose we have to go into the distribution of different types of SCs in some detail. As we stated in section 2, the Projection Principle determines that if a lexical item assigns a θ-role to some construction, it always assigns a θ-role. Therefore, given that under the SC-analysis the adjective tired in (47a) assigns a θ-role to its subject John, it must also
assign a θ-role to a subject in (47b). In the latter case, there is no overt NP which can be taken to be the subject of the adjective. To be sure, the adjective is predicated of John, but the NP John cannot be the subject of the adjective without a violation of the thematic criterion, which requires that each argument receives a unique thematic role. The NP John receives a θ-role from left.

(47a) I found John tired
(47b) John left tired

In order to solve this problem of (47b) we are forced to assume that the thematic role that tired assigns is assigned to an invisible argument in the subject position of a SC headed by tired. The only candidate for this is PRO. Hence, the structural representations of (47) are as in (48):

(48a) I found [SC John [tired]]
(48b) Johni left [SC PROi [tired]]
(48c) Johni was found [SC ti [tired]]

In (48a), we find a SC in the complement of a stative verb. There is no result interpretation, as is to be expected given the stative nature of this verb. Moreover, the SC may be regarded as a complement which is licensed by virtue of θ-selection by the verb find. The SC has a lexical subject which is Case marked by the matrix verb, as is evident from the fact that the NP moves to matrix subject position if the matrix verb is passivized, as in (48c).

In (48b), in contrast, we are dealing with a predicative adjunct. Again, there is no result interpretation, and the predicate is related to the subject of an unergative verb, something which is impossible in resultative constructions. It should be noted that predicative adjuncts may relate to either the subject or the object, unlike complement predicates. This is illustrated by (49), where drunk may either be predicate of John or of Bill:

(49) John brought Bill home drunk

This discussion shows that three types of SCs can be discerned in terms of the kind of subject that they have:
- SCs with a lexical NP as subject, as in (48a)
- SCs with a PRO NP as subject, as in (48b)
- SCs with an NP trace as subject, as in (48c)
The question is how the theory accounts for the distribution of these three types. This reduces to the more general question of the distribution of NP types. It would take us too far to go into all aspects of this issue, but for the present purposes the summary in (50) will suffice:

(50a) lexical NPs occur in Case-marked positions
(50b) NP-traces occur in properly governed, non-case marked positions
(50c) PRO is ungoverned

(50a) essentially formulates the Case filter of Chomsky (1981); (50b) follows from the ECP; (50c) is the PRO theorem that is deduced from the theory of binding. For motivations and further discussion I refer to Chomsky (1981) and references cited there.5

It is evident that result SCs belong to either (50a) or (50b), i.e. they have a lexical subject or a trace subject in the case of ergative verbs. The choice between these depends on the verb, so that we may conclude that lexical NP subjects of result SCs receive Case from the matrix verb and that trace subjects are properly governed by the Matrix verb. On this basis we may also conclude that result SCs are syntactically complements of the verbs that they combine with, as government only obtains between a head and a complement.6

3.3. The licensing of result complements

We now turn to the question as to how a result complement is licensed by a verb which does not select a complement of this type by virtue of a lexical property. We saw above that Jayaseelan (1984) and Simpson (1983) try to account for this by postulating a rule which basically introduces the SC. Let us look at Jayaseelan’s rule more closely, repeating it here for convenience.

5 Hornstein and Lightfoot (1987) claim that PRO is governed in these cases as a consequence of their assumption that SCs are non-maximal projections of INFL. Such a governed PRO is held to be anaphoric. As stated in footnote 3, their assumption concerning the non-maximality of SCs is problematic. Under the view that SCs are maximal projections, either of the head of the predicate or of INFL, the subjects of adjunct SCs would not be governed under Chomsky’s (1986b) assumptions by virtue of lack of L-marking. Hence, the maximal projection constitutes a barrier for government in the adjunct case, but not in the complement case, which gives us the right consequences, at least as far as the distribution of PRO vs. lexical NP and trace is concerned.

6 I adopt Kayne’s (1984a) definition of strict government, which is limited to minimal c-command.
The Small Clause Rule
(a) it adds a small clause complement to the verb
(b) it eliminates the internal arguments of the verb
(c) it gives the verb a causative reading

As we see, the SCR not only introduces the SC, it also removes the internal arguments. Let us call this the stripping hypothesis. An alternative hypothesis, which is implicit in Simpson's account, is that the normal complement structure is retained, but that a predicate is added. The latter hypothesis is more clearly adopted in Carrier-Duncan and Randall (1986): their rule adds an AP or PP to a transitive construction (viz. Simpson's (p. 45)), and an NP plus an AP/PP to an intransitive construction.

These hypotheses make a number of different predictions. One of these concerns constructions of the type in (35)-(36): according to the stripping hypothesis, the internal argument of the verbs (let us say the theme) is removed and the SC is added. According to the alternative hypothesis, the postverbal NP is the OBJECT of the verb to which an XCOMP is added. As we stated above, the latter approach makes it unclear in what sense the OBJECT is still an argument of the verb. If it is, the approach would seem inadequate from a semantic point of view. This is one of the reasons why we rejected the LFG approach above.

Let us turn to further predictions made by the stripping hypothesis. Simpson makes a number of observations that are relevant in this regard. She notes that the addition of an XCOMP (her terminology) is impossible if the verb already has an XCOMP. She adduces the examples in (51) in support of her contention.

(51a) *I promised John happy to go there alone (≠ John becomes happy)
(51b) *I tried exhausted to please John (≠ I become exhausted)
(51c) *I persuaded John happy to go there alone (≠ John becomes happy)
(51d) *I asked John upset to go there alone (≠ John becomes upset)

Simpson seeks to explain these ungrammaticalities by appealing to the consistency constraint of Kaplan and Bresnan (1982), which states ‘Every

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7 In LFG, infinitival control complements are regarded as predicate VPs, which are semantically combined with their subject by means of a control equation in the lexical representation of the verb.
grammatical function and every functional feature must have a unique value’. This constraint forbids two SUBJECTs in one clause and likewise, it would forbid two XCOMPs in one clause. The latter constraint would be violated by the examples in (51), since the verb already had an XCOMP, to which a further XCOMP is added. This explanation seems to me to be of insufficient generality. This becomes apparent if the infinitival complements in (51) are replaced by finite clauses where possible. The ungrammaticality then remains:

(52) *I promised John happy that I would go there alone

In order to get a SC complement with these verbs (to the extent that that is possible at all), the stripping hypothesis predicts that the clausal complement has to be eliminated. The examples in (53) are not really acceptable, probably due to the non-stativity requirement on the input verb. However, they appear to come close to acceptability in a proper contextualization (cf. a disappointed husband ‘You may be capable of promising me happy, but you have never succeeded in really making me happy’).

(53a) ?I promised John happy
(53b) ?I persuaded John mad

The interpretations of these examples would be ‘I made John happy/mad by my promises/attempts to persuade’. The relevant point to note here is that John is interpreted as the subject of happy in (53a), in spite of the fact that promise is a subject control verb. Under the SC analysis of (53), we are not dealing with a control structure: John is interpreted as the subject of happy because it is structurally its subject.

Further relevant observations for the stripping hypothesis can be made regarding double object constructions, as in (54): a result phrase and two objects may not cooccur.

(54a) The teacher taught the boy a lesson
(54b) The teacher taught the boy crazy
(54c) *The teacher taught the boy a lesson crazy/crazy a lesson

If the verb takes only a single NP complement, this complement is also eliminated if a SC complement is added to the verb, as is illustrated by the following examples.
They ate bread

They ate him out of house and home

*They ate him bread out of house and home

She drank whisky

She drank him under the table

*She drank him whisky under the table

A further interesting point arises if a SC complement is added to a verb that takes a SC complement as a lexical property. If the stripping hypothesis is correct, only a single SC should be able to appear, which in fact is true as the following examples show.

The campers patted their sleeping bags down

The campers patted their sleeping bags flat

*The campers patted their sleeping bags down flat/flat down

(ungrammatical under the result interpretation)

Hij reed zijn auto de garage in

He drove his car his garage into

Hij reed zijn auto in de prak

He drove his car to pieces

Hij reed zijn auto in de prak de garage in

He drove his car to pieces the garage into

= he drove his car into the garage while it was to pieces

≠ he drove his car to pieces by driving it into the garage

Ik schilderde de schuur rood

I painted the barn red

Ik schilderde me kapot

I painted myself weary

*Ik schilderde me de schuur kapot rood

I painted myself the barn weary red

It would appear from these examples that the stripping hypothesis makes the correct predictions. However, there is one further class of complement structures that does not seem to obey the stripping rule, viz. verbs taking a PP object. Consider the following Dutch examples.

dat Jan over het weer praat

that John about the weather talks

(dat Jan zich suf praat

that John himself dazed talks
(60c) dat Jan zich suf praat over het weer
that John himself dazed talks about the weather
(61a) dat Jan aan dat onderwerp werkt
that John on that subject works
(61b) dat Jan zich een ongeluk werkt
that John himself an accident works
(61c) dat Jan zich aan dat onderwerp een ongeluk werkt
that John himself on that subject an accident works
(62a) dat Jan om die mop lachte
that John about that joke laughed
(62b) dat Jan zich rot lachte
that John himself rotten laughed
(62c) dat Jan zich om die mop rot lachte
that John himself about that joke rotten laughed

These examples are counterexamples to the stripping hypothesis in one direction: they show that internal arguments need not be absent. Apart from this empirical deficiency, it also lacks in explanatory adequacy. The null hypothesis is, of course, that nothing needs to be said about the internal structure of verbs that enter into the resultative construction, i.e. that its distribution is derivable from general principles.

It is interesting to note that the result SC construction occurs very freely with both unergative intransitives and with pseudo-transitives. In fact, we might hypothesize that when a verb obligatorily selects an NP argument, a resultative SC is impossible, thus disconfirming the stripping hypothesis also in the other direction, i.e. that stripping of internal arguments is not allowed at all. The ungrammaticality of the c-examples in (55)-(56) follows automatically from the Case Filter: there are two NPs that should be governed by the verb, which is impossible. However, it is not so easy to test whether the prediction that obligatory transitive verbs resist undergoing the SCR is correct. As is well-known, it is hard to find good examples of verbs that are obligatorily transitive, and to the extent that we find really convincing examples most of them belong to the class of statives. However, irrespective of the outcome of such a test, it would still not provide an answer to our question concerning the licensing of the result SC. In order to gain some insight in this matter, it is worthwhile to explore the aspectual limitation to non-stative predicates.

Verbs may be classified in terms of their aspectual properties. The best-known aspectual classification is that of Vendler (1967), which was extended in Dowty (1979). Vendler distinguishes four classes of verbs:
The crucial property in terms of which these types are distinguished is the internal temporal organization of the event or state of affairs denoted by the predicate. Roughly speaking, stative predicates have no internal temporal structure, i.e. there is no clear beginning or end, and there is no internal temporal differentiation. Examples are ‘know, be famous, be tall, like’. Activities have an internal differentiation and they end at some time or other. They differ from accomplishments in that the latter have a defined end point. The simplest way to clarify the distinction is by looking at the examples in (64):

(64a) John is knitting sweaters
    (64b) John knits a sweater

In (64a) we are dealing with an activity: John is engaged in the act of sweater knitting and he will stop with this activity at some point in time; in (64b), on the other hand, John is not only engaged in a certain activity, but the activity is ended when the sweater is knitted. This is an accomplishment. Activities and accomplishments can be distinguished by a number of tests (cf. Dowty 1979: ch. 2). I mention the difference in kinds of temporal adverbials: activities combine with phrases of the type ‘for X time’, whereas accomplishments combine with phrases of the type ‘in X time’. Achievements form a rather problematic and in fact heterogeneous group. According to Dowty they are like statives in not taking the progressive and not being agentive. In terms of their temporal properties, they can be characterized as involving a change of state at a certain moment. Examples are ‘notice a picture’, ‘find a dollar’. There is no further internal temporal structure. In the remainder I shall leave achievements out of the discussion.

A problem with this approach is that the classification is not in fact a verb classification, but rather a classification of VPs (cf. Verkuyl (1972)). Whether or not a particular VP denotes an accomplishment or an activity does not merely depend on the verb, but on various aspects of the VP, including the type of NP complement, as we see in (64). However, this retreat from verb classification to VP classification is not forced upon us as far as the distinction between statives and non-statives is concerned: we may talk of stative
verbs, but only of accomplishment VPs. Let us therefore consider the following classification:

(65)

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<table>
<thead>
<tr>
<th>statives</th>
<th>non-statives</th>
</tr>
</thead>
<tbody>
<tr>
<td>processes</td>
<td>activities</td>
</tr>
</tbody>
</table>
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This scheme can only be considered as a partial classification: many predicates, specifically achievements of various kinds, do not readily fit in any of these categories, but as it is not my intention here to provide a full-fledged theory of aspectual types, the schema in (65) will suffice. The distinction between stative and non-statives is the familiar one (cf. Lakoff (1970)). The distinction between activities and processes is made in terms of the presence of an instigator: activities are instigated by some participant (which we may call an agent), whereas processes are events which are presented as merely happening, without an indication as to whether there is an instigator or not (e.g. *melt*). Accomplishment, then, is not a verb class, but can rather be seen as a property of VPs headed by a non-stative verb if this verb is accompanied by the right kind of complements or if the verb denotes an activity which inherently ends with a specific result.

Clearly, activities and processes may lead to something, i.e. the general state of affairs may be affected by the activity such that we may say that there is a different state of affairs after the activity or process has taken place. The canonical structural realization (CSR) in the sense of Chomsky (1986a) of the semantic notion 'state of affairs' is a clause. Typically, then, SCs may be found in the complement of virtually any activity or process denoting verb. Alternatively, states of affairs may be represented by an NP: we may regard such NPs as a kind of elliptical way of referring to states of affairs. This exactly parallels the situation described by Grimshaw (1979) with regard to the CSR of e.g. questions: some NPs, which Baker (1970) refers to as 'concealed questions' may be taken as the representation of a question, as in 'I asked the time'. This approach to verb complementation leads to an analysis in which a verb such as *build* is semantically classified as an activity. The state of affairs resulting from the activity can be represented by either a SC or an NP. This is what we find in (66):

(66a) Jan bouwt [SC de stad vol]

John builds the city full
(66b) Jan bouwt [NP een huis]
John builds a house

From this point of view there is no difference in argument structure between bouwen as used in (66a) and (66b). Specifically, it would be inappropriate to assume that in (66b) the verb bouwen is used with an argument structure <Agent, Theme> and that the construction in (66a) is derived from it by means of something like Jayaseelan's Small Clause Rule, which would strip the theme argument and add an SC, the thematic status of which remains unclear. Rather, the argument structure of bouwen is identical in both constructions. It might be represented as <Agent, Result>, where, as stated above, <Result> may be structurally represented by either an SC or an NP. However, we may wonder whether it is in fact required to state the argument structure in this way, since as stated above, every activity denoting predicate may be combined with a result denoting complement.

It should be noted that the reverse is not true, i.e. not every complement of an activity denoting predicate necessarily denotes a result. A case in point would be the verb pesten 'tease, nag'. The verb denotes an activity which may be aimed at some person. We may represent this by postulating the argument structure <Agent, Patient>, as indeed the person being teased is the patient, quite unlike a house that is being built. However, the Patient argument is optional (although, one might say, it is always implied), and hence, the verb may be used intransitively, still denoting an activity. As such, it may also be combined with a result denoting SC, as the example in (67) illustrates:

(67a) Jan pest [zijn zusje]
John teases his sister
(67b) Jan pest [zijn zusje het huis uit]
John teases his sister out of the house

Perhaps I should stress that not any type of NP may be combined with an activity denoting verb to denote a resulting state (again, state in the general sense in which a newly created house may be taken as a state, represented by the NP a house). Thus, the verb lopen 'walk' denotes an activity, but whereas it may be combined with a resulting state denoting SC, as in (34b), it is hard to think of NPs which adequately denote a resulting state. This again is the same as what we find with concealed questions: whereas we may use 'I asked the time' instead of 'I asked what the time was', it is not possible to use 'I asked that man' to express the same as 'I asked what that man's name was'. Compare, 'I know that man' and 'I know what that man's name is'.
The counterexamples to the stripping hypothesis in (60)-(62) do not constitute a problem for the present approach: the combination of verb and PP denotes an activity and hence, a result denoting SC may be added. This does not cause any problems with Case theory, as would be the case if it concerned a V+NP combination which denotes an activity.

3.4. Conclusion

In this section we have argued that principles of GB-theory, specifically theta-theory and Case theory (or the theory of government) force us to analyze the complement structure of verbs in resultative constructions as SCs. The postverbal NP receives a theta-role from the predicative expression, and may therefore not be represented as a syntactic object of the verb. The lexical (or trace) nature of this NP requires that it be governed by the matrix verb, which leads us to the conclusion that the structure is a Small Clause in the syntactic complement position of the governing verb. We have argued that this analysis not only adequately accounts for the variation between lexical and non-lexical subjects, but also for the interpretation of the predicative NP. The essential fact is that these predicates are always 'object'-related, a fact which follows automatically from the SC-analysis, given that under that analysis the 'object' is syntactically the subject of the predicate.

We then turned to the further question of what licenses the occurrence of these SCs in the complement of verbs that do not in any obvious way lexically select them. We argued that we do not need a specific rule to introduce the SC, thereby licensing its occurrence. Rather, we claim that each activity denoting verb may be combined with a complement that denotes the state resulting from that activity. We might formally implement this by providing each activity denoting verb with an optional result argument. Alternatively, we may postulate a lexical rule stipulating that a verb of the category 'non-stative' may have a result argument. Nothing hinges on this matter. In the next section we turn to the distinction between activities and processes, both of which can take SC complements.

4. Activities and processes

In the previous part not much attention has been devoted to processes. We have described them as non-stative verbs that denote situations which are not instigated by some participant. Typically, such verbs belong to the ergative class, i.e. verbs which do not assign a theta-role to the subject position and
which fail to assign Case to NPs governed by them (the Burzio-generalization). The ergative class comprises the so-called mutative verbs, verbs which describe some change with respect to their S-structure subject, such as perish, melt, sink, cool (all of them in their intransitive use). Inherently, then, these processes lead to a change in the state of affairs, and as such may take result denoting SCs. It is not at all surprising that many ergative verbs are used as copular verbs. A typical example is turn:

(68a) John turns the car
(68b) John turns the lights down
(68c) The car turns
(68d) My skin turns red

In (68a), the verb turn is used as a simple transitive verb. In (68b), we are dealing with a result SC (see Kayne 1984b for arguments for a SC analysis of the complement in (68b)). In (68c), the verb is used as an ergative verb, i.e. the external role assigned to John in (68a) has been removed from the argument structure and the internal argument the car has moved to the subject position in order to pick up Case. In (68d), the verb turn again takes a SC complement, denoting a result. As in (68c), the NP governed by the verb (this time the SC subject) has moved to subject position to receive Case. Traditional grammar would classify turn in this use as a copula verb. The same can be said about the verb vliegen ‘fly’ in Dutch, exemplified in (44) above, repeated here.

(44a) dat het vliegtuig (zich) te pletter vloog
to the airplane itself to pieces flew
‘that the airplane crashed’
(44b) dat het vliegtuiig te pletter is gevlogen
to the airplane to pieces is flown
(44c) dat het vliegtuiig zich te pletter heeft gevlogen
to the airplane itself to pieces has flown
(44d) *dat het vliegtuiig te pletter heeft gevlogen
to the airplane to pieces has flown

In (44a), the unergative verb takes a result SC. The external role of ‘agent of flying’ is assigned to het vliegtuiig and the NP zich is the subject of the result SC. Alternatively, the verb is used as an ergative verb with an SC complement, the subject of which is het vliegtuiig. Because the ergative verb fails to
assign Case, this NP moves to its S-structure position. However, the external role of ‘agent of flying’ is not assigned to this NP. This analysis correctly predicts the choice of auxiliaries in (44b) and (44c). The ergative verb *vliegen*, then, is used as a copula verb. This analysis derives support from the contrast in (69), in which (69b) is ill-formed for the same reason as (69c):

(69a) dat het huis in brand is gevlogen
that the house in fire IS flown
(69b) *dat het huis zich in brand heeft gevlogen
that the house itself in fire HAS flown
(69c) *dat het huis heeft gevlogen
that the house has flown

Whether or not a particular verb may be used as a copula verb is not predictable: this is the domain of idiom. Linguistic theory can only aim at providing the boundaries within which such idiomatic facts may be found.

A slightly different situation is found with weather verbs. Do such verbs denote activities or processes? Evidently, languages differ in this respect and even within a single language community there may be variation in the perception of such events. Some Italian speakers say ‘èpiovuto’ ‘is rained’, whereas others say ‘ha piovuto’ ‘has rained’. The former perceive raining situations as processes, whereas the latter interpret them as activities, perhaps with an unidentifiable instigator. Dutch uniformly classifies weather verbs as activities, usually taking the subject *het*, which is not a dummy (cf. Bennis (1986)). Examples such as those in (70) would be quite problematic if their subjects are analyzed as D-structure subjects.

(70a) dat mijn jas nat regent
that my coat wet rains
(70b) dat het papier in de sloot waait
that the paper into the ditch blows
(70c) dat het graan plat hagelt
that the corn flat hails
(70d) dat de plant onder sneeuwt
that the plant under snows

Surprisingly, weather verbs have subjects that cannot be regarded as instigators of the weather events. Under the present approach, these examples can easily be interpreted: the verbs are used as processes, in itself an idiosyncratic,
but not unmotivated situation. Syntactically, then, they are ergative verbs taking a result denoting SC, the subject of which has moved to pick up Case. This predicts that the choice of perfective auxiliary will be *zijn*, even though these verbs normally take *hebben*. This prediction is correct:

(71a) dat het geregend heeft/*is
    that it rained has/is
(71b) dat mijn jas nat geregend is/*heeft
    that my coat wet rained is/has

The difference between cases such as (70) and (69) is that in the former the weather verbs denote a clearly identifiable process of raining, snowing etc. whereas in (69), there is no ‘process of flying’. There is some unspecified process which is qualified by means of *vliegen* as a very fast one.

A final class of cases involves verbs of locomotion, e.g. *lopen* ‘walk’. This is an unergative verb, denoting an activity. As we discussed above (cf. (34b)), in its unergative use it may take a result denoting SC. However, if the resulting state specifies a location, the verb shifts from unergative to ergative, as is illustrated in (72). The analysis of (72b) is not immediately clear. We could analyze this construction just like the ergative (copula) use of *vliegen*, but unlike *het huis* in (69a), which cannot be said to fly, the NP *Jan* still bears the role of ‘agent of walking’.

(72a) dat Jan loopt/heeft gelopen
    that John walks/has walked
(72b) dat Jan naar Groningen loopt/is gelopen
    that John to Groningen walks/is walked

However, in its ergative use the verb may also take SC complements, the subject of which does not bear this role, as in the examples in (73), which are parallel to (69a). We may be dealing here with a situation comparable to the one in (37), which we analyzed as an SC. The implication that in (37a) *the door* is painted, was argued to result from a shadow interpretation. This line of reasoning may also be applied to the example in (72b), which would therefore receive the same analysis as those in (73).

(73a) dat de wedstrijd uit de hand loopt/is gelopen
    that the match out of the hand walks/is walked
    ‘that the match is getting out of hand’
The resultative constructions discussed in this section thus follow the same pattern as those discussed in section 3. Their properties derive from general principles of GB-theory and from our claim that non-stative verbs generally may take result SCs. Some activity denoting verbs may shift to the class of processes if the role of instigator of the activity is suspended. Such a conceptual shift is easily imaginable with verbs denoting motion: motions can be conceived of as activities if the moving entity acts as instigator, and as processes if there is no instigator.

5. Possessive results

Thusfar, we have been discussing one particular type of SC which consists of an NP and some predicative expression. We shall call these predicative SCs. Recently, Kayne (1984a) has proposed that the double object construction with verbs such as *give* should also be analyzed as involving a SC. Clearly, these SCs are not predicative in the sense in which the SCs discussed so far are predicative. Rather, they denote a possessive relation, where possessive should be taken in a broad sense. This SC analysis of double object constructions is particularly convincing for those constructions which involve non-transferable entities as second object, such as those exemplified in (74). Double object constructions of that type do not enter in the so-called dative alternation, which supports the claim that this alternation should not be accounted for in derivational terms.

(74a) This incident gave me a good idea
     (74b) His performance always gives my wife a headache
     (74c) John gave Mary a kiss
     (74d) We gave him all our support

Kayne motivates the SC analysis of these constructions by pointing at left branch effects in extraction constructions and at the absence of nominal
counterparts to such double object constructions, i.e. the same phenomena that are found in predicative SC constructions.

The more traditional analysis of these constructions holds that the verb assigns two internal thematic roles, e.g. theme and recipient. This assumption does not carry over to the SC analysis, since under that analysis the verb only takes a single complement, viz. the SC. Again we must ask, therefore, what licenses this SC complement in terms of argument structure of the governing verb, and what the relation is with the argument structure relevant for a single NP complement as in ‘John gave a book’. This question is identical to the question concerning the pair with the verb *bouwen* in (66).

The possessive SC analysis for double object constructions finds independent support in resultative constructions. We argued in section 3 that the complement of an activity verb denotes a state which is interpreted as resulting from the activity. Among the states of affairs there are situations that can be classified as possessive, again in the broad sense. We do in fact find possessive SCs in the complement of other activity denoting verbs besides ditransitives. In (75) we find such SCs with unergative intransitives, in (76) with (pseudo-) transitives.

(75a) dat ik me een ongeluk werk
    that I myself an accident work
    ‘that I work very hard’
(75b) dat Piet zich een hartinfarct schrok
    that Peter himself a coronary terrified
    ‘that Peter was terrified to death’
(76a) dat ik Jan een blauw oog sla
    that I John a blue eye beat
(76b) dat hij zich een delirium drinkt
    that he himself a delirium drinks

Clearly, these possessive SCs are licensed the same way as predicative SCs in the complement of these verbs, i.e. as results. The possessive SCs in these examples can easily be replaced by predicative SCs, with little difference in message being conveyed, cf.:

(75’a) dat ik me dood werk
    that I myself dead work
    ‘that I work myself to death’
Returning to double object constructions, we may extend the resultative analysis to these possessive SCs as well: (74a) is adequately paraphrased with ‘this incident caused that I have a good idea’ where the activity by which this cause came about is characterized as giving. The same can be said about the other examples in (74). As a matter of fact, the paraphrase is also adequate for double object constructions that do involve transferable entities as second object, as in (77a).

(77a) John gave Mary a book
(77b) John gave a book

In (77a), the result of the activity of giving by John results in Mary's having a book. In (77b), the NP a book may also be considered as representing a result of giving. In that case it is not the physical object per se, but its availability that results.

Not only is the SC analysis of double object constructions supported by the independent motivation which result constructions provide, but the occurrence of such double object constructions in the complement of verbs other than ditransitives in turn supports the SC analysis of predicative SC complements of these verbs.

6. Conclusion

This paper has sought to answer a number of questions concerning resultative constructions. We have argued that the distribution of such constructions is determined by the aspectual notion of non-stativity. Non-stative verbs may, in principle, combine with a complement structure denoting a resulting state. The typical syntactic realization of a result argument is a small clause. The small clause analysis is well-motivated from a semantic
point of view, but also gives a principled account of the distribution of various types of result constructions. The central interpretive fact is that predicates in resultative constructions are always 'object' related. This fact was seen to follow from the small clause analysis. The 'object' may be invisible. This occurs if the verb does not have a causative reading. The principles of GB-theory account for these aspects of resultative constructions by analyzing non-causative resultatives as ergative verbs which induce movement of the SC subject to the subject position of the governing verb, thus accounting for the seeming absence of an 'object', precisely in those cases where a causative meaning is lacking.

GB-theory, then, is very successful in deriving the properties of resultative constructions from independently motivated principles. In fact, the only theoretical extension that is required by our analysis of resultative constructions is that verbs are classified as either stative or non-stative, and that non-statives may take result denoting complements. This seems minimal: in order to adequately account for the distribution (and interpretation) of various types of temporal adverbials, the classification in terms of stativity is independently required.

Obviously, the present analysis defines the upper bounds of the distribution of resultative SCs. In principle, each non-stative verb may appear with a result denoting SC, but in fact the distribution appears to be more restricted, showing that language does not fully exploit its resources. What we have here is parallel to the distinction between actual and possible words, familiar from the domain of morphology. The fact that such a distinction is found in the domain of phrasal construction as well as in word construction supports recent (and in fact old) claims to the effect that the common distinction between lexical word making and non-lexical sentence making is questionable at best. The gap between the possible and the actual is not to be bridged by a theory of the I-language, but belongs to the domain of the E-language in the sense of Chomsky (1986a).

References


