Predicate composition and argument extension as general options - a study in the interface of semantic and conceptual structure

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1. Introduction*

Complex predicates and their potential to license arguments have become an important issue in the last few years (see Alsina, Bresnan and Sells 1997); they are interesting for the study of the syntax-semantics interface as well as for the debate between lexicalist vs. nonlexicalist accounts. Lexical Decomposition Grammar (LDG) has been proposed as a lexicalist theory of argument structure (Wunderlich 1997a, among others): it assumes that the addition of arguments is triggered by a semantic extension of verbs, and thus tries to account for just the kind of phenomena that are labeled by the term 'complex predicate'. In this paper, I will mainly consider two constructions: resultative extensions and possessor extensions.[1] Examples are given in (1) to (3); in addition, (4) shows a (resultative) verb compound.

(1) Resultative construction
   a. The children ran (*the lawn).
   b. The children ran the lawn flat.
   c. *The stone fell the flowers flat.

(2) Possessor extension (German)
   a. Die Brille zerbrach.
      'The glasses broke'
   b. Mir zerbrach die Brille.
      me.DAT broke the glasses
      'My glasses broke'

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1 Originally included in this paper was a third type of construction, (resultative) verb compounds in Chinese and Japanese; it has been removed for the sake of brevity. I owe the remaining examples of Chinese to Yi-chun Yang.

(3) Possessor extension combined with resultative (German)
  a. Die Kinder liefen (*mir).
     'The children ran (*me.DAT)'
  b. Die Kinder liefen mir den Rasen platt.
     'The children ran my lawn flat'

(4) Verb compound (Chinese)
  a. Lisi zui-le.
     Lisi inebriate-PERF
     'Lisi became drunk'
  b. *Nei-ping jiu zui-le Lisi.
     that-CL wine inebriate-PERF Lisi
     'That bottle of wine inebriated Lisi'
  c. Nei-ping jiu zui-dao-le Lisi.
     that-CL wine inebriate-fall-PERF Lisi
     'That bottle of wine inebriated Lisi so that he fell down'

These examples invite us to make some initial observations. First, the (agentive) intransitive verb in (1a) becomes transitive if, simultaneously, a resultative (adjectival) predicate is added, as in (1b); however, a (change of state) intransitive verb does not undergo such a construction, see (1c). Second, the (change of state) intransitive verb in (2a) allows the addition of a dative NP with possessor interpretation in (2b); however, the (agentive) intransitive verb in (3) only allows possessor extension if, simultaneously, a result is added. Finally, the (change of state) intransitive verb in (4a) becomes transitive with an additional causer only if, simultaneously, the verb is compounded with another (change of state) intransitive verb.

These three constructions have different complexity; none of them is morphologically marked on the verb. What is visible on the surface is the result of some hidden derivation. For each of these constructions syntactic accounts have been proposed in the literature.[2] In the present paper, I will consider these constructions as the result of lexical extensions. Under certain conditions, the Semantic Form (SF) of a primitive verb may be extended by an additional predicate, which is BECOME(Q(z)) with Q=FLAT in (1), POSS(z,x) in (2), the combination of these two in (3), and CAUSER(z), together with FALL.DOWN(x), in (4).

Additional arguments of a verb must be licensed semantically by some predicate. Therefore, as I will claim, argument extension of a given verb always results from predicate composition, though, predicate composition itself does not necessarily lead to additional arguments. On the contrary, predicate composition often requires arguments to be shared by the individual predicates, and may also involve implicit arguments, as well as implicit predicates. It is these aspects of semantic construal that will be high-

2 There is a tradition that classifies the argument of change of state intransitives (the so-called unaccusatives) as VP-internal, while, in contrast, the argument of agentive intransitives (the so-called unergatives) is classified as VP-external. According to syntactic accounts, resultatives result from the addition of a small clause, possessor extensions result from possessor DP raising, and compounds result from head raising.

lighted in this paper. Consider the following resultatives with transitive verbs; in all of them the internal argument (direct object) of the base verb cannot be expressed, but must be reconstructed in order to get the full reading of these sentences.[3]

(5) a. Er trank mir den Kühlschrank leer.
he drunk me.DAT the fridge empty
'He drunk (so much from my fridge) that as a result my fridge got empty (of beverages)'

b. Sie fällten eine Schneise in the Wald.
they felled a lane into the woods
'They felled (so much trees) that as a result a lane came into existence in the woods'

c. Markus stellte den Keller voll.
Markus put the cellar full
'Markus put (so much things into the cellar) that as a result the cellar got full'

Why is it that the resultative object must be expressed, but the things that are primarily affected by the action cannot?

Lexical Decompositional Grammar (LDG), which has adopted important ideas from Bierwisch (1989b) and Kiparsky (1989, 1992), attempts to account for these different constructions in a uniform way. In section 2, I will briefly introduce this framework (for more detailed information, the reader is referred to Joppen and Wunderlich 1995, Kaufmann 1995, Wunderlich 1997a, 1997b, 1999, Stiebels 1997, this volume, Kaufmann and Wunderlich 1998), illustrating it with two resultative examples. Resultatives are considered in more detail in section 3, and possessor extensions are studied in section 4.

2. The theoretical framework

Lexical Decompositional Grammar (LDG) provides a principled account for phenomena in which predicates and/or arguments are added to a base verb functioning as a lexical head. LDG assumes four levels of representation, each having its own structural properties:[4] Conceptual Structure (CS), Semantic Form (SF), Theta Structure (TS), and Morphology/Syntax (MS), and a set of principles that constrain the mappings between these levels. The distinction between SF, a partial semantic representation which is part of the grammar, and CS, a richer semantic representation which is part of the extralinguistic conceptual system, goes back to at least Bierwisch (1983).

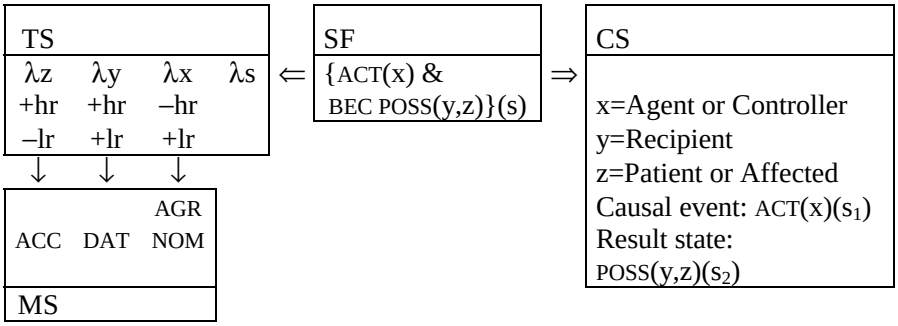
3 I owe the examples (5b,c) to Ingrid Kaufmann.

4 A possible objection would be that TS is not a separate level because its main function is to interface between SF and MS. However, it includes information not present in SF, and also serves as the underlying structure for MS. (See also below.) In a correspondence-theoretic approach to argument structure (Stiebels, this volume), TS features form the input for MS.

This four-level architecture of LDG is illustrated in (7), representing the ditransitive verb *geben* 'give', which is canonically realized by the pattern in (6).

(6) a. (als) der Torwart dem Jungen den Ball gab
(when) the goal-keeper the boy the ball gave
b. [DP^{x}_{NOM} [DP^{y}_{DAT} [DP^{z}_{ACC} *geb*-AGR^{x}]]]

(7) The four levels of LDG



The fact that the argument variables x, y, and z belong to different, more atomic predicates is expressed in SF. The corresponding list of λ-abstractors (theta or argument roles), each of which encoded by means of abstract case features ([+hr] for 'there is a higher role', [+lr] for 'there is a lower role'), is expressed in TS. The linking of these theta roles to agreement and case morphology is expressed in MS. Finally, the individual arguments can be characterized by thematic or eventive roles, and the whole situation (s) can be decomposed into relevant subevents, all of which is expressed in CS.

SF plays the most crucial role among these four levels: the SF of a lexical item is a partial (or minimal) semantic representation, formulated by means of a binary categorial syntax (with the bracketing [A [& B]] for the conjunction &); it belongs to the grammar of a language insofar as it determines morphological and syntactic properties of that item (and for this reason may involve partial decomposition into more atomic predicates[5]). All predicates used in SF can be explicated by bundles of conceptual conditions in CS; for instance, the predicate BEC(OME) has been explicated as a control condition for a change of state within Dynamic Event Semantics (Naumann, to appear).

Everything that can be inferred by general means is not part of SF itself, although it may be incorporated in CS, which is a more elaborated semantic representation that includes all conceptual refinements explicitly. Notions such as implicit argument, subevent, thematic or eventive roles, which are often relevant in more detailed semantic analyses, do not belong to SF itself, but rather to CS. For instance, a one-level semantic representation of 'give' would have to include the predicate CAUSE for connecting the agent's action (performed on some object) with the result (see, among others, Jackendoff 1990, Pustejovsky 1991). However, it is not necessary to represent both the causal

5 Other reasons for decomposing a lexical predicate have to do with the scope of adverbials (von Stechow 1996); they do not play a role in LDG. I believe that the scope of adverbials depends on the semantic type on which they operate, and has to be fixed in CS rather than SF (see Wunderlich 1997a).

factor (the agent's action) and the causal relation, because the latter can be inferred (see below). The motivation to assume SF as a separate level of representation is minimality,[6] but also the possibility to express generalizations for the mappings between semantic and morphological/syntactic structure.

The mapping between SF and CS is constrained by one general principle and two subconstraints. POSSIBLE VERBS (first proposed by Kaufmann 1995) demands every lower predicate in SF to be in some way more specific than the higher predicate. CONNEXION regulates the necessary connection between the predicates in terms of argument sharing, while COHERENCE regulates a coherent temporal/causal structure of the overall situation denoted by the complex verb. A predicate can specify another predicate only if these predicates share at least one argument and form a coherent temporal or causal structure, so CONNEXION and COHERENCE are necessary preconditions for POSSIBLE VERBS (see Kaufmann and Wunderlich 1998 for a more elaborate discussion).

(8) POSSIBLE VERBS. In a decomposed SF representation of a verb, every more deeply embedded predicate must specify the higher predicate or sortal properties activated by the higher predicate.[7]

Every predicate ranges over a certain domain of arguments which can be characterized by some sortal property; specification of these sortal properties takes place if the lower predicate provides more information in the same domain.

(9) CONNEXION. In a decomposed SF structure, each predicate must share at least one argument with another predicate, either explicitly or implicitly.

(10) COHERENCE. Subevents encoded by the predicates of a decomposed SF structure must be connected contemporaneously or causally.

CONNEXION ensures that the individual predicates form at least an argument chain and thus can characterize one and the same complex event; however, it is possible that implicit participants come into play, i.e., arguments that are only inferred in CS. COHERENCE ensures that the subevents encoded by the individual predicates either share their temporal structure or form a cause-result (accomplishment or achievement) complex; therefore, the causal connection in resultatives can be inferred and need not be explicitly represented in SF.

One reason for assuming a binary branching for SF is that this allows us to establish some interesting structural properties, which is in conformity with the overall-attempt of LDG to apply structural notions in the study of meaning as far as possible. A binary

6 In Wunderlich (1997a), I assumed CAUSE to be part of SF, but departed from this view already in Wunderlich (1996), where I tried to defend a minimal SF structure for the purpose of specifying the semantic ingredients for argument structure. Note that also the decomposed Logical Form proposed by von Stechow (1996), which is similar to SF in many respects, dispenses with representing the predicate cause.

7 The architecture of LDG is not restricted to verbs. POSSIBLE VERBS can easily be generalized to prepositions, nouns, and adjectives. Since in this paper I am concerned with verbs, there is no need to rename this constraint for more general purposes. Note that the intuitive notion of embedding can be refined by means of L-command, see (12) below.

branching structure uniquely determines the ranking of arguments in SF (which in turn determines the way in which the arguments are projected into MS). Most relevant are the lowest and the highest argument, whereas some arguments in between may be 'wrongly placed' and therefore suppressed from being projected into MS. The mapping between SF and TS is governed by two constraints: ARGUMENT HIERARCHY, which ensures that the semantic ranking of argument variables is preserved, and STRUCTURAL ARGUMENT, which selects the arguments that can be realized in MS by agreement or case morphology.

(11) ARGUMENT HIERARCHY. The list of λ-abstractors in TS corresponds to the depth of embedding in SF, with the lowest argument to the left (first subjected to Functional Application), and the highest argument to the right. Correspondingly, the lowest argument (of a polyadic verb) is designated as [+hr,–lr], and the highest argument as [–hr,+lr], whereas all medial arguments are designated as [+hr,+lr].

(12) STRUCTURAL ARGUMENT. An argument is structural only if it is either the lowest argument or (each of its occurrences) L(exically)-commands the lowest argument; so every internal (non-highest) argument of a nonfinal predicate in SF is nonstructural (Wunderlich 1997a,b).[8]
L-command is defined for the nodes in SF, which represent logical types, as follows: α L-commands β if the node γ, which either directly dominates α or dominates α via a chain of nodes type-identical with γ, also dominates β. [This constraint accounts for the fact that the transitive verbs in (5) cannot realize their internal arguments.]

TS is considered to be an independent level of representation for the following reasons: (i) The default designations on the basis of ARGUMENT HIERARCHY can be lexically overridden, which happens in all instances of quirky case or dative experiencers. (ii) Again lexically determined, it is possible that improper theta roles (expletive arguments) appear, which do not have a thematic correspondent in SF although they participate in morphological case. (iii) Argument demoting operations such as passive, antipassive, or lexical reflexive can best be conceived of as operations on TS: passive blocks the highest theta-role and antipassive the lowest theta-role from realization, whereas a lexical reflexive binds a lower theta-role to the highest one.

Finally, the mapping between TS and MS, which is in the center of argument linking, can best be captured in a correspondence-theoretic scenario, in which TS is the input and MS the output. Faithfulness constraints require each abstract case feature in TS to be realized in MS, and, conversely, each morphological agreement or case feature in MS to be based on a corresponding feature in TS. Consequently, both morphological agreement and case are characterized by the same features [hr] and [lr], which have already been introduced to encode the ranking in TS: dative is [+hr,+lr], accusative is [+hr], ergative is [+lr], and nominative is unspecified ([ ]). Feature checking,

8 For independent reasons, the referential (situation) argument of verbs is nonstructural (and only affected by aspect, tense, and mood), whereas the same type of argument becomes structural in event nominalizations (see Bierwisch 1989a).

including also further morphological features for person, gender, and number, by means of faithfulness constraints is a more powerful device than unification, which is problematic for incorporating the concept of specificity in morphological paradigms (Barg u.a. 1996).[9] Although LDG can be translated into a HPSG-like format (Rumpf and Stiebels 1999), it has a more sophisticated, and at the same time more elegant, architecture to express generalizations on argument structure (see also Stiebels, this volume). In this paper, however, I presuppose the LDG conception of argument linking and will not discuss it any further.

It is important to notice that LDG is a strictly lexical account: The appearance of additional arguments (such as possessors, beneficiaries, or affected objects) is only licensed by a predicate that is added to the base SF. Furthermore, the formation of complex predicates is mostly triggered by some property of the lexical head. This is true for morphologically marked alternations such as causatives, the assistive in Quechua (van de Kerke 1996), or the affective in Basque (Joppen and Wunderlich 1995), which add a highest argument; here, the respective morpheme is both the head and the functor that selects a verb. It also holds for other complex predicate formation such as resultatives, particle-verb combinations, and Chinese verb-verb compounds, which may add a lowest argument; here, the verb is the lexical head that is qualified for taking another predicate.[10] So-called constructional meanings (Goldberg 1995) are always analyzed as being determined by the lexical head.

In particular, every verb may undergo the operation ARG, by which some predicate P is added as a further complement to the verb; P must be predicated of the same situation s as the verb (see Wunderlich 1997b).[11]

(13) Argument extension ARG:

$$\ldots \lambda s\ \text{VERB}(\ldots)(s) \Rightarrow \lambda P \ldots \lambda s\{\text{VERB}(\ldots)(s) \,\&\, P(s)\}$$

which can be abbreviated as $\{\text{VERB}(\ldots) \,\&\, P\}(s)$

ARG can only be iterated if the variable P has been instantiated. This follows from the following SF constraint, which is motivated by the idea that the individual arguments can only be realized after the complex predicate is established.[12]

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9 A theta role specified as [+hr,+lr] can be unified with dative, accusative, or nominative, although only the most specific linker should be linked. Barg et al. propose to determine the possible linker candidates by means of a unification test, whereas the actual linker has to meet further conditions. With faithfulness constraints, the most specific linker incurs the least number of MAX violations.

10 There may also be mismatches between morphology and semantics: although the Bantu applicative is the morphological head, the verb is the functor that undergoes ARG, see (13). Similarly, in the right-headed verb-verb compounds of Japanese the non-head is the functor that undergoes ARG (Gamerschlag 1999).

11 There is a variant of ARG in which P predicates of a non-temporal object rather than a situation. In this case, P must share its argument with some other argument of the verb, and it must be relativized to s. Examples are depictive predicates and poss, adding a possessor to the verb, see below.

12 As I will show in section 4, PREDARG also makes interesting predictions for restructuring a derived SF.

(14) PREDICATIVE ARGUMENTS (PREDARG). A predicate variable must occupy the lowest position in SF. (There can be only one at the time.)

If P is instantiated by a multi-valent predicate constant, all further arguments of it are inherited by Functional Composition. An example is shown in (15a) (from Stiebels 1996:67). Here, the verb *schreiben* 'write' is composed with the prefix *er-*, which contributes a resultative possessor meaning. In the resulting prefix verb, represented in (15c), the internal argument of *schreiben* cannot be realized, due to the restriction by STRUCTURAL ARGUMENT, and therefore is existentially bound. Since no lexical marking appears, all arguments are canonically realized (with the reflexive in dative position).

(15) a. Sie erschrieb sich den Pulitzer-Preis.
She **er**-wrote herself the Pulitzer prize.
'She won the Pulitzer prize by her writing'

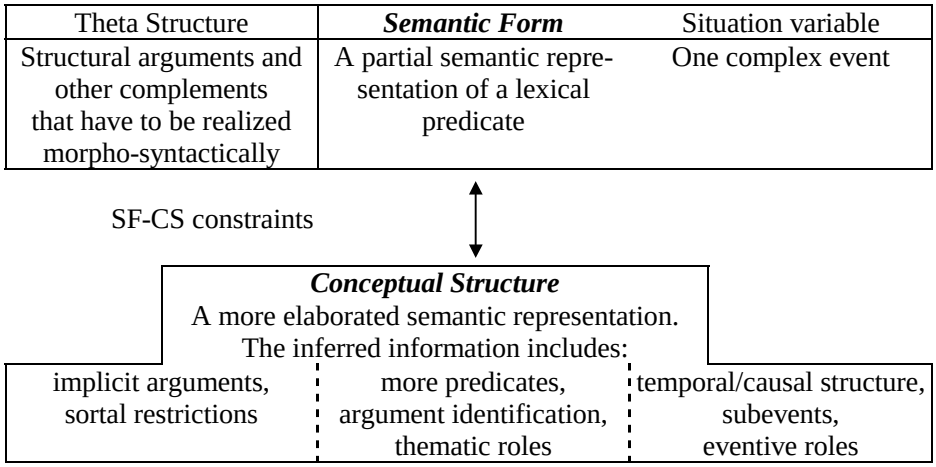
b. *schreib-* 'write': λy λx λs WRITE(x,y)(s)
ARG(*schreib-*): λP λy λx λs {WRITE(x,y) & P}(s)
er-: λv λu λs' BECOME POSS(u,v)(s')

c. *er-schreib-*: λv λu λx λs ∃y {WRITE(x,y)(s)& BECOME POSS(u,v)(s)}

The assumption is that, in principle, the composition with another predicate by means of ARG is free, but has to be checked in CS. Whether the particular composition is allowed depends on whether the SF-CS interface constraints can be satisfied (which often is the case only by argument identification due to CONNEXION), and, of course, also on the lexical and morpho-syntactic resources of that particular language.

The semantic apparatus assumed in LDG is summarized in the diagram (16).

(16) Overview of the SF-CS interaction



This framework is illustrated with the example in (17a,b), in which tense is disregarded. The complex predicate *run flat* is derived in three steps: first, ARG is applied, then P is instantiated by the resultative BECOME Q(z), and finally Q is instantiated by the adjectival complement *flat*, as shown in (17c).

(17) a. The children ran the lawn flat.
b. ∃s {RUN(**the children**) & BECOME FLAT(**the lawn**)}(s)
c. *run*: λx λs RUN(x) (s)
ARG(*run*): λP λx λs {RUN(x) & P}(s)
RES(*run*): λQ λz λx λs {RUN(x) & BECOME Q(z)}(s)
run flat: λz λx λs {RUN(x) & BECOME FLAT(z)}(s)

Run flat is predicated of one complex event ('s'), consisting of a process (of running) and an achievement (of becoming flat). These subevents belong to event types with a different temporal structure; therefore, according to COHERENCE, a causal structure is established. Moreover, CONNEXION requires some (at least implicit) argument shared by the two predicates. Since the concept of running implies a certain ground on which this activity takes place and exactly this sortal requirement is met by 'lawn', this argument can indeed function as the connecting one. (Other potential implicit arguments are the feet or the shoes of the runner.) In contrast, running around usually does not imply any relation to spectators; thus, a sentence such as (18a) is odd for semantic reasons, and probably the same is true for (18b). However, Chinese verb compounds verbs seem to be more liberal (18c).

(18) a. ??The children ran their grand parents speechless.
b. ??The children cried their grand parents helpless.
c. xiao-hai ku-huang-le tamen de yeye-nainai.
small-child cry-get.confused-LE their grandpa-grandma
'The children cried so that their grand parents became confused'

Although spectators of a running event may become speechless, this result usually does not specify anything which is involved in the process of running itself. Thus, (18a) - simply extending the running event - is ruled out by POSSIBLE VERBS, and similarly (18b). It is an open question whether the Chinese verb compound (18c) is possible because two independent verbs are combined, or because 'cry' is understood as a communicative utterance that implies a relation to some audience.

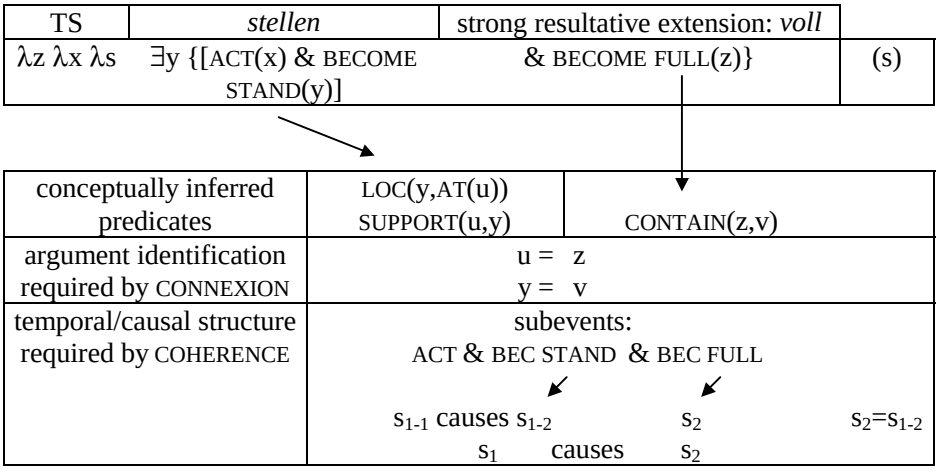
Another, more complicated, example is (19) – repeated from above –, in which a transitive achievement verb undergoes resultative extension.

(19) Markus stellte den Keller voll (mit Möbeln).
'Markus stood/put the cellar full (with furniture)'

One can paraphrase this sentence as follows: 'By Markus' acting, some furniture (= y) became localized in a standing way, such that the cellar became full (of y)'. The argument y itself can only be realized as an adjunct, by means of the oblique preposition *mit* 'with'. This is predicted by STRUCTURAL ARGUMENT, because y, an internal argu-

ment of *stellen*, becomes nonstructural in the derived SF of *vollstellen*. The full interpretation of the complex verb is schematically shown in (20).[13]

(20) Analysis of example (19)



STAND(y) implies that y is located at some surface u (or, that this surface u supports y), while FULL(z) implies that z contains a certain amount of v. CONNEXION requires some argument sharing. Indeed, the things ('y') which come to stand are identical with the things that are contained ('v'), and the surface that supports these things ('u') is identical with the thing that becomes full ('z'). Furthermore, COHERENCE requires some causal relationship: (i) That y comes to stand on u is caused by some activity of x, and (ii), that z becomes full of v is caused by the preceding achievement if a certain amount of things is moved. These two transitional events (come to stand and become full) are in fact only the two sides of one and the same event, in which two objects change some property: the things being put (into the cellar) ('y'), and the cellar ('z'), being occupied by these things.

The following sections study the effects of the SF-CS interface constraints (CONNEXION and COHERENCE) in interaction with particular constructions and particular types of verbs in greater detail.

13 *Stellen* itself requires a directional PP, which is represented by the extension P(y). However, such a (weak resultative) extension is complementary to a strong resultative extension (see section 3); only one of them can be realized because of PREDARG. This example moreover shows that ARG can apply even if the base verb calls for a predicative argument. Thus, ARG is really a free option, and only restricted by further constraints. Other examples with resultative AP rather than PP complements are *jemanden ruhig stellen* 'put someone quiet', *etwas flach legen* 'put something flat'.

3. The variance of resultative constructions

Cross-linguistically, two types of resultative extension can be identified (Washio 1997, Kaufmann and Wunderlich 1998).

- Weak resultatives, in which a result state already implied by the verb is specified more narrowly.
- Strong resultatives, in which some result state predicating of one of the involved participants of a process is added.

These two types of resultative construction are illustrated in (21) and (22).

(21) Weak resultatives
  a. The children ran into the woods.
  b. Peter cut the meat into slices.
  c. The vase broke into several pieces.

(22) Strong resultatives
  a. The children ran the lawn flat.
  b. John drank the guests under the table.
  c. The guests drank the wine cellar empty.
  d. He ran himself tired.

If a language admits strong resultatives, it also admits weak resultatives. Strong resultatives are possible in the Germanic languages (German, English, and Dutch), as well as in Chinese (verbal compounds, *de*-construction). Other languages, such as the Romance languages and Japanese, only allow weak resultatives, whereas Hungarian seems to be in the process of developing strong resultatives. The properties in which strong and weak resultatives differ are summarized in (23).

(23) The contrast between strong and weak resultatives

	strong resultatives	weak resultatives
• A new individual argument is introduced:	yes	no
• AP result predicates are possible:	yes	no
• The result predicate can specify a change which is not inherent to the meaning of the base verb:	yes	no
• An independent subevent is added:	yes	no

All these differences can be predicted from the way in which the result predicate is added to the verb (Kaufmann and Wunderlich 1998). The formation of weak resultatives is a subcase of the introduction of secondary predicates, which itself is a subcase of ARG; it can be represented by the template in (24).[14]

14 Weak resultatives are often lexicalized, for instance, in the causative position verbs *setzen, stellen, legen* 'put', which require a directional PP (see footnote 13).

(24) Weak resultatives: A predicate Q predicating of the lowest argument of the verb is added.

λy ... λs VERB(...,y)(s) ⇒ λQ λy ... λs {VERB(...,y) & Q(y)}(s)

If the added predicate Q is realized by a stative AP (such as *naked* in (25a) and *raw* in (26a)), a depictive reading arises; therefore, adjectives usually do not qualify as result predicates in such a case.[15] Only if Q is realized by a directional PP (such as *into the woods* in (25b) and *into slices* in (26b)), a weak resultative reading arises, because the directional PP encodes some change in a relevant dimension specified by the verb, which is location of x in (25b), and constituency of y in (26b). In none of these cases is an independent subevent introduced: That the children reach the wood is a direct result of their running, and that the meat is sliced is a direct result of someone's cutting the meat.

(25) a. The children ran naked.
b. The children ran into the woods.
c. λQ λx λs {RUN(x) & Q(x)}(s) Q(x) = NAKED(x),
Q(x) = CHANGE(LOC(x, INT(**the woods**)))

(26) a. Peter cut the meat raw.
b. Peter cut the meat into slices.
c. λQ λy λx λs {CUT(x,y) & Q(y)}(s) Q(y) = RAW(y),
Q(y) = CHANGE(IN-SLICES(y))

In contrast, all these features change with strong resultatives, as indicated in the summary (23). The general template that allows the formation of strong resultatives is shown in (27); it is a subcase of ARG, with P= BECOME Q(z), and has already been illustrated by the examples in (17) and (19) above.

(27) Strong resultatives: BECOME Q(z) predicating of a new argument is added.

... λs VERB(...)(s) ⇒ λQ λz ... λs {VERB(...) & BECOME Q(z)}(s)

Here, the predicate BECOME explicitly adds an achievement, which constitutes an independent subevent. Hence, independently of whether Q is realized by a PP or an AP, in any case a result reading arises. This extension is only constrained by CONNEXION, which requires the new argument to be at least an implicit participant of the base verb. Moreover, an internal argument of the base verb becomes nonstructural, so it cannot be expressed directly - an example is (28b), where the stuff being drunk remains implicit. As (28c) shows, the newly introduced argument can be realized by a reflexive pronoun, so it is possible that the result predicates of the same argument as the base verb.

(28) a. The children ran the lawn flat.
λQ λz λx λs {RUN(x) & BECOME Q(z)}(s) Q(z) = FLAT(z)
b. The guests drank the wine cellar empty.
λQ λz λx λs {DRINK(x,y) & BECOME Q(z)}(s) Q(z) = EMPTY(z)

15 There are some exceptions, in which an adjective may be related to a result; they have been discussed in Napoli (1991), Washio (1997), and Kaufmann and Wunderlich (1998).

c. John ran himself tired.[16]
λQ λz λx λs {RUN(x) & BECOME Q(z)}(s) Q(z) = TIRED(z)

As pointed out above, SF itself neither represents subevents explicitly, nor any causal relation between subevents. However, considering the fact that BECOME predicates of a temporal situation one can infer that a new subevent is established, and that a causal relation between the subevents holds, according to COHERENCE.

Several accounts of resultative constructions within a syntactic framework have been proposed (Hoekstra 1988, Wilder 1991, Winkler 1994, among others). None of these accounts is able to deal with examples such as (28b), in which a subcategorized direct object of a verb is replaced by a nonsubcategorized result object (see the discussion in Wunderlich 1997b). The lexical account of LDG does not have these problems, on the contrary, examples like those in (28b) turn out to be the standard case for resultative constructions with transitive base verbs.[17] (For alternative lexical analyses, see Levin and Rappaport Hovav 1991, Legendre 1997).

Not every verb allows a strong resultative: for instance, verbs that already encode BECOME (inchoative or causative verbs) are heavily restricted. German (29a) is deviant, while the English counterpart in (29b) is acceptable (although with some variation). I assume that the 'literal' representation in (29c) is ruled out by POSSIBLE VERBS: The second shift of property can specify the first one only if (i) the predicate Q entails the predicate encoded by the base verb (i.e., SOFT must entail NONSOLID, which is true), and (ii) if both predicates predicate of the same argument (i.e., z = x). This identification of arguments is somewhat restricted; it is easier in English than in German.

(29) a. ??Die Butter schmolz weich.
b. The butter melted soft.
c. λQ λz λx λs {BECOME NONSOLID(x) & BECOME Q(z)}(s) Q(z) = SOFT(z)

This difference between German and English has been analyzed in more detail in Kaufmann and Wunderlich (1998). The only possible interpretation for (29), where z = x, shows that in fact only one transition takes place, hence, in this case the result AP does not constitute an independent subevent. Even German allows verbs that already encode BECOME to be extended by an AP result in some instances, as was illustrated with example (19) above. The analysis in (20) demonstrated that the interpretation of this example required both identification of argument variables and unification of the two potential subevents into a single event. Examples such as those in (19) and (29) thus show that the mechanism of strong resultative formation can also be used to introduce a subevent that is not independent.

However, generally the addition of BECOME (which encodes a particular temporal structure) may introduce an independent subevent. In the next section I will show that

16 Some resultatives are only possible with a reflexive. For instance, ?*John ran Anne tired* is problematic because there is no obvious connection between John's running and a result state predicated of Anne. The same is true for ?*He laughed me sick*, in contrast to *He laughed himself sick.*

17 One important motivation for developing LDG was the attempt to account for resultatives of this kind (Wunderlich 1992, Kaufmann 1995).

also the addition of a stative relation such as POSS is possible. Since a stative relation lacks any temporal structure, it cannot alter the event structure of the base verb. But such a relation must be integrated into the temporal/causal structure already expressed, thus, its actual reading must be derived conceptually, i.e., by semantic construal in CS.

4. Possessor extension on verbs: How semantic construal works

In the following examples, a strong resultative licenses an additional possessor extension: a (reflexive) inalienable possessor in (30a,b), and an alienable possessor in (30c). There can be no doubt that the POSS relation holds between the dative possessor and the resultative object; it cannot be established without the resultative.

(30) a. Ich lief mir die Füße wund. (*mir/*die Füße/*mir die Füße/*mir wund)
I ran myself.DAT the feet sore
'I ran my feet sore'
b. Die Demonstranten standen sich die Füße platt.
the demonstrators stood themselves.DAT the feet flat
'The demonstrators stood their feet flat'
c. Er trank mir den Kühlschrank leer.
He drunk me.DAT the fridge empty
'He drunk my fridge empty'

There are also underived transitive verbs that allow possessor extension, either inalienable (31a) or alienable (31b).

(31) a. Er wusch mir die Füße.
'He washed my feet'
b. Er putzte mir die Stube.
'He cleaned my room'

But not every transitive verb allows possessor extension; the examples in (32) are rather odd.

(32) a. ??Er trank mir das Bier.
'He drunk my beer'
b. ??Er betrachtete mir die Füße.
'He watched my feet'

However, possessor extension is possible with (experiencer or change of state) intransitives (33), with stative locationals (34a), with intransitives subcategorized for a PP (34b,c), and with resultative particle verbs (34d). What is common to all these examples is the fact that the possessed object functions, in some way or other, as the affected object.

(33) a. Mir schmerzt der Fuß.
'My foot hurts'

b. Mir zerbrach die Brille.
'My glasses broke'
c. Mir fiel die Tasche in den Fluß.
'My bag fell into the river'
d. Mir fiel ein Blatt in die Suppe/ auf den Fuß.
'One of my leaves fell into the soup' or
'A leaf fell into my soup/onto my foot'

(34) a. Er stand mir auf dem Fuß / ?auf dem Teppich.
'He stood on my foot / on my carpet'
b. Eine Krankenschwester stach mir in den Arm.
'A nurse pricked my arm'
c. Die Kinder trampelten ihr auf den Blumenbeeten rum.
'The children trampled on her flower beds'
d. Er aß mir den letzten Apfel auf.
'He ate up my last apple'

However, it is not yet clear whether all dative possessors have the same source. Note that the possessor is the highest argument in (33), according to several syntactic tests[18], but it is a lower argument in (34). Interesting is the fact that the possessed thing in (33c,d) can be either an argument of the verb itself or an argument of the preposition, while it can be introduced only by the PP in (34a-c) - in all these instances I assume that the verb is subcategorized for a PP. Thus, whether the possessor becomes the highest argument of the verb is not determined by the occurrence of a PP or by the possibilities to identify the possessed thing, but rather by the respective type of verb. In any case, the identity of the possessed thing (i.e., the internal argument of the POSS-relation) must be reconstructed conceptually.

Many languages with a rich case system including dative allow the introduction of a dative argument which functions in a broad sense as the possessor of some other argument of the verb. The interpretation of such an additional dative complement ranges from inalienable possessor over alienable possessor to recipient, beneficiary, or experiencer. The respective reading depends on several factors, for instance, whether a relational noun (encoding a part-whole, a kinship or a social relationship) is present and thus forces a strict possessor reading, and whether the verb has a more stative or a more transitional reading. Syntactic accounts only deal with the strict possessor readings by assuming *possessor raising*: the possessor phrase is moved from the complement of a DP into the complement domain of the governing verb. For instance, the account of Landau (1999) for similar examples of Modern Hebrew claims that a possessor phrase is moved from [Spec,DP] to [Spec,VP] in order to get dative case. (But why must it get dative case?) For empirical objections against the possessor raising account, see below.

18 For instance, the order of unspecific pronoun (*weil einem der Fuß schmerzte* 'because the foot of someone hurt'), VP topicalization (*der Fuß geschmerzt hat mir aber nicht* 'but my foot has not hurt'), and binding (*weil jedem seine Füße schmerzten* 'because everyone had his feet hurt'). For this type of possessors see also Blume (2000: 112ff).

The lexical alternative assumes that possessors can be instantiated either on nouns or on verbs. The intention behind the concept of possessor raising concerns just one interpretation of POSS in verbs. Let us assume, similarly to the template of resultative formation, that there is another template that allows possessor extension, directly giving verbs the potential of having a possessor complement. As the examples above have shown, there must be an affected argument present in the verb, and the role of the possessor phrase depends on whether there is also an agent present or not. Thus, we have to distinguish two variants.

(35) Possessor extension of verbs[19]

a. Topmost possessor: For intransitive verbs with an affected argument (regardless of whether they are subcategorized for a PP or not):
$\lambda x\ \lambda s\ \text{VERB}(x)(s) \quad \Rightarrow \quad \lambda x \quad \lambda z \quad \lambda s\ \{\text{POSS}(z,u)\ \&\ \text{VERB}(x)\}(s)$
+hr
Here, u is nonstructural, and its value must be reconstructed.
If no PP is present, u=x because of CONNEXION.

b. Otherwise (subordinated possessor):
$\ldots\ \lambda s\ \text{VERB}(\ldots)(s) \quad \Rightarrow \ldots\ \lambda s\ \{\text{VERB}(\ldots)\ \&\ \text{POSS}(z,u)\}(s)$
The realization of both u and z depends on further properties of the verb.

The elsewhere case (35b) is a particular instance of ARG, whereas the specific case (35a) is not; here, POSS rather behaves as a functor on the verb, similarly to the causative, the assistive in Quechua, or the affective in Basque. The designated feature [+hr] ensures that the possessor is realized as dative, because this theta role is also inherently [+lr]. The assignment of [+hr] thus allows the inference that 'there is some higher role which causes the event'; this is similar to other experiencer verbs with dative and is possible only if no agent is present; an agent would have to be realized as the higher role. Therefore, if one allows POSS to be a functor on verbs, it necessarily selects only intransitive verbs with an affected argument.[20]

The interpretation of POSS splits into inalienable (permanent) vs. alienable (temporary) possession, depending on how the possessed thing ('u') is fixed. In the more specific instance of inalienable possession, POSS(z,u) has the reading 'z is related to u via part-whole, kinship, or social function', while in the general case of alienable possession POSS(z,u) has the reading 'z has access to or some control over u'. Therefore, if a relational noun is present (such as *Fuß* 'foot' in (33d) above), it gets preference in the identification of the possessed thing. In any case, CONNEXION requires that the internal argument of POSS ('u') is identical with some other (explicit or implicit) argument of the verb. As the above examples show, u tends to be identical with the lowest argument of the verb (the subject of intransitive change of state verbs or the affected object of transitive verbs), but may also be identical with the object of a PP. Since in German the

19 The two options in (35) together correspond to the thematic hierarchy agent > possessor > affected object.

20 German also has a verb of possession, namely *gehören* 'belong', which exactly has the specification of the topmost possessor; consider *mir gehört die Tasche* 'The bag belongs to me'. We might assume that the topmost possessor is a covert variant of this verb.

possessed thing must be affected, it can never be the case that u is identified with an agent. However, Serbo-Croatian also allows agents to be the possessed thing:[21]

(36) Otac mu čita novin-e.
father.NOM he.DAT read.PRES.3sg newspaper-ACC
'His father reads newspapers' or 'The father reads newspapers to him'

In order to see how possessor extension works, let us first consider the elsewhere case (subordinated possessor).

(37) a. Er wusch mir das Hemd. 'He washed my shirt'
λu λz λx λs{WASH(x,y) & POSS(z,u)}(s)
The nonstructural argument y is identified with u: y=u.
b. Sie trampelten ihr auf den Beeten rum. 'They trampled on her flower beds'
λQ λz λx λs{TRAMPLE(x) & POSS(z,u) & Q(x)}(s)
–DIR +lr
Q(x)=LOC(x,ON(v)); v=**die Beete** 'the beds'.
The nonstructural argument u is identified with v: u=v.

The analysis of (37a) with a transitive verb is straightforward: the possessed thing becomes the lowest argument, the possessor the medial argument, and the object of the base verb nonstructural - this scenario predicts (i) that the structural arguments are canonically realized (NOM-DAT-ACC), and (ii) that it is the object of the base verb that is identified with the possessed thing. (Note that the Serbo-Croatian example (36) cannot be explained in this way.)

The analysis of (37b) is more complicated. Let us assume that *trampeln* selects a nondirectional locative PP, and that a predicative argument must stay lowest, according to PREDARG.[22] Then, POSS is integrated higher than the predicative variable, which is reflected in the assignment of [+lr] ('there is a lower role') for the possessor. Consequently, the possessed thing ('u') becomes nonstructural; it has to be identified with the object of the preposition because it cannot be identified with the agent.

The analysis for the topmost possessor extension (35a), in which POSS is the highest-ranked predicate, is now obvious. The readings of the examples (33c,d) above can be captured by the representations in (38); [+DIR] classifies a directional PP. Recall that u is nonstructural in these representations; so u may be identified with some other argument, either with the argument of the base verb ('x') or with the argument introduced by the preposition ('v').

(38) a. Mir fiel die Tasche in den Fluß. 'My bag fell into the river'
λQ λx λz λs {POSS(z,u) & FALL(x) & Q(x)}(s)
+DIR +hr
Q(x)=CHANGE LOC(x, INT(v)); v=**der Fluß** ('the river'); u=x.

21 I owe this example to Jelena Krivokapic.

22 Alternatively one may say that possessor extension takes place after the PP is instantiated.

b. Mir fiel ein Blatt in die Suppe. 'A leaf fell into my soup'
λQ λx λz λs {POSS(z,u) & FALL(x) & Q(x)}(s)
+DIR +hr
Q(x)=CHANGE LOC(x, INT(v)); v=**die Suppe** ('the soup'); u=v.

Notice that in all examples described in (37) and (38), a nonstructural argument of a higher predicate receives its value from a lower predicate, in accordance with POSSIBLE VERBS. The reader will now be able to check the following representation for an example in which resultative and possessor extension interact.

(39) Er trank mir den Kühlschrank leer. 'He drunk my fridge empty'
λQ λv λz λx λs {DRINK(x,y) & POSS(z,u) & BECOME Q(v)}(s); u=v.

The order of derivation must be resultative-possessor because the possessed thing is identified with the resultative object. This shows that ARG can be applied even if a predicative argument is present. However, the predicative argument introduced by the resultative must stay lowest; therefore, some restructuring of SF must take place in order to satisfy PREDARG. Such a derivation is not fully monotonic; it resembles the well-known phenomenon of infixation in morphology, where an affix sometimes is infixed in order to satisfy higher-ranked constraints.

In both types of possessor extension, and independent of whether alienable or inalienable possession is at stake, the possessed thing can be identified with the object of a preposition, which is only available if the PP is added, i.e., within the smallest VP. This fact is problematic for a syntactic account of possessor raising, because movement out of a PP violates the condition of proper government of the trace. Some instances of dative possessors in verbs also allow more than one interpretation, where a possessor raising analysis would have to assume ambiguity of derivation. It seems more adequate to assume ambiguity of semantic construal, which is part of the conveptual rather than the grammatical system.

Moreover, some interpretations of a possessor phrase in verbs depend on whether the POSS-relation holds for the anterior or the posterior state, or for the whole situation including these states. The possessor raising analysis is unable to assume any temporal predominance; it cannot explain why the POSS-relation may be restricted to a certain phase (or subevent).

The POSS-relation itself has no independent temporal structure; the only requirement is that it must be integrated into the temporal/causal structure of the verb - which is possible in several ways. Example (40) may have two readings.

(40) Sie legte ihm das Buch auf den Tisch.
'She put him the book on the table'
(i) A *recipient* reading: POSS is established by the action, i.e., POSS is in the scope of BECOME and only relevant in the posterior state. In this case, *he* (the referent of the dative DP) becomes the possessor of the book. ('She put the book on the table, and as a result he got the book')

(ii) A *beneficiary* reading: POSS is established independently of the action, i.e., POSS can be relevant also in the anterior state, or in the whole event. In this case, *he* (the referent of the dative DP) may be the possessor of the book or the table, and she put the book on the table for his benefits.

(41) Analysis of example (40)
Row (a) represents the SF of the causative position verb *legen*, which is subcategorized for a directional PP (considered as a lexicalized version of weak resultative extension), row (b) represents the derived SF of the verb, and (c) the stage in which the directional PP is added.

	TS	*legen*	possessor extension	weak resultative extension	
(a)	λQ λy λx λs +DIR	{[ACT(x) & BEC LIE(y)]		& Q(y)}	(s)
(b)	λQ λy λz λx λs	{[ACT(x) & BEC LIE(y)]	& POSS(z,u)	& Q(y)}	(s)
(c)	λy λz λx λs	{[ACT(x) & BEC LIE(y)]	& POSS(z,u)	& CHANGE LOC (y,ON(**d.Tisch**))}	(s)

conceptually inferred predicates	LOC(y,AT(w)) SUPPORT(w,y)	SUPPORT(**d.Tisch**,y)
argument identification required by CONNEXION	w = **d.Tisch** the possessed u = y or **d.Tisch**	
temporal/causal structure required by COHERENCE	as in ex. (20) above POSS is related to the anterior state of s_2 (Ben) or to the posterior state of s_2 (Rec)	

The predicate LIE(y) implies that y is located on some w, such that y is supported by w, while the result PP *auf den Tisch* 'on the table' implies that the table supports something. So we have to identify w=**d.Tisch**. However, the possessed thing u can be either y ('the book') or w ('the table'), which then determines the recipient or beneficiary reading.

Let us now compare (40) with a sentence that displays the same structure but contains relational nouns.

(42) a. Sie legte ihm die Hand auf die Schulter.
she put him.DAT the hand on the shoulder.
'She put her/his hand on his shoulder'
b. Sie legte sich die Hand auf die Schulter.
she put refl.DAT the hand on the shoulder
'She put her hand on her shoulder'

In the presence of relational nouns, the preferred reading for a dative possessor is that the referent of the relational noun is inalienably possessed, so POSS is related to the overall situation s and not to a partial phase of it. The person referred to by *ihm* (he.DAT) in (42a) cannot be a recipient (unless the hand is understood as a detached object rather than a body part), so the only interpretation left is that the possessed thing is his shoulder. It cannot be her shoulder, unless this is explicitly expressed by a reflexive pronoun, as in (42b), because both z and x are structural arguments and therefore distinct. However, the hand in (42a) can be her or his hand. In the latter case (u=w=y), the possessor z in fact possesses both w and y (the shoulder and the hand), which are the two arguments of the loc-relation; and, with the reflexive in (42b) it is even allowed that subject and object stand in a poss-relation. However, the preferred reading for the possessed thing is the prepositional object: it is only the body-part reading of 'hand' that requires further identification. The possessor extension itself never expresses a POSS-relation between the two arguments of a transitive verb, as shown by the oddity of (43a), in contrast to (43b,c).[23] The intended reading for (43a) would be (44) with z=x, u=y, whereas (43c) requires z≠x, u=y.

(43) a. ??Er hebt sich die Hand.
b. Er hebt die Hand/seine Hand.
'He lifts his (own) hand'
c. Er hebt ihr die Hand.
'He lifts her hand'

(44) {LIFT(x,y) & POSS(z,u)}(s)

Above I have stated that possessor extension requires the possessor to be distinct from an agent; this suffices to exclude (43a) with the intended reading. There seems to be no structural reason to exclude representations of the form {A(x,y) & B(x,y)}; for instance, Japanese verb compounds allow this transitive parity.[24] This means that the restriction is conceptually determined.

Let us finally consider to what extent the identification of the possessed thing ('u') is structurally determined. In all examples we have seen, u receives its value from a lower predicate, unless it itself is the lowest argument and is projected into syntax; insofar the identification is structurally determined, but solely as a consequence of STRUCTURAL ARGUMENT. To see whether, moreover, there is a structural antecedent relation between u and its value in SF, let us repeat representation (41c) from above, with some constant **a** for the prepositional object:

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23 Interestingly, (43a) has the following possible reading: Assume that he cannot move his left hand because it is paralyzed, and so he uses his right hand on the left one in order to lift it. In this reading, he is possessor of the left hand but not able to control it; so he himself is affected by the action taken with the right hand.

24 An example is the following (Gamerschlag 1999):
(i) Rikisi ga aite o zimen ni osi-taosi-ta.
sumo.wrestler NOM opponent ACC ground to push-topple-PAST
'The sumo wrestler pushed his opponent to the ground.'

(45) λy λz λx λs {[ACT(x) & BEC LIE(y)] & POSS(z,u) & CHANGE.LOC(y, ON(**a**))}(s)

STRUCTURAL ARGUMENT predicts that only y, z, and x are structural arguments of the verb, and ARGUMENT HIERARCHY predicts that they are mapped onto TS in that order. CONNEXION demands argument sharing, so u could be identical with y or **a**. If **a**=**d.schulter**(v) ('the shoulder of v') and y gets the value **d.hand**(w) ('the hand of w'), then both v and w are inalienable possessors. Thus, identifying u=y implies the identification z=w. This crossing identification immediately makes clear that argument identification of this kind does not apply structurally on SF. There is further reason why this is excluded. Note that x L-commands z in (45), so x can anaphorically control the reflexive *sich* in (42b);[25] but neither does y L-command u, nor does u L-command **a** in (45). Given the apparatus of LDG, one has to conclude that argument identification in connection with dative possessor readings is conceptually determined, not structurally (which makes the possessor raising account quite implausible).

5. Conclusion

Two types of extension have been discussed: resultative and possessor extension, each showing some variation. Resultatives can be weak or strong; only the latter licenses additional arguments; but both can be seen as instances of ARG, the general option of predicate composition with the verb as the morphological head. Possessors can be added as the highest or a non-highest argument of the verb (topmost vs. subordinated possessor extension); only the latter is an instance of ARG, while the former is similar to a causative and, hence, can be regarded as a functor on verbs.

There is one major difference between strong resultatives on the one hand and weak resultatives and subordinated possessor extensions on the other: strong resultatives add a predicate with a temporal structure of its own (thus constituting a subevent) to the verb, whereas both the weak resultative and the possessor extension add a predicate that does not have temporal structure of its own. Therefore, these predicates must be integrated into the temporal/causal structure provided by the verb. There is only one way to integrate the additional directional PP in weak resultatives, but there are often several ways to integrate the possessor (the predicate POSS) in possessor extensions. Moreover, weak resultatives require the added PP to predicate of the lowest argument of the verb, but (subordinated) possessor extensions allow several ways of identifying the possessed thing.

Throughout the paper, it has been demonstrated that LDG is a successful tool to describe the minimal requirements for predicate composition and argument extension on the level of SF. In one direction, the interface constraints between SF and TS, and those between TS and MS, allow us to predict how the resulting argument structure is realized (and which arguments are suppressed from being realized). In the other direc-

25 I assume that the binding of reflexives is determined in SF.

tion, the constraints proposed for the SF-CS interface help us to derive the full meaning of the construction: CONNEXION requires at least a partial identification of arguments, and COHERENCE requires the temporal integration of predicates. Needless to say, that there are open questions; however, LDG has proven sophisticated enough to make these questions precise.

Finally, the interaction of these extensions has been studied. Weak and strong resultatives are mutually exclusive, and so are topmost and subordinated possessor extensions. Weak resultatives are often lexicalized, namely in verbs that are subcategorized for a directional PP; nevertheless, these verbs can undergo strong resultative extension by stripping off the requirement of a weak resultative - this might be studied within an optimality approach, which allows the optimal SF to violate lower-ranked constraints. If POSS is added to the SF of a resultative verb (either weak or strong resultative), it cannot be added as the lowest predicate, according to PREDARG. Therefore, one has to conclude that ARG itself is a free option, but may lead to results that must be improved, or restructured.

As in other levels of grammar, the formation of SF may be subject to conflicting constraints, therefore, the optimal SF resulting from lexical derivation may differ from what is predicted by the principle of monotonicity. In this respect, it is enlightening to compare SF formation with PF (phonological form) formation, especially if SF and PF are considered to be the major levels of grammar interfacing with extralinguistic knowledge: SF with conceptual structure, and PF with phonetic structure. In both SF and PF formation, a minimal violation of monotonicity might be tolerated in order to enlarge expressivity. If there is pressure to realize an affix morpheme even if it does not conform to PF constraints, this morpheme may instead be realized as an infix, slightly passing over material of the base - a candidate is chosen that does not violate the relevant PF constraints. Similar things may happen in SF formation. If there is pressure to realize an argument extension even if it does not conform to SF constraints, it may yet be realized by passing over material of the base (i.e., by raising the added predicate into the base SF) in order to satisfy the relevant SF constraints. In principle, nothing hinders us from considering the optimal SF to be triggered in this way. What I wish to have demonstrated in this article is that if one concedes monotonicity violations in SF to be possible, the theory gains predictive force concerning properties of both the morpho-syntactic surface and the conceptual interpretation. If one does not accept the monotonicity violations in the analysis of examples such as (19), (37b), and (39) above, one would be unable to predict which arguments have to be realized, which have to be suppressed, and which have to be identified with another one.

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