Extra argumentality — affectees, landmarks, and voice*

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Abstract

This article investigates sentences with additional core arguments of a special type in three languages, viz. German, English, and Mandarin. These additional arguments, called extra arguments in the article, form a cross-linguistically homogeneous class by virtue of their structural and semantic similarities, with so-called "raised possessors" forming just a sub-group among them. Structurally, extra arguments may not be the most deeply embedded arguments in a sentence. Semantically, their referents are felt to stand in a specific relation to the referent of the/a more deeply embedded argument. There are two major thematic relations that are instantiated by extra arguments, viz. affectees and landmarks. These thematic role notions are justified in the context of, and partly in contrast to, Dowty's (1991) proto-role approach. An affectee combines proto-agent with proto-patient properties in eventualities that are construed as involving causation. A landmark is a ground with respect to some spatial configuration denoted by the predication at hand, but a figure at the highest level of gestalt *partitioning that is relevant in a clause. Thereby, both affectees and landmarks are inherently hybrid categories. The account of extra argumentality is couched in a neo-Davidsonian event semantics in the spirit of Kratzer (1996, 2003), and voice heads are assumed to introduce affectee arguments and landmark arguments right above VP.*

1. The topic: extra argumentality and interparticipant relations

The sentences in (1) from Mandarin, English, and German share a number of properties.[1]

(1) a. *Tā* sǐ-le mǔqīn.
    (s)he die-PRF mother
    'His/her mother died on him.'

b.   *The ship* tore one of its sails.
c.   Hans schrubbte   *Paul*   den   Rücken.
     Hans scrubbed   Paul.DAT   the   back
     'Hans scrubbed Paul's back.'/lit. 'Hans scrubbed ᵈᵃᵗPaul ᵃᶜᶜthe
     back.'

First, the italicized arguments (subjects in [1a] and [1b], an indirect object in [1c]) are unexpected if one considers the canonical argument structure of each verb, and if one considers the thematic relations typically associated with eventualities encoded by these verbs. For instance, verbs denoting events of dying are not typically construed as (noncausative) transitive verbs, as is the case in (1a).

Second, the referents of the italicized arguments are felt to stand in a special relationship to the referents of the more deeply embedded and c-commanded arguments *mǔqīn* 'mother', *one of its sails*, and *den Rücken* 'the back'. The relations in (1) are kinship, part/whole, and inalienable possession. These relationships will provisionally be called "interparticipant relations" before their implementation in terms of predicate abstraction and variable identification is put forward in the second half of the article. The very same interparticipant relations that are instantiated in (1) between syntactic core functions may also occur between subjects or objects and PPs; an example from English would be *She stared him in the eyes*. In order to keep the empirical domain of this pilot study manageable, only predications with non-PP complements will be taken into consideration. This move should, however, be regarded as provisional.

Unexpected arguments with syntactic core functions of the above kind will henceforth be called "extra arguments," and they are invariably italicized.

For (1a) and (1b) a further characteristic frequently encountered with extra arguments holds: the extra arguments may fulfill syntactic functions that are canonically assumed by the more deeply embedded arguments. Thus, in (1a) and (1b) the extra arguments are subjects, even though from the point of view of canonical intransitive uses of the respective verbs one would expect the other argument to appear in subject position.

Sentences as in (1) have been dealt with in very different frameworks and from many different perspectives, but to the best of my knowledge, precisely that array of data that we'll be concerned with and which I take to constitute a crosslinguistically homogeneous phenomenon has never been under scrutiny. In Section 2, I will critically review results from several frameworks in which data as in (1) have been analyzed, most notably the possessor raising or ascension analyses in the tradition of relational grammar. Section 3 will provide the empirical survey of relevant sentence

patterns in German, Mandarin, and English. These three languages have been chosen for exemplification for no particular reason, except that I have a sufficient command of each of them, which allows me to base my argumentation not just on the literature and work with consultants but also on intuitions of my own. In Section 4 the focus of interest shifts from the presentation of data to the semantic modeling of extra argumentality. I will introduce the implementation for ''possessor'' datives of German in terms of a Kratzerian voice semantics (Kratzer 1996, 2003) as put forward in Hole (2005), and we will check which portion of the data from Section 3 can be covered by this kind of analysis. The last major section will deal with the amendments that are necessary to extend the voice analysis of Section 4 to the other cases of extra argumentality. In the course of this extension a major division between predicate types will be introduced: (i) predicates instantiating the proto-agent/proto-patient scheme in the sense of Dowty (1991), which is rooted in concepts like volitionality, control, and causality, and (ii) predicates denoting locative eventualities, whose participants are mapped to figures and grounds. The figure/ground distinction is usually filtered out as thematically irrelevant in the literature, and I will reopen the discussion about this issue. As a result, the claim is put forward that the agent/patient dichotomy and the figure/ground partitioning are two ways of mental and linguistic construal which are treated on a par by grammars of natural languages.

This article is designed as a pilot study, and therefore it fails to define its empirical domain in a strictly deductionist manner. There remains something ostensive about the delimitation of the relevant data. But it seems to me to be beyond doubt that the data assembled here should be subjected to a uniform treatment. Even though we will come to call the relevant domain ''voice'' beginning with Section 4, the collection of necessary conditions for our voice phenomena will not reach the point where necessary-and-sufficient conditions can be stated. Still, the insights that emerge along the way render the project, I think, sufficiently interesting for the theoretician and the descriptivist alike to merit treatment in an article like this.

2. Arguments against possessor raising approaches

The most influential approach to the grammatical modeling of facts as in (1c) dates back to Perlmutter and Postal's (1983) (the paper has been circulating since 1974) seminal idea that such facts should be treated as phenomena akin to passives and raising structures. On some nonsurface level of derivation, some argument of a sentence has a syntactic position lower

in the tree than in the surface version of the sentence. (See also Isačenko [1965] for a much earlier generative account in the same vein.) In the case of the passive, the direct object (or ''initial 2'' in relational grammar) becomes the subject. In the case of possessor raising, a possessor nominal which is base-generated as a constituent within some argument constituent (often a direct object in European languages) is raised or ascended to assume a syntactic function of its own (often the function of an indirect object in European languages). Take (2) from German as an example.

(2) a. Paul zerbrach *ihr*   die Brille.
         Paul broke   her.DAT the glasses
         'Paul broke her glasses (on her).'
     b. Paul zerbrach ihre Brille.
         Paul broke   her   glasses
         'Paul broke her glasses.'

On the possessor ascension analysis, (2a) is derived from (some underlying version of) the more basic (2b). Specifically, the possessor of the glasses, which is expressed as a determining modifier in (2b), becomes the indirect dative object in (2a). The large number of papers treating phenomena in individual languages in terms of possessor raising or possessor ascension is proof of the strong impact that the idea of possessor raising has had over the decades, and this impact has not at all been limited to Generative (sub)paradigms (cf. to name just a few: Aissen 1987; Fox 1981; Gallmann 1992; Keenan and Ralalaoherivony 2000; Landau 1999; some of the contributions to Perlmutter 1983 or Perlmutter and Joseph 1990).[2] This holds despite Bresnan's (1983) seminal lexical-functional paper which fostered growing reservations against raising analyses in other areas. But since Bresnan did not treat extra argumentality in her paper, the ascension/raising analyses remained — on the whole — unchallenged. Apart from the partially theory-dependent arguments exchanged by generative and lexical-functional grammarians, there are empirical reasons to discard any kind of possessor ascension analysis. We will turn to them in Section 2.

Wunderlich (1996, 2000) defends a view of ''possessor'' datives in German which might be characterized as involving ''lexical possessor raising.'' Even though there is no level of syntactic analysis in his approach at which the dative arguments are constituents of the possessum DP, the semantics interprets them just like DP-internal possessors. (3) is an example.

(3) a. Sie wusch *ihm*   die Füße.
         she washed him.DAT the feet
         'She washed his feet.'

b. $\lambda y \lambda z \lambda x \lambda s$ {WASH(x,y) & POSS(z,y)}(s)[3]
(Wunderlich 1996: 339)

(3b) is Wunderlich's representation of the semantics of *wasch*- 'wash' which has been derived in such a way that the integration of a dative argument becomes possible. After the arguments have been inserted (or their slots have been bound), the truth conditions for (3a) will then come out as follows: 'There was an event of her washing the feet, and the feet belong to him'. In typological studies of the recent past, the terminology of "external" vs. "internal" possession has gained ground (König and Haspelmath 1998; Payne and Barshi 1999; the terminology dates back to Vergnaud and Zubizarreta 1992, but this latter paper was written in the government and binding paradigm; more on it will be said in Section 4.3.2). Whenever a person (as opposed to a body part) or a possessor is encoded as an extra argument, this is called external possession, and whenever the possessor term and the possessum term form a single complex DP constituent, this is a case of internal possession. Inasmuch as generalizations in this terminological paradigm rest on the assignment of the possessor role to external possessors/extra arguments, the same objections as will be stated in Sections 2.3 and 2.4 can be used to criticize this analysis. While typological analyses of extra argumentality in terms of external possession are less committed syntactically than the possessor raising solutions, they have greatly enlarged our knowledge of the typical semantic differences between external possession or extra argument constructions and internal possession constructions across languages.[4,5] Let us now turn to the problems that accounts of extra argumentality in terms of syntactic or lexical possessor raising/ascension face.

2.1. *The dead possessor argument*[6]

If the extra argument in a sentence like (4b) were a possessor, it would be a mystery why its use renders sentences deviant if the alleged possessor is not alive anymore, since bona fide possessors in genitival constructions as in (4a) are not deviant if their referents are not alive or sentient anymore. A similar point is made in (5) for English, where the contrast arises between a sentient/conscious whole (*him*) and a nonsentient whole (*the leg*).[7]

(4) [Paul died first.]
a. Dann starb auch seine Mutter.
    then died also his mother
    'Then his mother died, too.'

b. #Dann   starb *ihm*   auch seine Mutter.
    then   died him.DAT also his   mother
    'Then his mother died on him, too.'

(5)   She kicked *him*/#*the leg* in the shin.

The contrast in (4) is easily reproduced in Mandarin (cf. [6]), the difference being that the extra argument is a subject in Mandarin, and not a dative as in the German example. (See Section 3.1 and, in particular, example [14] for evidence that *tā* '(s)he' is a subject, and not just a topic, in [6b].)

(6)   [Paul died first.]
    a.   Hòulái,   tāde   mŭqīn   yě   sĭ-le.
        afterwards his   mother also die-PRF
        'Then his mother died, too.'
    b.   #Hòulái,   *tā*   yě   sĭ-le   mŭqīn.
        afterwards he   also die-PRF mother
        'Then his mother died on him, too.'

I assume that both the dative argument in the German examples and the subject argument in the Mandarin example instantiate the thematic role affectee, with affectee being a thematic relation which combines at least one proto-agent property (sentience/consciousness), and one proto-patient property (causal affectedness) in the sense of Dowty (1991) (cf. also Primus' [1999] proto-recipient). We will repeatedly return to Dowty's theory of proto-roles below; at the present point, a preliminary understanding of Dowty's notions is sufficient.

   Lexical possessor raising à la Wunderlich (1996, 2000) is faced with the same kind of problem. While it may be possible to write a special condition into the semantics of the poss predicate in (3b) which takes care of the semantic restriction under discussion here, this restriction wouldn't follow from anything that we know about DP-internal possessors, thereby weakening the claim that extra-argumental participants may be reduced to possessorhood without any special amendments.

2.2.   *The dative passive argument*

The German dative passive is formed with the passive auxiliary *bekommen* (or *kriegen*) 'get' and the past participle of a verb. Dative arguments of active sentences are encoded as subjects while the direct objects remain unaffected (Reis 1985; Leirbukt 1997). The subject of the active sentence is demoted to an optional PP. The passive sentence in (7b) exemplifies this construction by opposing it to the corresponding active sentence in (7a).

(7) a.   Die Wachen öffneten [dem   Angreifer]$_{DAT}$ das   Tor.
          the   guards   opened   the.DAT attacker   the   gate
          'The guards opened the gate for the attacker.'
     b.   [Der Angreifer]$_{NOM}$ bekam das   Tor (von den   Wachen)
          the attacker   got   the   gate by   the   guards
          geöffnet.
          opened
          'The guards opened the gate for the attacker.'/lit. 'The attacker
          got the gate opened (by the guards).'

Not just any dative going along with an active verb can become the
subject of a dative passive. There is a constraint requiring the subjects of
such passives to be affectees as characterized in the preceding subsection.
Therefore, as witnessed by (8b), (8a) doesn't have a good dative passive
counterpart.

(8) a.   Die Zensur   öffnete [der   Beeinflussung]$_{DAT}$ das
          the censorship opened   the.DAT manipulation   the
          Tor.
          gate
          'Censorship opened the floodgates to manipulation.'
     b.   #[Die Beeinflussung] bekam das   Tor   geöffnet.
          the manipulation   got   the   gate opened
          lit. 'Manipulation got the gate opened.'

The referent of *die Beeinflussung* 'the manipulation' is not consciously or
sentiently involved in the event at hand, therefore the dative passive in
(8b) is out. Now consider (9) and (10). Extra dative arguments regularly
become the subjects of dative passives, and in my own dialect this is true
of all extra dative arguments.

 (9) a.   Die Ärztin   hat [*Paula*]$_{DAT}$ Blut   abgenommen.
           the doctor   has Paula   blood   taken
           'The doctor took some of Paula's blood.'
      b.   [Paula]$_{NOM}$ hat (von der Ärztin) Blut   abgenommen
           Paula   has by   the   doctor   blood   taken
           bekommen.
           got
           'The doctor took some of Paula's blood.'
(10) a.   Sie streichelte [*dem   Jungen*]$_{DAT}$ den   Arm.
           she stroked   the.DAT boy   the   arm
           'She stroked the boy's arm.'

b. [Der Junge]$_{NOM}$ bekam   (von   ihr)   den   Arm
    the boy   got   by   her   the   arm
    gestreichelt.
    stroked
    'She stroked the boy's arm.'

If dative passives are only grammatical with subjects whose referents are affectees, extra arguments must be affectees, too. We will therefore have to say that affectee, but not possessor, is the correct thematic relation of the pertinent extra dative arguments in German. A parallel argument can be made for the Chinese passive promoting indirect objects or immediately postverbal extra arguments to subject function. Turn to Section 3.2 (examples [16] and [16′]) for the relevant data.

Again, lexical possessor raising as defended by Wunderlich (1996, 2000) (cf. [3b]) will have essentially the same problem; possession alone does not single out a natural class for the phenomenon of German dative passives and analogous constructions in other languages and does not, therefore, seem to be the relevant notion to explicate the observed link between many extra arguments and dative passives.

2.3.   *Presupposition vs. entailment*[8]

The relation of possession felt to hold between the referent of the extra argument and the referent of the more deeply embedded argument is presupposed. If the extra argument encoded a possessor, it would be the only kind of verbal argument that I know of which conveys presupposed information. This in itself speaks against extra dative arguments as encoding the possessor role. The affectee information conveyed by extra dative arguments in German (cf. Section 2.1) is, however, part of the assertion and, thus, entailed. (11) with a dative extra argument in a conditional clause illustrates the difference.

(11) a. Falls   die   Schwester   *dem   Patienten*   auf   den   Mantel
          if   the   nurse   the.DAT patient   on   the   coat
          tritt, . . .
          steps
          'If the nurse steps on the patient's coat . . .'/
          lit.: 'If the nurse steps the patient on the coat . . .'
      b. presupposition: 'The patient possesses a coat, and he is
          wearing it, is keeping it close to his body, or is locally related
          to it in some other way.'
      c. lost entailment: 'The patient is consciously involved in an
          event in which he is causally affected.'

As expected in if-clauses, the presupposition persists, while the entailment is lost. On the assumption that the dative argument expresses the affectee involvement of the relevant referent, no problem arises, because the affectee involvement is just as inactive in (11) as, say, the agentive involvement of *die Schwester* 'the nurse'. If we can make plausible where the presupposed relation of possession has its source in (11) outside the dative DP, the situation will be a lot easier to handle. No two thematic involvements of differing information statuses would have to be expressed by a single DP. In Section 4.2 we will see how the intuition of possession can be taken care of within the more deeply embedded DP.

Wunderlich's representation of lexically derived predicates with a built-in semantics of possession as in (3b) (... WASH(x,y) & POSS(z,y) ...) does not make mention of the differing kinds of information status for the two predicates and may, for this reason, too, not be considered superior to the syntactic possessor raising analyses.

3. The range of syntactic functions of extra arguments

Extra arguments occur in all syntactic functions associated with verbs, except for the function of the most deeply embedded complement in a given syntactic structure. We thus find extra arguments that are subjects or objects. If the extra argument is a direct object, the most deeply embedded complement is sometimes a (directional) PP, and sometimes a second object. For the sake of restricting the empirical domain to be covered in this article, I disregard PP complements (and also PP extra arguments); extra arguments as objects will always be followed by a second object in this article (but see Note 9). I will look at instances of the different syntactic functions of extra arguments in the following, providing examples from each of the languages mentioned above (English, German, Mandarin), supplemented by one Korean example.

3.1. *Extra arguments as subjects*

Some English sentences with extra arguments in subject function are listed in (12) (cf. Rohdenburg 1974).

(12) a. *The ship* tore one of its sails.
      b. *The car* burst a tire.
      c. *The boy* grew breasts.
      d. *The athlete* tore a muscle.

All the examples in (12) feature unaccusative verbs, and the direct objects are the arguments that would, in the absence of the extra arguments, figure as the subjects of the sentences. None of the sentences in (12) involves a causativized use of the intransitive verbs. Take (12c) for illustration. The sentence does not mean that the boy grew breasts the way farmers grow tomatoes, it rather states that it happened to the boy that breasts grew on his chest. In all of the examples, the extra argument denotes the whole of which the referent of the more deeply embedded argument constitutes a part. Analogous examples from Mandarin are provided in (13).[9]

(13) a. *Tā*   diào-le hěn duō   tóufa.
          (s)he fall-PRF very much   hair
          'A lot of his/her hair fell out.'/lit. '(S)he fell very much hair.'
      b. *Tā*   duàn-le   tuǐ   le.
          (s)he break-PRF leg   PRT
          '(S)he broke his/her leg.'

It can be shown that the extra arguments are really subjects, and not Chinese-style topics. Chinese-style topics, because of their backgrounded discourse status, cannot be focal information in a question-answer sequence.[10] This is, however, easily possible for *tā* '(s)he' as in (13). (14) is a felicitous question-answer pair.

(14) Q: *Shéi* duàn-le   tuǐ   le?
          who   break-PRF leg   PRT
          'Who broke his leg?'
      A: *Tā*   duàn-le   tuǐ   le.
          (s)he break-PRF leg   PRT
          '(S)he broke his/her leg.'

A second argument for the subjecthood of extra arguments in such sentences is the fact that the internal argument of the unaccusative verb surfaces as a postverbal complement. This is so because the preverbal subject function has been "snatched" by the extra argument. Chinese-style topics do not trigger the in-situ surface realization of arguments of unaccusative verbs.

3.2. *Extra arguments as objects*

In German, extra arguments with the function of indirect objects are the paradigm cases of so-called external possession. (15) is an example, and (16) presents a structurally similar sentence from Mandarin.

(15)   Die Mutter flocht *der Tochter* die Haare.
       the mother braided the.DAT daughter the hairs
       'The mother braided her daughter's hair.'

(16)   Xiǎo Wáng chī-le *wǒ* yī-ge dàngāo.
       little Wang eat-PRF I 1-CL cake
       'Little Wang ate a cake of mine.'

(15) does not require a lot of explanation since we have seen similar examples above. The hair is part of, or possessed by, the daughter, and the verb *flechten* 'braid' is transitive, but not usually ditransitive. (16) from Mandarin is more of a challenge. Deviating from the pattern found with verbs of transfer or verbs of creation in other languages, the referent of the indirect object loses the cake in (16) instead of getting it, and the verb *chī* 'eat' denotes an event in the course of which the cake ceases to exist. It is easily shown that *wǒ* 'I' in (16) is not a modifier of the more deeply embedded complement (see Zhang 1998a, 1998b for details concerning the relevant construction in Mandarin). Moreover, it should be noted that, quite generally, the ditransitive construction with minimal coding devices (no preposition) in Mandarin is typically found with verbs that have the referents of the indirect objects lose something, or that exempt them from something, but only rarely with verbs that have the referent of the indirect object come into the possession of something. Among the few verbs of the second kind are the most general verbs of transfer *gěi* 'give' and *sòng* 'give as a present', which take an indirect and a direct object with the same zero marking as *chī* 'eat' in (16).[11] At this point, readers may be suspicious about the objecthood of the extra arguments in (15) and (16). Supporting evidence for the claim that we are really dealing with objects, and not with adjuncts or modifiers, comes from passivization. As shown in (15′) and (16′), the Mandarin and the German extra argument may each be the subject of a corresponding passive sentence (cf. also Section 2.1.1 above).

(15′)   Die Tochter bekam die Haare geflochten.
        the daughter got the hairs braided
        'The daughter's hair got braided.'

(16′)   Wǒ bèi chī-le yī-ge dàngāo.
        I PASS eat-PRF 1-CL cake
        'I suffered from someone eating a cake of mine.'

I have chosen to present the Mandarin case in (16) as one involving a sequence of indirect and direct object because Zhang (1998a, 1998b) uses the same terminology. It is, however, possible that the Mandarin case really patterns with the double accusative sentences from Korean as exemplified in (17) (cf. Shibatani 1994: 475).

(17)   John-i   *Mary-lul*   son-ul   ttayli-ess-ta.
       John-NOM   Mary-ACC   hand-ACC   hit-PST-IND
       'John hit Mary on the hand.'

Mandarin has a peculiar system of preverbal objects marked by the noto-
riously controversial functional element *bǎ* (see Li [2001] for an elegant
overview of the relevant discussion). Extra arguments are found in this
position, too. To understand these data, we first have to familiarize our-
selves with the way the more typical *bǎ*-sentences work, that is, those *bǎ*-
sentences not involving extra arguments. Direct objects are (often obliga-
torily) shifted into the preverbal *bǎ*-position if other complementational
material is to follow the verb, if a resultative construction is involved, or
if, more generally, a highly transitive event (in the sense of Hopper and
Thompson 1980) is encoded. (18) illustrates the case where either a ca-
nonical postverbal object as in (18a) may be used, or a *bǎ*-object as in
(18b). As just said, in other cases speakers do not have a choice. The re-
sulting grammaticality contrast for such a case is given in (19) (cf. Li and
Thompson 1981: 407).

(18)   a.   Wǒ   chī-wán-le   zhèi-dùn   fàn.
            I   eat-up-PRF   this-CL   food
            'I've eaten up that dish.'
       b.   Wǒ   bǎ   zhèi-dùn   fàn   chī-wán-le.
            I   BA   this-CL   food eat-up-PRF
            'I've eaten up that dish.'
(19)   a.   Wǒ   bǎ   bǎo-shí   cáng zài   xiāngzi-li.
            I   BA   precious-stone hide at   chest-in
            'I hide the precious stone in a chest.'
       b.   *Wǒ   cáng   bǎo-shí   zài   xiāngzi-li.
            I   hide   precious-stone at   chest-in
            intended: 'I hide the precious stone in a chest.'

Bǎ-sentences instantiate extra argumentality if a preverbal *bǎ*-object
and a postverbal object co-occur. Examples from, or in the spirit of,
Tsao (1987), who in some cases quotes Cheung (1973), are given in (20)
and (21).

(20)   a.   Tā   bǎ   *júzi*   bō-le   pí.
            (s)he BA   orange   peel-PRF   peel
            '(S)he removed the peel of the orange.'
       b.   Tāmen   bǎ   *zhū*   fàng-le   xué.
            they   BA   pig   release-PRF blood
            'They drained the pig of its blood.'

(21) a. Zhāngsān bǎ *mén* shàng-le suǒ.
          Zhangsan BA door put.on-PRF lock
          'Zhangsan put a lock on the door.'

   b. Tā bǎ *bìlú* shēng-le huǒ.
       (s)he BA fireplace ignite-PRF fire
       '(S)he put on a fire in the fireplace.'

(22) Tā bǎ *qiáng* tī-le yi-ge dòng.
      (s)he BA wall kick-PRF 1-CL hole
      '(S)he kicked a hole into the wall.'

(20) is a collection of examples in which the referent of the extra argu-
ment gets diminished in the course of the encoded event. The examples
in (21) have it that something is added as a part to some functional whole
or location. In the case of (22) it is not immediately clear whether some-
thing is added to the wall or whether its functional integrity is destroyed
by the described event. I will return to this problem in Section 5.5, but the
issue will ultimately be left unsettled.

3.3.   *Extra arguments as objects with subject-like properties*

A special kind of object extra argumentality is found with verbs of bodily
sensation and some psych verbs. To get a better understanding of the
domain, let us start out from a well-known quirky case fact from Icelan-
dic. Among the Germanic languages, Icelandic is an extreme case in that
it allows for non-nominative subjects with certain verbs. These non-
nominative arguments control coordination reduction. An example is
given in (23) (cf. Faarlund 1999).

(23) Haraldi$_i$ geðjast vel að Maríu og [ø$_i$] býður henni oft í
      Harald.DAT pleases good to Maria and   invites her   often in
      bíó.
      cinema
      'Harald likes Maria and often invites her to the movies.'

The facts of coordination reduction clearly show the subject properties of
the dative argument *Haraldi*. If subjects, and only subjects, control coor-
dination reduction in Icelandic, then *Haraldi* in (23) must be the subject.
German dative experiencers are not subjects; it is the nominative (stimu-
lus) arguments in sentences with psych verbs that have the morphosyntac-
tic properties of subjects, such as controlling coordination reduction or
triggering agreement on the verb. In terms of word order things are differ-
ent, though. The neutral relative order of nominative arguments on the

one hand and dative or accusative arguments on the other in German psych verb constructions is as in (24). This means that in psych verb constructions and with many verbs of bodily sensation, the nominative argument does not have its canonical position to the left of the accusative or dative argument, but rather to its right. Thereby, accusative or dative experiencers (with psych verbs) or affectees (with verbs of bodily sensation) conform to the (tendential) subject property of being the first argument in a clause (we will turn to the spurious difference between affectees and experiencers in Section 4.4). (25) is an example, and (25′) is the same example with a different word order, viz. NOM > ACC; the marked order of this sentence is the unmarked order of the canonical verb classes (cf. Lenerz 1977; Höhle 1982).

(24) DAT/ACC > NOM

(25) Einem   Zeugen ist   ein   Hund   aufgefallen.
      a.DAT   witness is   a.NOM   dog   (be.)noticed
      'A witness noticed a dog.'

(25′) Ein   Hund   ist   einem   Zeugen aufgefallen.
      a.NOM   dog   is   a.DAT   witness (be.)noticed
      'A witness noticed a dog.'

Without going into the details of the arguments from the relevant literature, let us just note one piece of evidence supporting the claim of a special neutral word order with such verbs. Typically a focus accent on the most deeply embedded argument of a sentence with canonical word order and an unaccusative verb will allow for an interpretation as an all-new utterance in German even if none of the words without focus accents are contextually given. This effect does hold for (25) if we make the assumption that the nominative is the most deeply embedded argument. If, on the other hand, we put a focus accent on the dative in (25′), the only possible reading is a narrow focus on *einem Zeugen* 'a.DAT witness'.[12] With German verbs denoting sensations or transformations on or in body parts we get both things: (i) extra-argumentality and (ii) noncanonical neutral word order with the expected all-new utterance readings with stress on the nominative argument. (26) lists some examples.[13]

(26) a. *Ihm*   juckt   die   Kopfhaut.
          him.DAT   itches   the.NOM scalp
          'His scalp itches.'

      b. *Ihr*   drückt   der   Magen.
          her.DAT   presses   the.NOM stomach
          'Her belly hurts.'

    c.   *Ihm*   bricht   das   Herz.
         him.DAT   breaks   the.NOM heart
         'His heart is breaking.'

The German equivalent of *The boy grew breasts* (cf. [12c]) belongs here, too. I separate it from the examples in (26) because those sentences all involve changes or perceptions relating to body parts that already exist. The breasts in (27), however, come into being in the course of the event described by the verb.

(27) *Dem*   *Jungen* wuchsen   Brüste.
       the.DAT boy   grew   breasts.NOM
       'The boy grew breasts.'

With inanimate referents, the acceptability of dative extra arguments with subject-like properties varies among speakers of German. Referee B classifies the sentences in (28) as "perfect," whereas I prefer the versions in (29).

(28) a. *Dem*   *Baum*   wuchsen   neue Äste.
         the.DAT tree   grew   new branches
         'The tree grew new branches.'
    b. *Dem*   *Wagen* platzte ein Reifen.
         the.DAT car   burst   a   tire
         'The car burst a tire.'
(29) a. An dem   Baum   wuchsen   neue Äste.
         on   the.DAT tree   grew   new branches
         'The tree grew new branches.'
    b. An dem   Wagen platzte ein Reifen.
         on   the.DAT car   burst   a   tire
         'The car burst a tire.'

I admit that sentences as in (28) do occur and that they do not necessarily signal metaphorical animacy. Still, a contrast persists in that PPs as in (29) are always possible with inanimate referents in this construction; if, however, PPs are used instead of the dative arguments of (26) and (27), the deviant sentences in (26′) and (27′) are the result.

(26′) a. *An ihm   juckt   die   Kopfhaut.
          on   him.DAT itches   the.NOM scalp
          intended: 'His scalp itches.'
     b. *In ihr   drückt   der   Magen.
          in her.DAT presses the.NOM stomach
          intended: 'Her belly hurts.'

c. *In ihm   bricht   das   Herz.
    in him.DAT breaks   the.NOM heart
    intended: 'His heart is breaking.'

(27′) *An dem   Jungen wuchsen Brüste.
       on   the.DAT boy   grew   breasts.NOM
       intended: 'The boy grew breasts.'

The referents of the prepositional complements in (26′) and (27′) are clearly construed as inanimate.

This concludes the survey of extra arguments with a syntactic core function in German, English, and Mandarin.

4. Interparticipant relations

4.1. *Modeling interparticipant relations in terms of voice and some notion of binding*

It has become clear in Section 2 that extra arguments will have to be assigned thematic relations that are dependent on the asserted events of the sentences in which they occur. This means that, in terms of thematic relations, *Paul* in *Sie zerbrauch Paul die Brille* 'She broke ᵈᵃᵗPaul's glasses' is not the possessor of the glasses, but the affectee in an event of breaking. This, however, does not cover the whole range of native speakers' intuitions. The typical intuitions are that Paul is (indirectly) affected, and that it is Paul's glasses that are broken. Even if raising cannot be the answer, we somehow have to model the interparticipant relation felt to hold between the referent of the extra argument (Paul) and of that of the more deeply embedded argument (the glasses).

I propose that the semantics of possession or, more generally, of relationality of the more deeply embedded argument in extra argument constructions should be modeled in terms of voice and some notion of "binding." The extra argument "binds" the unsaturated variable of the c-commanded relational noun within the DP that denotes the possessum or (body) part of the referent of the extra argument.[14] Implementing this idea in an explicit syntax-semantics framework is not trivial, though. If we do not want to contend ourselves with a purely syntactic notion of binding, we will have to say where quantification enters the picture. Extra arguments may be, and typically are, nonquantificational definite DPs, but semantic binding requires a quantifier. In the next subsection, I will sketch the implementation proposed for German "possessor datives" as laid out in Hole (2005). The other subsections of Section 4 are devoted

to a comparison of the proposal advocated here with other proposals. We will then move on to state the adjustments that are needed to cover the wider empirical domain of this article (Section 5).

4.2. *The implementation for German dative extra arguments (a.k.a. "possessor datives")*

The account proposed in Hole (2005) is couched in a neo-Davidsonian event semantics in the spirit of Kratzer (1996, 2003). In Kratzer's framework, only the internal argument(s) of a verb is (/are) required by the valency of the verb. Agent arguments that surface as subjects of transitive predications, for instance, are merged outside VP, they do not correspond to an argument position pre-specified by the verb, and their thematic role is likewise introduced independently of the verb; an agentive voice head (Kratzer 1996) performs this task. A special rule of composition, event identification, makes sure that the AGENT argument introduced in the specifier of the voice phrase denotes a participant in the event that is characterized by the VP, and not in some other event (see below for more detailed discussion).

The voice phrase implementation for "possessor datives" proceeds along similar lines. An affectee voice head right above VP introduces an affectee argument into the structure (for the characterization of the affectee role, see Section 2.1). By way of a combination of an abstraction rule and variable identification — a more general version of Kratzer's event identification — the identity of the possessor referent of the more deeply embedded argument and of the affectee referent is ensured alongside the identity of the two event variables involved. The combined effect of predicate abstraction and variable identification may be seen as a specific kind of binding.

We will use the bracketed consituent in (30) for illustration (the same sample computation is presented in much greater detail in Hole 2005).

(30) Sie will [*dem Jungen* [_{VP} den Kopf streicheln]].
     she wants the.DAT boy   the head stroke
     'She wants to stroke the boy's head.'
   lit. 'She wants to stroke ^{dat}the boy ^{acc}the head.'

One possible interpretation of the VP is given in (31). The 'g(5)'-part of the denotation will be explained in a moment.

(31) [[den Kopf streicheln]] = $\lambda e.\text{stroke } g(5)\text{'s head}(e)$

In accordance with Kratzer's theory, the denotation of the VP in (31) has no unsaturated argument position except for the one of the event argument. With existential binding the denotation in (31) may be paraphrased as 'There is an event of stroking the boy's head', provided the assignment function *g* maps the index *5* to the boy. Note that, quite standardly, *Kopf* 'head' in (31) is analyzed as a relational noun which brings along an argument slot for a possessor even in the absence of an overt possessor DP. An implicit argument with the index *5* fills this argument slot in our example, and the argument with this index is mapped to the boy, but other index numbers would also be good possibilities as long as they are mapped to individuals which are in the universe of discourse and have a head. The VP then merges with the affectee head. The function of this head is spelled out in (32).

(32)   Function of Aff^0:
    a.   Denotation: $[[Aff^0]] = \lambda x \lambda e.x$ is an affectee in e
    b.   Abstraction:

$$Aff^0 \quad VP \quad \Rightarrow_{LF} \quad Aff^0 \quad VP \ (\lambda n, VP) \quad Aff'$$
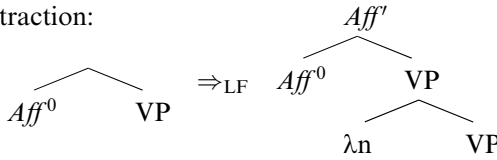
    c.   Variable identification: $f(Aff^0)$ $g(VP)$ $\Rightarrow$ $h(Aff')$
                                     $\langle e, \langle s,t \rangle \rangle^{15}$ $\langle e, \langle s,t \rangle \rangle$ $\langle e, \langle s,t \rangle \rangle$

The denotation of Aff^0 in (32a) states that an affectee as characterized in Section 2.1 is involved in the event as a sentient/conscious and causally affected participant. This argument slot will be filled by the dative argument, which enters the computation in SpecAffP. But before this happens, the abstraction rule (32b) applies. What it does is turn the VP denotation, which only had one unsaturated argument position for the event argument, into a denotation with another unsaturated argument position in the position where the argument with the index *n* is located. Let's say *n* is *5* (recall that the boy bears the index *5* in our example). (33) states the denotation of the VP before predicate abstraction (the assignment function maps the index *5* to the boy), and (34) provides the denotation after predicate abstraction (the slot of the possessor of the head is "reopened" by modifying the assignment function: whatever bears the index *5* is mapped to *x*). The outcome of combining the VP denotation of (34) with Aff^0 (cf. [32a]) is (35).

(33) $[[den\ Kopf\ streicheln]] = \lambda e.stroke\ g(5)'s\ head(e)$
(34) $[[den\ Kopf\ streicheln]]^{[5 \to x]} = \lambda x \lambda e.stroke\ x's\ head(e)$

(35) $[[\text{Aff}^0 \quad \text{den} \quad \text{Kopf} \quad \text{streicheln}]]^{[5\rightarrow x]} = \lambda x \lambda e.\text{stroke} \quad x\text{'s} \quad \text{head}(e) \quad \&$
       affectee$(x)(e)$

(35) with existential closure of the open argument slots will then be something like 'There is an event e and an individual x such that x's head is stroked in e and x is an affectee in e'. If then the argument *dem Jungen* 'the.DAT boy' is merged in the next step, we get the truth conditions: 'There is an event e in which the boy's head is stroked and the boy is an affectee in e', again with existential closure of the event variable. For these truth conditions to come about, (32c), which I haven't discussed yet, is indispensable. What it does in short is to ensure that the affectee referent is identical to the possessor referent of the head, and that the event in which x is an affectee is the same event in which x's head is stroked. It does so by mere stipulation. Worse still, it does so by means of a special kind of composition rule, namely, variable identification. This rule states that if two constituents whose denotations each have an unsaturated position for (i) an individual and (ii) an eventuality are to combine, then the resulting denotation will identify the two variables of the same ontological type. In other words, the resulting function will not have four unsaturated argument slots — two for individuals and two for events — but only two: one for an individual, and one for an event. The move of introducing such a rule of composition into the system may seem absurd at first, because it is a theoretically costly implementation of something highly basic. I still think that it is fully warranted within the general framework adopted here. Let us recall the general idea of neo-Davidsonian event decomposition which underlies my whole proposal. If we find it attractive to model (i) verb denotations as predicates of events and (ii) argument structure (and adverbial adjunctions) as the conjunction of separate predicates which typically take just one argument apart from the event argument (cf. Kratzer 1996, 2003) and which all contribute to the overall specification of the eventuality at hand, then we need a mechanism which explicitly states that the conjoined predicates of events all specify one and the same event. Even if we may not need such a special mechanism of unification at other levels of description (in psychology, for instance, the counterpart of event identification might be derivative of something else), we do need it in formal semantics because there is no well-formedness condition in the formalism which only allows for conjoined predicates if they specify the same event. Kratzer (1996: 122), who has introduced event identification into the framework, says nothing about the balance of necessity and costs of this rule of composition, she just states it as in (36), and she needs it to tie the AGENT argument to the event denoted by the VP function, whose denotation is represented as *g* in (36).

(36)   Event identification (Kratzer 1996: 122)

f	g	⇒	h
$\langle e,\langle s,t\rangle\rangle$	$\langle s,t\rangle$		$\langle e,\langle s,t\rangle\rangle$
(denotation and semantic type of the agentive voice head *Voice*^{0})	(denotation and semantic type of VP)	(event identification)	(denotation and semantic type of voice')

This rule is different from variable identification in (32c), which is repeated in (37) for convenience.

(37)   Variable identification (Hole 2005)

f	g	⇒	h
$\langle e,\langle s,t\rangle\rangle$	$\langle e,\langle s,t\rangle\rangle$		$\langle e,\langle s,t\rangle\rangle$
(denotation and semantic type of the affectee head *Aff*^{0})	(denotation and semantic type of VP after predicate abstraction)	(variable identification)	(denotation and semantic type of Aff')

Event identification takes a two-place function and a one-place function as input and delivers a two-place function. Variable identification takes two two-place functions as input and delivers a two-place function as output. In a sense, variable identification is simpler than event identification, because both variables of *f* undergo a parallel identification process in the case of variable identification, but not in the case of event identification. From a less formal viewpoint, we may perhaps say that the further integration of arguments into the specification of an event is simpler to the extent that the additional argument has as much as possible ''to do'' with the VP denotation. In our realm, ''having something to do'' is nothing but the fact that the affectee referent plays a role already in the denotation of VP. In the example sentence (32) (*Sie will dem Jungen den Kopf streicheln* 'She wants to stroke ^{dat}[the boy]'s head') the affectee is also the possessor of the head. Other double involvements are conceivable, and in Hole (2005) I argue that so-called beneficiary datives should really be analyzed as affectees which ''bind'' a variable in a purposive constituent inside VP (with ''binding'' again taken in the sense of the combined effect of an abstraction rule as in [32b] and variable identification as in [32c]/[37]).

   In Section 5 we will check how much mileage we can get out of this proposal and what modifications are necessary to cover all the examples that we have surveyed in the empirical first half of the article. Before doing this, I will devote Sections 4.3.1 and 4.3.2 to justifying why I have chosen the modeling in (32) and why I think that other solutions won't do.

4.3. *Other proposals*

4.3.1. *Possessor raising.* Possessor raising approaches to extra argumentality as defined in this article have already been evaluated in Section 2. The conclusion for both syntactic and lexical possessor raising was that raising accounts must be discarded because of the facts in (38) (the bits of text in parentheses state how the voice analysis defended here evades each problem).

(38) i. Possessor raising cannot (easily) explain why the thematic requirements of raised possessors differ from those of DP-internal possessors.
(Here: The thematic requirements are different because the two positions are not directly linked by movement or a lexical process.)

ii. Possessor raising cannot explain why raised alleged Possessors behave like affectees with respect to the dative passive and similar constructions.
(Here: They behave like affectees because they *are* affectees, and nothing else.)

iii. Raised possessors would combine presuppositional information about possession and entailed or asserted information about affectedness in a single DP.
(Here: The presuppositional information about possession comes from the DP-internal (possibly implicit) possessor, and this information is expected to be presuppositional. The entailed/asserted information about affectedness is tied to the affectee argument.)

To these three arguments I would like to add a fourth one which hasn't been given in Section 2 because I lack relevant evidence for languages other than German. Still, since in my eyes it is a strong argument, I do not want to leave it unmentioned. It rests on the interpretive behavior of allegedly raised possessors in certain constructions involving ellipsis. (39) is a pertinent example; the elided constituent is crossed out.

(39) Du   sollst [die Haare   schneiden] wie *ihm*
     you   should the   hair   cut   like him.DAT
     [die Haare   schneiden].
     the   hair   cut
     'You should cut the hair the way you cut his.'
     (lit. 'You should cut the hair like ^dathim.')

This is a natural sentence to say if a hair dresser instructs her apprentice in the presence of two customers that are referred to without being addressed (say, because the interlocutors stand behind the customers). The hair referred to by the first object DP *die Haare* 'the hair' is definite because it is contextually given. The utterance of *ihm* 'him.DAT' in the second half of the sentence is probably accompanied by a pointing gesture. Now, if *ihm* were a raised possessor, there should be a trace in the elided constituent. On the assumption that elided constituents and the parallel pronounced ones are identical in their structures, the first bracketed VP in (39) would have to contain a trace as well. This cannot be the case, because there is no argument in the first half of (39) which could bind the trace. If the first VP doesn't contain a trace, then the elided one doesn't, either. But this means that *ihm* cannot have moved out of the elided VP. This argument is fatal for all theories defending possessor raising that put an identity constraint on ellipsis and require traces to be bound/governed by the moved item. (39) is also fatal for lexical ''possessor raising'' as proposed by Wunderlich (1996, 2000). Even if *ihm* 'him.DAT' in (39) is not moved in the syntax, but is inserted into the syntactic structure because the specially derived verb in the elided VP projects one more argument, the identity constraint on ellipsis would still predict that the overt VP in (39) should have the same argument structure. As witnessed by the first half of the sentence, though, no dative argument is projected by the pronounced VP. Therefore, the elided VP cannot project a dative argument either.

Example (39) constitutes a really hard nut to crack for all the competing theories that I am aware of in our domain. How does the proposal defended here escape this problem? The important thing to note is that the two VPs as such are fully identical. Only when Aff^0 right above VP is merged in the second half of the sentence does predicate abstraction apply, and the possessor slot of *Haare* 'hairs' in the elided VP is reopened by modifying the assignment function. Up to this point (as perceived in a bottom-up perspective), the denotation of the elided VP and the pronounced VP are fully identical. Specifically, the index of the (doubly) implicit possessor of the hair in the second half may, up to the VP level, be identical to the index of the possessor of the hair in the first half. The abstraction rule (cf. [32b]) annuls this index.

4.3.2.   *Vergnaud and Zubizarreta (1992).*   Except for two small hints in Section 2 and Note 14, I have so far remained silent about the relationship between the present proposal and its most similar predecessor, Vergnaud and Zubizarreta's (1992) (henceforth, V&Z) analysis of their inalienable constructions in French and English as in *Le médecin leur a*

radiographié l'estomac (lit.) 'The doctor x-rayed them the stomach'. V&Z's treatment stands in the tradition of Kayne (1975) and Guéron (1985) and is conceptually related to Borer and Grodzinsky's (1986) in that (some kind of) binding is identified as the relevant dependency relation holding between indirect objects and (implicit) possessors of the pertinent structures. Although at first blush this general line of argumentation is similar to mine and the approach developed here might seem to be just a more specific implementation of V&Z's, the exact relationship between the two proposals is surprisingly difficult to assess. This is so for the following reasons. First, and quite generally, V&Z present a government and binding implementation, and it is not evident what their analysis would look like in Minimalist terms. Second, V&Z do not give an explicit account of the semantics that they assume, and no denotations of syntactic nodes are given at all, except for the (rather unusual) denotations of inalienably possessed nominal predicates like 'throat' as *gorge(x)*, as opposed to the alienable counterpart *gorge* (V&Z 1992: 597).[16] Third, V&Z make recourse to a type/token ambiguity between definite DPs that is crucial for their analysis and which arises because of what they identify as two homophonous variants of the definite article in French. I do not assume such an ambiguity to have a crucial status in the explanation of the facts that I am discussing and, what is more, I cannot make much sense of it because it is unclear to me what the result is when a verbal denotation combines with an object denotation that denotes a type (i.e. a French doctor doesn't examine a type when he examines somebody's throat, but V&Z must be read so as to propose precisely this).[17]

4.4.   *Summary on extra arguments denoting affectees (and experiencers)*

Let us start the summary of this larger section on interparticipant relations by recapitulating the gist of the voice analysis for so-called "possessor datives." We may say that it is just an illusion if we classify extra arguments as affectees and possessors at the same time. Affectedness comes into play in the functional voice phrase where the affectee argument is first merged. Predicate abstraction and variable identification (cf. [32]) make sure that the referent denoted by the affectee argument is identical to the referent of a possessor inside a more deeply embedded argument. The relationship between the affectee argument and the more deeply embedded possessor must, by virtue of the involved tree geometry and the involved compositional procedures, be a c-command relation. This allows us to speak of a kind of binding relationship between the

affectee argument and the possessor argument. Affecteehood was defined as sentience/consciousness (proto-agent property) plus causal affectedness (proto-patient property) above, and the same ingredients seem also sufficient for experiencers. Experiencers are simply affectees in eventualities without any other participants that are more prototypically agentive. This reduction of experiencerhood to 'affecteehood plus highest degree of agentivity in an eventuality' significantly broadens the coverage of the voice proposal made in this section.[18] For the cases which cannot be handled yet, turn to the following section.

5.   Extra argument structures that necessitate amendments

5.1.   *The problem with inanimate and nonagentive extra arguments*

Inanimate extra arguments as in (40) (= [1b]/[12a]) and animate arguments which are not consciously or sentiently involved in an eventuality as in reading B of (41) pose a challenge for the account defended in Section 4.

(40)   *The ship* tore one of its sails.
(41)   *Dem   Sänger* ist die Jacke zu   eng.
         the.DAT singer is the jacket too tight
         reading A: 'The singer finds that his jacket is too tight.'
         reading B: '(It is objectively the case, or someone other than the
         singer finds that) the singer's jacket is too tight.'

The problem centers around the thematic role of extra arguments like *the ship* in (40), or *dem Sänger* 'the.DAT singer' in (41). In (40) *the ship* can't be an affectee as defined in this article, because ships are neither sentient nor conscious, that is, they don't have the proto-agent properties criterial for affectees, and there is no requirement whatsoever for (40) to be understood in a metaphorical sense such that the ship would have to stand for an animate being. In (41), similarly, the singer is animate, but reading B completely abstracts away from this fact. The only repercussion of the ontological animacy of the singer (as opposed to his nonagentive involvement in the reported state of affairs) is its encoding as a dative (as opposed to a PP, which would be required for an inanimate referent; such PP extra arguments have been neglected in this article for the practical reason of restricting the factors to be controlled; cf. the beginning of Section 3). I will return to an example like (41) below and concentrate on (40) for the moment. From among Dowty's (1991: 572) proto-agent properties, *the ship* in (40) only qualifies as "exist[ing] independently of the

event named by the verb,'' and Dowty includes this property in the list of role entailments only tentatively.[19] This hesitation is the starting point for the argumentation to follow. Primus (2004: 2) adds ''possession of another entity'' to the list of proto-agent entailments, and one may argue that, in some sense of the word, the ship in (40) possesses its sail. It is, however, unclear whether the addition of possessorhood to the list of proto-agent entailments is really necessary in the light of the idea which was first introduced into general linguistics from Indo-European studies by Benveniste (1966) and which is becoming increasingly popular (cf. among many others Den Dikken 1997 or Meinunger forthcoming), namely, that possession boils down to (the control of) co-occurrence (in space) of the possessed item with another entity. Put differently, Dowty's tentative property of independent existence would, together with his corresponding proto-patient entailment of ''dependen[cy] on another participant [. . .],'' allow for the formulation of possession in these related terms of independence and dependence. But what is the gain if Dowty's tentative properties of independence of, or dependence on, other participants in a situation are included in the definition of proto-agents and proto-patients? The answer is that recalcitrant stative eventualities as described by *A house has walls and a roof* may be viewed as instantiating the proto-agent/proto-patient scheme. If only this move wouldn't put such a strain on our intuitions! In my eyes, a house as a whole which has walls and a roof simply isn't agentive at all, no matter how much we stretch the notion of agentivity. No other of Dowty's proto-agentive entailments is detached from common sense intuitions in a comparable way. The reason why he includes independent existence into his list is that this move allows him to do away with the figure/ground distinction in the theory of thematic roles. The following digression on locative predications and *gestalt* properties critically reviews the filtering out of *gestalt* roles as possible thematic roles. Readers who have no problem with the assumption of a ground (or landmark) role at least for some predications may skip the following subsection. The mainstream in linguistics seems to favor the idea that *gestalt* roles have no place in a theory of thematic roles, and therefore the digression appears to be justified and necessary.

5.2. *Digression on* gestalt *roles*

The idea that *gestalt* features of eventualities might qualify for inclusion into the set of thematic roles pops up again and again in the literature, most notably perhaps in Gruber's (1965) and Talmy's (1985, 2000: 339–341) work. The typical reaction to such considerations is that, while

considered attractive at first, the assumption of thematic roles like figure
or ground is judged superfluous, and that *gestalt* is relevant at a level of
language description different from the theory of thematic roles (cf., e.g.,
Dowty 1991: 563–564 or Dürscheid 1999: 254). Dowty's arguments in
this domain are endorsed by other researchers, and one gets the impres-
sion that Dowty has once and for all times discredited the idea of *gestalt*
notions as thematic roles (but cf. Talmy 2000: 339–341 or Maienborn
2001: 192). I would like to take a fresh look at the issue, and the result
will be that Dowty's argument is not valid and that we indeed need some-
thing like the ground role (termed "landmark" below), at least for stative
locative predications, and possibly for all locative predications.

By "locative predication" I refer to predications describing configura-
tions in space that conform to the criteria in (42).

(42)   Criteria for locative predications:
   a.   The predication asserts or entails a specific spatial configura-
        tion between at least two entities in space.
   b.   The position in space of one entity is identified relative to the
        other entity.
   c.   The predication may only be assigned a truth value if the posi-
        tion of the entity with respect to which the other entity is situ-
        ated in space is identifiable (i.e. the position of this entity must
        be presupposed).

Apart from the differences between conflation patterns for the different
notional components of locative predications that are identified in Tal-
my's (1985) seminal paper, Talmy also posits a major cross-cutting divid-
ing line between stative locative predications and others that involve
movement of the referent-to-be-situated. 'BE$_L$' is Talmy's term for sta-
tionary existence in space, which stands on a par with the pure 'MOVE'
component of locative predications involving movement. Locative predi-
cations involving movement may further be subdivided into those where
the moving entity has agentive control over its movement, and others
where it does not. The same split holds mutatis mutandis for BE$_L$ predi-
cations such that the enduring existence of the stationary spatial configu-
ration may require agentive control or not (cf., e.g., the control ambiguity
of verbs like *stand* if used with animates as opposed to inanimates: *Paul
couldn't stand any longer and fell to the ground* vs. ???*The statue couldn't
stand any longer and fell to the ground*). In order to keep the present argu-
ment manageable I will disregard those locative predications that involve
movement. We will, for the time being, only look at stative locative pred-
ications which may or may not involve the sentient/conscious involve-
ment of the ground referent.

Dowty's argument for rejecting a ground role for the locative which denotes the place with respect to which something is located by a locative predication rests on the identification of the figure/ground distinction with the given/new distinction relevant for information structure. He observes that, depending on the discourse in which it is used, *the lamp* in *The lamp is over the table* may preferably be given, but that it may also be new or focal information in an appropriate discourse environment. A thematic role, however, should be constant across different discourse embeddings of a single sentence. The problem with this argument is the identification of locative *gestalt* features and information-structural properties and *gestalt*. While it is possible and fruitful to talk about new information in a discourse in terms of the figure notion, this is an application of the *gestalt* concept which is independent of the *gestalt* properties of locative eventualities as such. The information status of a referent within a spatial configuration may change with the embedding discourse, but in a sentence like *The apple is on the table* the locative *gestalt* properties are fixed; the apple is the (locative) figure and the (surface of the) table is the (locative) ground. (To appreciate this fact, one must keep in mind that for a DP to bear a focus accent and be [part of] focal information does not mean 'denoting a referent whose position in space has so far not been in the discourse background'.) A sentence like *The lamp is over the table* instantiates the same fixed figure/ground scheme, even though at first it may seem that the lamp and the table might compete for the figure status because they are more easily comparable in general saliency and size. The important thing is that the locational figure/ground distinction that we are dealing with here is built into the prepositions that are used in such sentences in English, and therefore they do not change across contexts (the complement of a locative preposition always denotes a ground). If this is true, then the figure/ground mappings that we are interested in are stable across different contexts.

With this in mind, let us look at the extra argument sentence in (43).

(43) *Dem   Sänger* ist die Jacke   am   Bauch   zu   eng.
      the.DAT singer   is the jacket at.the belly   too   tight
      Reading A: 'The singer finds that his jacket is too tight around his waist.'
      Reading B: '(It is objectively the case, or someone other than the singer finds that) the singer's jacket is too tight around his waist.'

The ambiguity of (43), which is reflected by the two translations, is well-entrenched and is easily elicited with speakers of German.[20] If the arguments given in this article to assign the affectee role to the dative argument in the A-reading of such sentences are correct, then we must ask

ourselves what role the dative argument bears in reading B where the dative referent is not entailed to perceive anything. Note that we have seen arguments above that the dative argument is not a possessor. The possessor of the belly is implicit in the PP *am Bauch* 'on the/his belly'. The spatial relation denoted by *am* holds between the jacket and the singer's belly. The dative DP just serves to tie this configuration to a referent that may serve as a ground for this configuration. It is important to see that the figure role of the jacket in the spatial *am*-configuration does not correspond to a pronounced constituent. This gets clearer if we replace the PP *am Bauch* with a relative clause as in (43′), and this time only the B reading is provided.

(43′)   *Dem   Sänger* ist die Jacke da, wo   sie am   Bauch
        the.DAT singer   is the jacket there where it   at.the belly
        ist, zu   eng.
        is   too tight
        Reading B: '(It is objectively the case, or someone other than the
        singer finds that) the singer's jacket is too tight where it goes
        around his waist.'

If we want to say that reading B of (43′) has the same truth conditions as reading B of (43) — and this seems desirable — then the simplest assumption is that the subject argument of the relative clause of (43′) and, more importantly, its role is implicit in (43). We thus have a recursive figure/ground mapping. The jacket (figure) is in the region of the belly (ground), and this spatial configuration as a whole constitutes the figure whose ground is the singer. Thus, the dative can plausibly be argued to denote a ground in a figure/ground configuration, and no obvious alternatives for a thematic role assignment present themselves.

Another straightforward argument against the discrediting of *gestalt* roles relies on Mandarin *bǎ*-sentences like (44) (= [21c]; recall that *bǎ* allows for the integration of additional preverbal extra arguments under special conditions).

(44)   Tā   bǎ *bìlú*   shēng-le   huǒ.
       (s)he BA fireplace ignite-PRF fire
       '(S)he put on a fire in the fireplace.'

Judging from the English translation alone, one might want to say that the *bǎ*-marked argument is just an internal locative in the sense of Maienborn (2001). This idea receives initial support from the substitutability of *bǎ* as witnessed by (45).

(45)   Tā   zài   *bìlú*   shēng-le   huǒ.
       (s)he   at   fireplace   ignite-PRF   fire
       '(S)he put on a fire in the fireplace.'

In (45) a preposition is used instead of *bǎ*, and the translation does not change. That this cannot be the whole story becomes evident in (46).

(46)   Tā   zài/*bǎ   *shùlín*   shēng-le   huǒ.
       (s)he   at/BA   woods   ignite-PRF   fire
       '(S)he put on a fire in the woods.'

(46) is ungrammatical with *bǎ*, and the reason for this is that a fire is not an essential part of any forest, while a fire forms part of the functional whole of a fireplace. We may say that *bǎ* may only be used to introduce an extra argument into a clause if (i) there is a figure/ground relation between the referent of the extra argument and the referent of the more deeply embedded argument, and if (ii) this figure/ground relation is conventional, that is, mediated by inalienability or purposivity. Put differently, the relevant figure/ground relation must in some sense be essential, and not just accidental. Pure contiguity in space alone cannot be the sufficient condition for the use of *bǎ*, because otherwise (46) should be fine with *bǎ*.

   Summing up, I claim that one may meaningfully speak of thematic roles that correspond to the ground and the figure of the *gestalt* notion. In a stative locative state of affairs in which none of the participants is entailed to be sentient or conscious, the ground property of anchoring another referent in space remains as the only function of extra arguments as in (43) or (43′). As said above, it would amount to overstretching the notion of agentivity if one subsumed the ground notion under the agent notion, and therefore, I side with Dowty insofar as I assign "independent existence" a dubious status in the list of proto-agent entailments. Since Dowty wants to reduce all roles to the agent/patient contrast, he has no choice but to include the ground property par excellence, independent existence, among the proto-agent entailments. I would argue that the perspective should be changed. Two fundamentally different kinds of predications should be distinguished. On the one side we have predications that may be subsumed under the heading "eventualities with a cause that forms part of the linguistic conceptualization." This is the realm of the proto-agent/proto-patient contrast. On the other side we have purely stative locative predications which denote "figure/ground configurations in space whose coming into being or change is not part of the linguistic conceptualization." These two kinds of predication types form extremes in that a given complex predication need not belong to

one kind to the complete exclusion of the other. For instance, predications denoting agentively caused directed motion form a mixed type. There are other eventualities in the course of which spatial configurations come into being, are changed, or cease to exist, but which have no known or linguistically conceptualized cause. Such eventualities are encoded by unaccusative predicates (cf. Abraham 2004). Whether they instantiate a mixed type between purely locative predications and purely causal predications depends on whether motion is necessarily seen as an instance of the proto-agent/proto-patient scheme, or whether motion may also be seen as a pure instantiation of the locative predication scheme. I will leave the matter unsettled here, but assume that if a sentence like *The ship tore one of its sails* is, as a whole, classified as denoting an eventuality with a cause, it will at least also denote or entail a sub-eventuality which is fully locational, in this case relating to the resulting state of there being one (functional) sail less on the mast of the ship (cf. Section 5.3).

For a last refinement, and to make the parallel between affectees and grounds as discussed here more visible, we should note that our grounds are all figures if we move up one level. At the level of the complete situations that are denoted by our extra argumental sentences, the ground referents that we are talking about never define the whole scene. They are always *locata* which, secondarily, become localizers. Take the example sentence *The tree grew leaves*. At the highest level of figure/ground mappings, the tree is a figure before a (possibly highly unspecific) ground. But with respect to the leaves and the growing event, the tree constitutes the ground. Analogous reasonings can be developed for all other ground arguments that we have encountered. And this is not a surprise if we take the mixed nature of affectees and the parallelism between affectees and intermediate grounds seriously. Affectees combine proto-agent properties and proto-patient properties, and our extra argumental grounds combine proto-ground properties and figure properties.

For this reason, I think that "ground" is not the best term to characterize the involvement of extra argumental (intermediate) ground arguments. Moreover, this terminology invites the misunderstanding that Dowty falls victim of when he confounds figure/ground configurations in space with those in information structure. I will therefore make use of Langacker's (1987: 217) well-established term "landmark" (for "intermediate ground") to refer to the locative *gestalt* role of some extra arguments (cf. Maienborn 2001, who also uses this term in a generative context). The corresponding term "trajectory" (for "figure") is not needed because we can use the more established term "theme" instead, if needed.

5.3. *Landmark voice*

Section 4.2 was devoted to the implementation of affectee extra arguments with the help of the voice head Aff^0. The denotation of this voice head is given again in (47), and the corresponding denotation for the voice head for landmark arguments of purely stative eventualities is added in (48a). (48b) rephrases (48a), and it makes use of the specification of the landmark notion given in parentheses in (48a), but it abstracts away from the presuppositionality of the landmark position.

(47) $[[Aff^0]] = \lambda x \lambda e.x$ is an affectee in e

(48)   a. $[[Ldm^0]] = \lambda x \lambda s.x$ is the landmark for s
             (with a landmark referent being the ground with its presupposed location in space vis-à-vis which the location of the theme or figure referent of s may be identified)
       b. $[[Ldm^0]] = \lambda x \lambda s.s$ holds in a region of x

The variable *s* in (48) ranges over states (as opposed to events; cf. Note 15) since the prototypical field of application of landmark arguments is in stative locative predications. For the reasons given in the last subsection, I will leave the matter undecided whether dynamic eventualities involving motion may also integrate landmark arguments, or whether the proto-agent/proto-patient scheme may be put to use here. Note that those sentences from the empirical survey of Section 3 that require the assumption of landmark arguments are all dynamic eventualities, but that they all denote or entail stative sub-events whose truth conditions may be spelled out with the help of the landmark role. The sentence in (49a) (= [1b]) may, for instance, be said to entail (49b) as a resulting state.

(49)   a.   *The ship* tore one of its sails.
       b.   'One of the ship's sails does not exist as a functional entity on the ship (anymore).'

Now, what is the difference between (49a) and (50a)?

(50)   a.   One of the ship's sails tore.
       b.   'One of the ship's sails does not exist as a functional entity (anymore).'

The difference can be read off the paraphrases in (49b) and (50b). They each spell out the resultant state which holds after the sail tore, but the one spelling out the resultant state of the sentence with the landmark voice head, (49b), puts a contiguity constraint on (49a) which is irrelevant for the interpretation of (50a). (50a) may be true in a context in which the

sail tore while it was not in the same place as the ship or, more accurately, while it was not in its functional position on the mast of the ship. (49a) is false in such a situation. With locative predications, the fact of a state holding in a region of a landmark referent is thus the counterpart of the conscious or sentient involvement of an affectee referent into an eventuality which instantiates the proto-agent/proto-patient scheme. A German example which illustrates this analogous contrast again is provided in (51) (cf. [4b]).

(51)   Dann   starb (*ihm*)   auch seine Mutter.
         then   died him.DAT also his   mother
         'Then his mother died (on him), too.'

(51) with the extra argument is only good if the dative referent is still alive, while the use of the possessive pronoun inside the more deeply embedded DP requires no such thing.[21]

It would require some more work to develop the fully compositional semantics for locative eventualities with Landmark arguments, especially with respect to the parallel implementation of predicate abstraction and event identification as proposed for the affectee head. At the present level of explicitness, the idea that landmark arguments "bind" a variable in their sister constituents the way affectee arguments "bind" variables in their VPs is only evinced by the bound use of possessive pronouns in sentences like (49a) and by the double occurrence of *the ship* in the partial spell-out of truth conditions as in (49b). Some more suggestive examples follow in Sections 5.4 and 5.5, but we will basically remain in the sphere of impressionistic arguments. From among the two points which conclude this subsection, I consider (i) sufficiently well-grounded to count as a result of Sections 5.1 through 5.3; (ii) must be substantiated in more detail:

(i)   We need the landmark as a thematic role;
(ii)   Landmarks and affectees are treated on a par with respect to extra argumentality, the dividing line between their fields of application being whether a locational eventuality or a caused eventuality is described.

5.4.   *Landmarks as extra arguments must be functional or organic wholes*

The contrast exemplified by (52) has not been taken care of yet.

(52)   a.   *The ship* tore one of its sails.
         b.   *The mast tore one of its sails.

Masts are, just like sails, parts of larger functional wholes, namely ships. Judging from (52), extra argumental landmarks must be functional wholes. In other words, extra argumental landmarks must contain, or be anaphoric to a DP with, an absolute noun, as opposed to a relational noun. This statement must immediately be refined in the light of the data in (53) and (54).

(53)   a.   *The tree* grew leaves (on its branches).
         b.   *The branch grew leaves (on it).
(54)   *The branch in the vase* grew leaves (on it).

The deviance of (53b) vanishes as soon as the branch is construed as a functional or organic whole. A branch in a vase is like a whole plant, and therefore it may be used as an extra argumental landmark in (54). The ungrammaticality of (53b) is thus restricted to transitive or relational uses of the noun *branch*, but it is not tied to the lexeme *branch* as such. The same holds for the contrast in (55) which goes away if *the fender* in (55b) is interpreted as a radio set that is shaped like a fender (or actually is a fender which is used as a radio body).

(55)   a.   *The car* bent its antenna.
         b.   (*)*The fender* bent its antenna.

Still, there remains a certain amount of data that I cannot make full sense of. While speakers of English have no problems with (55b) if the right context is provided, (52b) continues to be judged deviant even if the mast is contextualized as a decorational mast which comes without a ship and therefore represents a complete functional whole.

   The matter will be left unsettled, but this does not undermine the generalization which heads this subsection: landmarks as extra arguments must be functional or organic wholes. This generalization constitutes a necessary condition for the use of landmark extra arguments, but it is evidently not a sufficient condition.

5.5.   *Explicit and implicit landmark regions*

The examples in (53) and (54) were good with or without the explicit mention of the spatial region of the (part of the) landmark referent where the resulting state holds (The tree *grew leaves* [*on its branches*]). I have argued above that those regions must be semantically active even if they are not pronounced. The lexical means to link the spatial region of the leaves to the branches (and to the tree as a whole) was the general English

preposition of contiguity for such cases, viz. *on*. Given other conflation patterns of locative predications, other lexical choices become possible. Three pertinent examples from Mandarin are given in (56) (= [20a], [20b], [21a]).

(56) a. Tā   bǎ   *júzi*   bō-le   pí.
          (s)he BA   orange   peel-PRF   peel
          '(S)he removed the peel of the orange.'

      b. Tāmen bǎ   *zhū*   fàng-le   xué.
          they   BA   pig   release-PRF blood
          'They drained the pig of its blood.'

      c. Zhāngsān bǎ   *mén* shàng-le   suǒ.
          Zhangsan BA   door   put.on-PRF lock
          'Zhangsan put a lock on the door.'

In all of these examples, the information about the regions of the landmarks where the theme or patient referents (the peel, the blood, the lock) are located when the resulting state holds is encoded as part of the verbs' meanings. The verbs *bō* 'peel' and *fàng* 'release' entail that the themes end up AWAY FROM or DETACHED FROM the landmarks (the orange, the pig). The verb *shàng* in its basic meaning carries a superessive meaning 'on top of'. In (56c) it is used to express the general contiguity-plus-contact relation that was expressed by *on* in (53) and (54). The conflation pattern underlying (57) (= [21c]) is more opaque.

(57) Tā   bǎ   *qiáng* tī-le   yi-ge dòng.
      (s)he BA   wall   kick-PRF 1-CL hole
      '(S)he kicked a hole into the wall.'

On the one hand, one may argue that the hole is "added" to the wall and that a state is the result in which the wall has a hole in it. On the other hand, the resulting hole in the wall may be regarded as destroying the functionality of the wall, just like the tearing of a sail destroys the functionality of the sail and of the corresponding ship. Perhaps both views can be integrated into a single set of truth conditions for this sentence, but given the ungrammaticality of sentences like (46) with *bǎ* further specifications will be necessary. We said above in the context of (44)–(46) that *bǎ* may only add extra arguments to a predication if the more deeply embedded theme argument refers to a functional or essential part of the extra argumental landmark referent. Yet, a hole that's been kicked into a wall is certainly not an essential or functional part of the wall. I lack evidence to make full sense of the conflation pattern instantiated in (57) and will leave its discussion for another occasion.

5.6.   *Summary on landmarks and their relation to affectees*

Summing up the discussion on the voice head analysis that I propose for extra argumental landmarks, one may say that landmarks are, in a sense, like affectees. A landmark is there to denote the referent which allows one to identify the place where the VP eventuality, or a substate thereof, holds. An affectee is there to denote the referent which may be sentiently/consciously affected by the causal potential of the VP event. Both affectees and landmarks are, therefore, points of reference — mental ones in the case of affectees, locative ones in the case of landmarks.

6.   Conclusions and outlook

In this article, I have investigated the empirical range of extra arguments, that is, of surprising syntactic core arguments, in German, English, and Mandarin. One important result concerns the fact that extra arguments occur in all syntactic core functions. An extra argument may, however, not be the most deeply embedded argument in a predication. This restriction was modelled with the help of the voice analysis that I proposed for extra argumentality. The voice heads that integrate extra arguments into the structure come with an identity requirement. The referent denoted by the extra argument must, in a different role, already be part of the denotation of the sister node of the voice head.

Extra argumentality comes in two major kinds. The extra argument may either be an affectee or a landmark.

The affectee referents studied here fulfilled the identity requirement by simultaneously being possessor referents in the VP eventualities. The modeling of this double role strives to account for the longstanding intuition of "affected possessor" arguments that other theories model as a possessor argument that has been moved to the extra argumental position, or by stipulating a possessor in the argument structure of (derived) verbs. I have tried to show that my voice analysis is superior to such attempts. Hole (2005) extends the analysis of affectee referents that are possessors at the same time to so-called beneficiaries. In that study, being a beneficiary is decomposed into affecteehood plus purposivity. If someone bakes me a cake, I will be an affectee in this event, and the cake will have a purpose for me (to feed me, to make me happy, or whatever may have been the intention on the part of the agent referent).

The integration of landmark arguments is the other big field of application for extra arguments. If the sister node of the extra argumental voice

head denotes a state involving a spatial configuration (as a sub-event), the extra argument serves to denote the spatial ground where the figure of the spatial configuration holds.

I have argued against attempts to characterize the landmark notion in terms of the agent/patent contrast, even though this is probably the favorite choice among researchers. I claim instead that there is a major conceptual and linguistic split between eventualities that are structured according to the (locational) figure/ground scheme, and according to the (causal) agent/patient scheme.

An obvious blind spot of the proposal as defended here concerns the lexical or categorial status of the variable that gets identified in the more deeply embedded argument (as, for instance, in *She stared me in the x eyes*, i.e., in the eyes of the speaker). Here and in Hole (2005), I have nothing to say about this problem. Still, arguments supporting the existence and linguistic activity of this variable are delivered in Hole (2005), and locality constraints for extra argumental variable identification are stated. We may, therefore, be confident that the variable in the more deeply embedded argument is not just a chimera.

Notes

1.   The following abbreviations are used in glosses: ACC — accusative; BA — cf. Section 3.2.; CL — classifier; DAT — dative; IND — indicative; NOM — nominative; PASS — passive marker; PRF — perfective aspect; PRT — particle; PST — past tense. I only provide glosses for morphosyntactic features if they are immediately relevant to the discussion at hand.

2.   Among researchers with an intimate knowledge of continental European languages, the idea of syntactic possessor raising has often met with criticism. Cf. Tuggy (1980) for such a strongly opposing view.

3.   The *s*-variable is Wunderlich's event argument.

4. Cf., for example, O'Connor (1996) for a diligent overview of relevant contrasts in Northern Pomo which, even though the possessor raising/ascension terminology is agnostically adopted, points to the manifold semantic-pragmatic differences between "raised" and "nonraised" structures. Unfortunately, O'Connor does not challenge the claim of truth-conditional irrelevance of the choice between the two structures.

5. Independently of the external possession paradigm, Shibatani (1994) makes an attempt to explain extra argumentality or, as he calls it, extra-thematic licensing of arguments, in terms of relevance. It is not clear to me what the exact empirical predictions of a relevance account as opposed to a thematic-role account are and what they mean in terms of a syntactic and semantic implementation. However, Shibatani's work must be acknowledged for widening the perspective such that a broad range of extra argumentality facts from many different languages are integrated into a single picture.

6. The general ideas in the arguments of Sections 2.1 through 2.3 have been around in the literature for decades, even though their exact shapes may differ. The argument in Section 2.4 is from Hole (2005) and, to the best of my knowledge, it constitutes a new finding together with the additional argument delivered in Section 4.3.1.

7. Note that extra arguments in English do not occur in postverbal position as frequently as, for instance, in German. They are restricted to certain configurations with directional complements that encode bodily action. Extra subjects are more widespread in English (see Section 3.1).

8. As already mentioned in Note 6, this argument is from Hole (2005).

9. In German, extra arguments in subject function as defined here are extremely rare, if they exist at all. The reason for this seems to be that German allows PPs in its prefield so easily. A possible example of a sentence with a construction as in (12) is provided in (i).

(i) *Der Baum* treibt Blätter.
the tree drives leaves
'The tree starts growing leaves.'

Whether this example qualifies as a case in point depends on whether *der Baum* 'the tree' is interpreted as a marginal agent, or as a kind of landmark (see Section 5.2 for the justification of the landmark role). According to the specifications in that section, we would be dealing with a clear landmark argument only if the tree is not at all agentively involved in the eventuality of growing leaves. Two other sentence patterns have landmark subjects in a rather straightforward fashion, but the complements of the underived verb stems are encoded in a special complement type with the derived verbs; cf. (ii) and (iii).

(ii) *Der Platz* steht voller Menschen.
the square stands full.of people
'The square is full of people (standing there).'

(iii) *Der Saal* hallte wider vor Lärm.
the haal resonated because.of noise
'The hall resonated with noise.'

Even though these patterns should definitely be covered by an overarching theory of extra-argumental voice as propagated here, I will, for the sake of perspicuity, stick to the more narrowly defined type of construction in which the syntactic core functions of extra arguments do not downgrade the initial internal arguments to complement PPs. For one more German sentence pattern with extra-argumental subjects, but demoted initial core arguments, cf. (iv).

(iv) *Paul* wackelte mit   den Ohren.
      Paul wiggled   with the   ears
      'Paul was wiggling his ears.'

10. I would like to thank Waltraud Paul for reminding me of this sound criterion of
     nontopichood.

11. Kittilä (forthcoming) demonstrates that 'give' verbs are irregular in many languages in
     that they display idiosyncratic properties not found with other verbs of the same larger
     class, typically ditransitives. This fits in well with Hole's (2005) reservations against
     'give' verbs as points of departure for the elucidation of clause patterns with multiple
     arguments.

12. This generalization only holds cum grano salis. Schwarzschild (1999) and Büring
     (forthcoming) show convincingly that focal accents on adjuncts are sufficient to focus-
     mark constituents that are larger than those adjuncts. What matters is that the focal
     material outside the adjunct must be given (in the sense of Schwarzschild 1999: 151–
     152). A pertinent example from Büring (forthcoming) is provided in (i) (Büring
     uses German examples for illustration because even critical readers will readily agree
     that the German PP in [i] cannot be a complement, while its right-peripheral counter-
     part in the English translation might give rise to the idea that *with his daughter* is a
     complement).

(i) Q: Zur Tatzeit hat Lolek mit seiner Frau einen Einkaufsbummel gemacht.
         Aber was ist Boleks Alibi?
     'Q: At the time of the crime, Lolek was out shopping with his wife. But what
          was Bolek's alibi?'
     A: Bolek hat [mit seiner TOCHter   einen Einkaufsbummel gemacht]$_{FOC}$.
         Bolek has with his   daughter a   shopping.stroll made
     'A: Bolek was [out shopping with his DAUGHter].'

In this example, *einen Einkaufsbummel gemacht* 'been out shopping' may not bear a fo-
cus accent, since this bit of information has been given about Lolek in the preceding
context; on the other hand it forms part of the new information about Bolek, and
therefore it is part of the larger constituent which comprises the whole focus of the sen-
tence. Under these conditions, a focus accent on an adjunct suffices to focus-mark the
whole sentence minus the subject (and the auxiliary).

  If this is so, and if a parallel argument can be stated for sentences as in (25)
and (25′), what remains of the claim that the possibilities of focus projection may serve
as a diagnostic for unmarked word order in the question at hand? Isn't the whole diag-
nostic rendered useless by Schwarzschild's and Büring's findings? It fortunately isn't.
The point is that Höhle's original generalizations remain fully valid if (near-)empty,
out-of-the-blue contexts are chosen. Höhle's patterns may not be reproduced in all dis-
course environments, but they are stable if the context is (near-)empty. This is the rea-
son why one should be more careful to choose only indefinite arguments, and avoid
all presuppositional elements, in examples used to argue for a specific canonical word
order.

13. Such configurations are typical of most languages of Europe, except for some lan-
     guages on its (insular) fringes, among them Breton, English, and Turkish (cf. Bossong
     1998).

14. Vergnaud and Zubizarreta (1992) defend a similar claim for French indirect objects
     in what they call the "inalienable construction" in French. Even though the general
     ideas of Vergnaud and Zubizarreta's proposal are similar to the proposal as laid out

in Section 4.2, the present analysis is not just a variant of the analysis of the inalienable construction in French. See Section 4.3.2 for more discussion.

15. (i) below is a list of semantic types and variables/values as used by Kratzer (1989 and elsewhere) and here. The confusing homonymies are regrettable, but I don't see that it would be a step ahead if I, as opposed to Angelika Kratzer, proposed a more perspicuous system.

(i) semantic type   variables/values
     truth-value: $\langle t \rangle$ 1 (true), 0 (false)
     individuals: $\langle e \rangle$ x, y, z
     eventualities/situations: $\langle s \rangle$ e (dynamic eventualities, events proper), s (states)

16. It is confusing indeed that V&Z compare the alienable and inalienable uses of nouns to verbs that may be used transitively (as causatives), or intransitively, but then represent the allegedly "transitive" inalienable variants of nominal predicates with a single argument slot throughout their paper (consequently the predicates corresponding to alienable uses of nouns have no argument slot at all in V&Z's paper).

17. The diagrams in V&Z (1992: 614) are obviously intended to contribute to the elucidation of this problem, but the representations are somewhat idiosyncratic, and even with some effort I am not sure that I can fully understand them.

18. The semantics of extra argumentality of the following examples from the survey in Section 3 have thus been clarified: (13a), (13b), (14), (15), (16), (17), (26a)–(26c).

19. (i) and (ii) are Dowty's (1991: 572) lists of proto-agent and proto-patient properties, respectively:

(i)   volitional involvement in the event or state
      sentience (and/or perception)
      causing an event or change of state in another participant
      movement (relative to the position of another participant)
      (exists independently of the event named by the verb)
(ii) undergoes change of state
      incremental theme
      causally affected by another participant
      stationary relative to movement of another participant
      (does not exist independently of the event, or not at all)

20. The contrast which is relevant in (43) recurs in different parts of grammar, and accordingly it has several names. One area where it surfaces is in the area of reflexivization (cf. Sells' [1987] PIVOT vs. SOURCE/SELF, Hole's [2002: 292] somatophoricity vs. logophoricity, or the triggering of *de-re/de-dicto* contrasts in intensional semantics).

21. As alluded to in the preceding note already, another domain where consciousness/sentience is dealt with on a par with locatedness vis-à-vis something else is reflexivization, as treated in Hole (2002: 290–293). It is argued there that so-called untriggered reflexives in English may, among other things, either indicate that the predication in which the reflexive occurs reports the mental state of the reflexive participant, or that an eventuality is presented with the reflexive participant as the landmark of the eventuality. I would like to thank Robert Mailhammer and Theo Vennemann (pers. comm.) in this context, who reminded me of the well-known Germanic case syncretism which had led to a merger of the locative and the dative in Old High German already. I must, however, leave for another occasion the more exact explication of the historical implications of my proposal.

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