Unaccusativity mismatches and the syntax of unaccusatives

Artemis Alexiadou

based on joint work with Florian Schäfer

Universität Stuttgart
artemis@ifla.uni-stuttgart.de

1. Introduction

As is well known, across languages a number of phenomena have been argued to be sensitive to unaccusativity.

For example in English, *there-insertion* (1) as well as *locative inversion* (2) are possible in the context of *unaccusative verbs* but impossible with *unergative* and *transitive verbs*:

(1) a. There arrived a man (in the garden)   (unaccusative-1)
     b. *There walked a man (in the garden)   (unergative)
     c. *There kissed a girl a boy (in the garden)   (transitive → TEC)

(2) a. Out of the room came a tiny old lady   (unaccusative-1)
     b. *In the nursery smile half a dozen newborn babies (unergative)
     c. *From this trench recovered archaologists sacrificial burials   (transitive)

In languages other than English, e.g. Greek, Hebrew, Spanish, Italian and Catalan a comparable distribution is observed among other things for *bare post-verbal nominatives*: unaccusatives tolerate bare/mass nouns in free inversion contexts (3a, 4a, 5a), while unergatives do not (3b, 4b, 5b). As has also been noted, the bare nouns receive an existential interpretation only:[1]

(3) a. irthan pedhia   *Greek*
         came children-NOM
         'Children came'
     b. ??etrehan   pedhia
         ran   children-NOM
         'Children were running'

(4) a. llegaron livors   *Spanish* (Ortega-Santos 2005)
         arrived books
     b. ??Corren chicos
         run boys

(5) a. hitxilu hapganot   *Hebrew* (Borer 2005)
         started demonstrations
     b. *nazlu   mayim
         dripped.m.pl water.m.pl

---

[1] See e.g. Borer 2005 for Hebrew, Belletti 1988 for Italian, Torrego 1989 for Spanish, Alexiadou 1996, Alexiadou & Anagnostopoulou 1998a for Greek, Rigau 1997 for Catalan.

However, the above distribution is characterized by the following restriction:

- In all these languages only a (/the same) **subset** of unaccusative verbs is permitted in all the above environments (Levin 1993, Levin & Rappaport Hovav 1995 for English, Borer 2005 for Hebrew, Alexiadou to appear for Greek). This behavior leads to an **unaccusativity mismatch**:

(6) a. *There broke a glass (in the kitchen)   (unaccusative-2)
     b. *Out of the house broke a tiny old lady
(7) ??pagosan potamia   *Greek*
     froze   rivers
(8) *qap'u mayim   *Hebrew*
     froze water

Questions:
1) Does the *unaccusativity-mismatch* in (6-8) point to a syntactic difference between the two classes of unaccusatives?
2) How comparable are the different constructions in English and Greek?
3) What does this all show about the syntax of unaccusatives in general?

Answer to (1): Yes. The contrast between (1a) and (6a) suggests that the theme argument is projected in a different location for the two classes of unaccusatives.

(9) a.   [$_{vP}$ [$_{ResultP}$ *theme*]]   vs.   b. [$_{vP}$ *theme* [$_{ResultP}$]]
          arrive   ***break***

Answer to (2): Locative inversion and VS orders involving bare NPs are comparable if not identical to each other. The key common ingredient is the presence of a locative argument. *There*-insertion cannot be treated on a par. While (9) holds, our analysis of the two classes of unaccusative verbs does not immediately transfer to the other constructions.

Answer to (3): We need to distinguish between constructions that are sensitive to formal syntactic properties such as *there*-insertion and trigger definiteness effects and constructions that are sensitive to interface related properties of the type involved in locative inversion and bare plurals in VS contexts (cf. Deal 2009).

- Implication of the above: *there* is not a locative (contra Hoekstra & Mulder 1990 and many others following them).

2. The standard account of *there* insertion: *there* in Spec,TP

- Chomsky (1981), Chomsky (1995) and subsequent work proposes that *there* is externally merged in the derived subject position Spec,TP to satisfy the EPP (i.e. check the strong D feature on T).
- On this logic, (1b, c) are ungrammatical for the following reasons:
  In English, (a NON-TEC language), the subject and the expletive compete for a single specifier position. [***Crucial assumption***: Subjects must leave the vP (cf. Alexiadou & Anagnostopoulou 2001, 2007).]

- In TEC-languages (e.g. Dutch in (3)), the counterparts of (1b, c) are grammatical because these languages have two specifiers available for subjects outside the vP.

2

(10)   dat *er*   iemand   een appel gegeten heft   (**T**ransitive **E**xpletive **C**onstruction)
         that there someone an   apple eaten   has

- **NOTE**: The standard analysis of *there-insertion* cannot account for the contrast in (1a, & 6a) (cf. also Borer 2005, Alexiadou to appear, Deal 2009).[2]

3. Against the standard analysis: *there* down in Spec,vP

The standard analysis of *there-insertion* has recently been challenged (Richards & Biberauer 2005, Richards 2007; cf. also Deal 2009) as it faces a number of problems.

A: For conceptual reasons, *MERGE-Expl* should be a property of phase heads (C, v), i.e. expletives are externally merged either in Spec,CP or in Spec,vP. If an expletive occurs in Spec,TP, it must have moved there (→ EPP is checked only via *MOVE*).

B: In Chomsky (2000, 2001, 2004), *there* is a head with [uF] and probes into TP and values T. This proposal has a technical problem: Only root nodes should probe. Since *there* in Spec,TP is not the root node (which is T), its probing is counter-cyclic.

C: It needs a number of extra assumptions to derive *Bure's Generalization*, i.e. the observation that TECs are available only in languages with Object Shift/Scrambling. (Why should the availability of a second specifier in the TP-region be related to the availability of a derived object position? cf. Alexiadou & Anagnostopoulou 2001, 2007 Richards 2004).

Conclusion and proposal (Richards 2007):

- *There* is not a *probe* but a goal (like any other nominal category/DP).
- *There* merges in Spec,vP where it is in the probe domain of T.
- *There* has an *interpretable* phi-set, rendered active via an unvalued Case feature.[3]
- As *expletives* are dummies (they do not have reference and cannot bear a theta-role), they can merge (externally) only in *non-thematic specifiers*, i.e.:
     a) the specifier of a defective head $v_{passive}$
     b) the specifier of a defective head $v_{unaccusative}$
     c) the outer specifier of thematic v/Voice (the OS-position)

→ Option (c) determines the availability of TECs; English has no TECs as well as no OS as it has no outer Spec,vP / outer Spec,VoiceP (complementarity between *Expl* and external arguments).[4]

(11)   a. *There ate a man an orange   b. *There sleeps someone

---

[2] Neither can a doubling analysis of expletive *there* (Kayne 2008).

[3] But see Deal (2009) for the claim that *there* must have uninterpretable phi-features and locally probes the associate DP. This, she claims, is necessary in order to avoid the "too-many-*theres*" problem (*There seemed there to arrive a train in the station). We do not discuss the feature content of *there* but concentrate on its configurational, i.e. external-merge properties.

[4] Something in addition has to be said about the cyclic A'-movement of vP-internal elements which is, of course, possible in English.

→ It also explains the complementarity between *Expl* and raised internal arguments of unaccusatives.

(12) a. *There seems [$_{TP}$ a man to be t$_{a\ man}$ in the garden]
      b. There seems [$_{TP}$ to be a man in the garden]
      c. *[$_{TP}$ There [$_{vdef}$ a man [$_{VP}$ arrived t$_{a\ man}$]]]
      d. There arrived a man

(13)   a. dat *(daar) gister 'n skip gesink het   (Afrikaans)
           that (there) yesterday a ship sunk has
        b. dat (*daar) 'n skip gister gesink het.
           that (there) a ship yesterday sunk has[5]

→ It explains why OS bleeds TECs.

(14) a. *dat er   veel   mensen dat boek gisteren   gekocht hebben   (Dutch)
         that Expl many people   the book yesterday bought   have
      b. dat daar   baie   mense baie/*die bier gedrink het   (Afrikaans)
         that Expl many people many/the beer drunk   have

- Conclusion for English *there-insertion*: *there* is blocked if
  i) an external argument occupies the specifier of v/Voice.
  ii) an object raises to Spec,v$_{defective}$ in passive or unaccusative structures

Recall our *there*-insertion mismatch:

(15) a. There arrived a man in the garden   (unaccusative-1)
      b. *There broke a glass (in the kitchen)   (unaccusative-2)

- Ideally, we should be able to explain the contrast between the two classes of unaccusatives contrast along the same lines as the contrast between e.g. transitives and passives:
  - *arrive*-verbs make available an empty Spec,vP where *there* can merge.
  - *break*-verbs do not make available such an empty Spec,vP;

- It follows then that Spec,vP of *break*-unaccusatives must be occupied.

- **Question 1**: What is located in Spec,vP of *break*-unaccusatives?
- **Question 2**: Does this analysis extend to the other two constructions, namely *locative inversion* in English and *bare post-verbal nominatives* in Greek/Hebrew?

4.   Two classes of unaccusatives
4.1   A classification of verbs allowing *there*-insertion

Levin (1993:88-91) characterizes the verbs allowing *there*-insertion roughly as *verbs of existence or appearance*. They can be broken down into the following subclasses (a-f) of unaccusatives. *Verbs of change of state* (g) do not permit *there* even though they are unaccusatives:

---

[5] Note that this is out in English; our proposal presented below can only account for the English behaviour.
   (i) ??There sank a ship (in the ...)

(16) a. *Verbs of Existence*:   blaze, bubble, cling, coexist, ... , tower, wind, writhe
      b. *Verbs of Spatial Configuration*: crouch, dangle, hang, kneel, ... , stretch, swing
      c. *Meander Verbs*:   cascade, climb, crawl, cut, ... , weave, wind
      d. *Verbs of Appearance*:   accumulate, appear, arise, ... , stem, supervene, surge
      e. ?Verbs of disappearance: die, disappear, vanish
      f. *Verbs of Inherently Directed Motion*:   arrive, ascend, come, …. pass, rise
      g. **Verbs of Change of State*:   bend, break, chip, … rip, shatter, split, tear, wrinkle

- **Side remark**: Levin (1993) points out that <u>verbs of manner of motion</u> also allow for *there* in the context of directional PPs, but they differ in that the subject must follow this PP.

(16') a. i. There arrived three gentlemen from Verona.
           ii. ??There arrived from Verona three gentlemen.
       b. i. *There ran a raggedy looking cat into the room.
           ii. There ran into the room a raggedy looking cat.
       c.   Suddenly there flew through the window [that shoe on the table]

- Cases such as (16'bii) are called "outside verbals" in Deal (2009). Outside verbals do not obey the definiteness restriction (cf. 16c) and allow "a bewildery variety of verbs" (Milsark 1974). cf. section 7 and Deal (2009) for an analysis of these cases.

  - The <u>same set</u> of verbs is licit in *locative inversion* and *post-verbal nominatives* in the languages under discussion.

4.2   Is there a causative event in Spec,vP (Deal 2009)?

A recent explanation of the English mismatch in the context of *there*-insertion is offered in Deal (2009).

(17) a. There appeared a shadowy figure in the doorway.
      b. There arrived a train in the station.
      c. *There melted a block of ice in the front yard.
      d. *There slowed a train (on the eastbound track)

- Hypothesis: *there* is selected by specific verbs (e.g. Freeze 1992). No!

(i)   This would be *optional* selection
(ii)   This would be selection of an element without meaning
<u>Deal's proposal</u>:

- *There* is inserted at the edge of a vP that lacks an external argument, i.e. into a non-thematic Spec,vP position.
- Unaccusatives rejecting *there* have Spec,vP already occupied.

- **Causative hypothesis**: The vP of an unaccusative verbal root may contain expletive *there* just in case it does not contain CAUSE.

- The causing event is syntactically represented as an external argument of vP.

(18) a. *Severing the causing event from its CAUSE head (Deal 2009)*

λe . broken(the window)(e) & direct-cause(s)(e)

    3

   s λe′λe . broken(the window)(e) & direct-cause(e′)(e)

 causing event 3

   CAUSE$_v$ λe . broken(the window)(e)

      3

    √BREAK the window

b.   vP

  3

 (*there*) v'

   3

   v$_~$ √P

    3

   √arrive DP

- Tests for the presence of CAUSE:

A: licensing of causer-PPs (cf. AAS 2006):

(19) a. The window cracked from the pressure
   b. The plane arrived from Tokyo/*from the tailwind.

B: The licensing/interpretation of *by-itself* (Chierchia 1989, 2004):

(20) a. The window cracked by itself (without outside help)
   b. The student arrived early by herself
     No one else arrived early. ('alone' reading)
     * Nothing caused the early arrival. ('without outside help' reading)

C: participation in the causative alternation:
Most verbs that undergo the causative alternation cannot undergo *there*-insertion (Haegeman 1991, Hale & Keyser 2000). But there are of course exceptions, as participation in the causative alternation is not entirely predictable from the structure of the intransitive form:

causative <–> inchoative (break, grow) causative <–> unaccusative (hang, develop, grow)

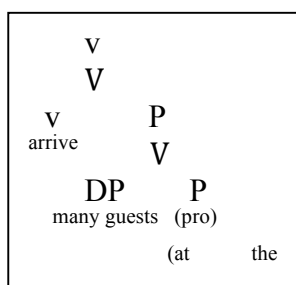**Comments**: This proposal faces has a number of theoretical and empirical problems:

- In (20a), v does not introduce an event but just a CAUSE-relation. Normally, v introduces an event.

- The claim that **an event is located in a Specifier** position is strange; a Spec position is typically a DP/NP position. Specifiers need a category; but the term "event" is not a category. "Event" is a semantic, not a syntactic notion. This corresponds to a v-category in the syntax, but v does not merge in Spec.

 → While we are sympathetic with the overall blocking idea, we do not think that it is a causative event that is relevant for the blocking.
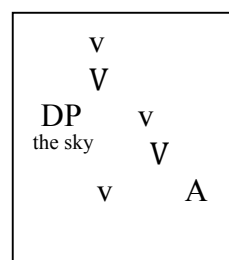
4.3 Hypothesis: *there is in Spec,vP*

6

- Hale & Keyser (2000) assume two different lexical syntactic representations for unaccusatives.

- With verbs such as *arrive, occur*, …, the theme is introduced within the complement of the verb, in the specifier of a small-clause headed by a (potentially covert) P-projection.

- With verbs such as *break, open*, … the theme is introduced in the specifier of the verb that takes an adjective as its complement (a composite dyadic lexical projection, also called a complex predicate; e.g. Beck & Johnson 2004, Embick 2004, McIntyre 2004).
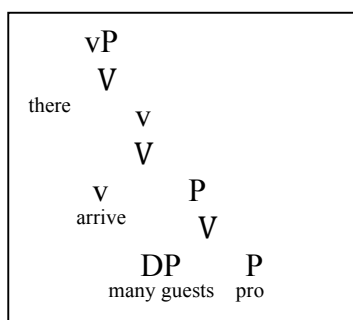 (Variation whether there is a PRO/trace in Spec,AP or not).

(21) a.

```
        V
     V
  V        P
arrive   V
     DP        P
many guests  (pro)
               (at    the
```

b.

```
        V
     V
  DP     V
the sky    V
       V     A
```
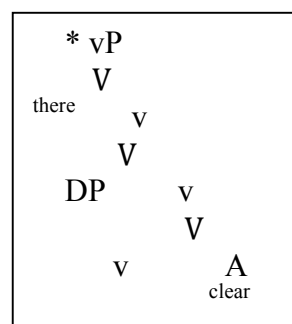
- Hale & Keyser do not propose this solution, but with the background of what was said in section 3, the structures could, in principle, explain the distribution of *there* in the context of unaccusatives..

(22) a.

```
      vP
     V
there    v
        V
     v     P
   arrive   V
        DP    P
    many guests  pro
```

b.

```
      * vP
     V
there    v
        V
     DP     v
         V
       v     A
            clear
```

- Below we investigate whether this is the correct explanation for the unaccusativity mismatch observed with *there*?
- How does it generalize to *locative inversion* and *bare post-verbal nominatives*?
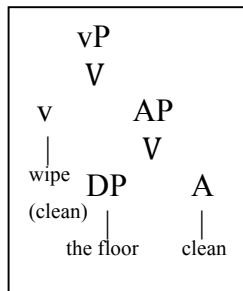
5. Tracing the position of internal arguments

- Both structures above in (22) are **bi-eventive/resultative**. They differ concerning the position where the theme argument is merged; either this is merged as the argument of the lower-event small-clause or as the argument of the higher-event verb.

- Over the years, there has been lots of discussion about the correct analysis of resultative structures. Some authors argued that the small-clause analysis is generally correct (e.g. Hoeckstra 1988), some claimed that the complex-predicate analysis is generally correct (e.g. Beck & Johnson 2004).
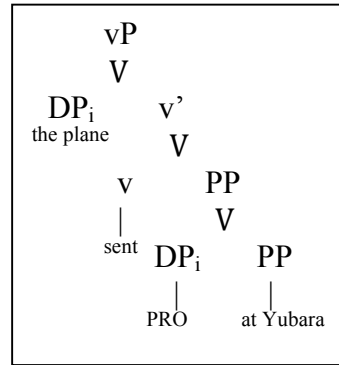
(23) a. He wiped the floor clean   b. Thilo sent the plane to Yubara

7

(cf. Hoekstra 1988)

vP
 V
v   AP
| V
wipe DP   A
(clean) | |
     the floor   clean

(Beck & Johnson 2004)

vP
 V
DP_i   v'
the plane   V
      v   PP
      | V
   sent DP_i   PP
          | |
        PRO   at Yubara

- Dobler (2008a) discusses transitive, resultative constructions and concludes that both structures exist:
  - The small-clause analysis is correct for transitive resultatives referring to a *change of location*.
  - The complex-predicate analysis is correct for transitive resultatives referring to a *change of state*.

To determine this, she investigated whether an existential operator in object position can be part of the presupposition of **restitutive again**.

5.1 The interaction of *wieder/again* and existential operators in object position

- Repetitive vs. restitutive *again* as a structural ambiguity (von Stechow 1996)

- Word order (i.e. syntax) disambiguates → syntactic decomposition (vP + resultP)

(24) a. Thilo öffnet die Tür wieder
      Thilo opened the door again
      Thilo hatte die Tür schon einmal geöffnet   (repetitive &
      Thilo had the door already once opened   restitutive)
      Die Tür war schon einmal offen
      The door was already once open
    b. Thilo öffnet wieder die Tür   (only repetitive)
      Thilo opened again the door

- German definite objects always leave the vP (von Stechow 1996, Dobler 2008a, b modifying Webelhuth 1992):

(25) a. weil er (wohl) das Buch (wohl) gelesen hat
      because er   the book   read   has
    b. weil er (wohl) [vP das Buch [vP(wohl) [vP t_{subj} t_{obj} lesen]]]

(26) a.   weil er wieder seine Stiefel gesäubert hat
       because er again his boots cleaned has
    a'. *wieder*$_{repetitive}$ [seine Stiefel [vP $t_{subject}$ v_{cause} [AP t_{obj} sauber
    b.   weil er seine Stiefel wieder gesäubert hat
       because he his books again cleanded has
    b'.   [seine Stiefel [(*wieder*$_{repetitive}$) [vP $t_{subject}$ v_{cause} [AP (*wieder*$_{restitutive}$) t_{object} sauber

- Indefinite objects remain inside the vP (unless it gets a strong interpretation).

(27)   weil er (wohl) ein Buch (*wohl) gelesen hat
       because er   a book   read has

- The fact that indefinites remain vP-internal is compatible with both the small-clause analysis as well as the complex predicate analysis of resultatives, if we assume that the subject is introduced by an extra projection (Voice):

(28)   [$_{VocieP}$ Subject *Voice* [$_{vP}$ (Object) *v* [$_{ResultP}$ (Object) *state*]]]

- Von Stechow (1996) only discusses the interaction of definite NPs and *again*. Nissenbaum (2006) discusses scope-interactions between *again* and indefinites. Below, we see this interaction in the context of a mono-eventive verb. Depending on where the indefinite is interpreted, we get different readings.

(29)   Someone is sneezing again
       a. again [∃x.x is sneezing]   (different person)
       b. ∃x [x is sneezing]   (same person)
       c. [$_{IP}$ Someone$_i$ is [[$_{vP}$ t$_i$ sneezing] again]

- In German, the readings are determined by the surface order:

(30)   a. weil [wieder [$_{VoiceP}$ jemand [$_{vP}$ nießt   (different person)
              because again   somebody   sneezes
          b. weil [$_{VoiceP}$ jemand [$_{vP}$ wieder nießt   (same person)
              because somebody   again sneezes

- Dobler (2008a, b) uses the scope-interaction between *restitutive again* and an indefinite object to investigate the position of the internal argument in transitive resultative constructions: Is the internal argument an argument of the result state (*small-clause analysis*) or of the verb (*complex-predicate analysis*)?

- The crucial difference is that only the small-clause analysis predicts that the existential operator can be interpreted inside of the result-state clause, i.e. inside the presupposition triggered by restitutive *again*.

(31) [Subject *Voice* [$_{vP}$ (Object$_{indef}$) *v* [again$_{restitutive}$ [$_{RP}$ (Object$_{indef}$) *state*]]]]
                              | |
                           same   *potentially different*

- Dobler argues that the following picture emerges (in both, English and German):

(32)   *Change of state:*
          Pandora scrubbed [a donkey clean again]
       a. #again [∃x.x is a donkey and x is clean]
       b. ∃x.x is a donkey and again [x is clean]
(33)   *Change of location*:
          Pandora put [a donkey in her stable again]
       a. again [∃x.x is a donkey and x is in Pandora's stable]
       b. ∃x.x is a donkey and again [x is in Pandora's stable]

→ She concludes that the theme in change-of-state resultatives is (syntactically) the argument of the verb (vP), while the theme in change-of-location resultatives is the argument of the secondary predicate (resultP). In the latter case, the theme can, of course, move out of the scope of again (33b).

5.1.1 change-of-state verbs

• The contexts exclude an irrelevant repetitive reading and force a restitutive reading:

(34) a. Context: *Clyde goes to the beach and collects a couple of white shells and one pink shell. When Bonnie cleans the house, she accidentally breaks the pink shell. Hoping that Clyde will not notice the mishap, ...*
b. #Bonnie malt wieder eine Muschel rosa an[6]
c. #Bonnie is painting a shell pink again

(35) a. Context: *Sally owns a brown mouse and a great number of white mice. While she is gone, Harry takes care of them and the brown mouse dies. Harry is freaked out and wants to cover up the loss...*
b. #Er färbt wieder eine Maus braun
c. #He dyes a mouse brown again

(36) a. again [∃x.x is a mouse and x is **brown**]　　　→ *impossible reading*
→　There is a brown mouse and there was a (different) brown mouse
b. again [∃x.x is a mouse and x is **dyed brown**]　→ *possible reading*
→　A mouse is (being) dyed brown at a previous time, and there was a (different) mouse that was (being) dyed brown

(37)　　Word order (German)　repetitive　restitutive
wieder > indef. Object　o.k.　　　#
(indef. Object > wieder　o.k.　　　o.k.)

→ DO is located outside of the result phrase (when scope is computed). Possible variants:

i).　[$_{vP}$ object$_i$ v [$_{AP}$ PRO$_i$ A]]　(Dobler 2008a, von Stechow 2007, Beck & Johnson 2004; problem: case of PRO?
ii).　[$_{vP}$ object$_i$ v [$_{AP}$ t$_i$ A]]　(Ramchand 2008; problem: reconstruction should be possible
iii)　[$_{vP}$ object v [A]]　(Hale & Keyser 2000) problem: right semantics?

5.1.2 Change-of-location verbs (change of existence in a location)

(38) a. Context: *Until about 200 years ago, bears used to live in the Alps.*
b. Gestern haben Biologen wieder Bären in den Alpen angesiedelt
c. Yesterday, scientists put bears in the Alps again

(39) a. Context: *The island had a mountain that practically disappeared in the course of an earthquake.*

---

[6]The repetitive reading is available in English and German but is irrelevant here.

   b. Die Bewohner der Insel haben wieder einen Berg errichtet
   c. The inhabitants constructed a mountain again

- The judgements are the same for English and German. However, in German the difference in scope corresponds to a difference in word order:

(40) a. Context: *Niki loses his left ear in an accident. Fortunately, the hospital has enough donor ears.*
   b. Die Arzte haben Niki wieder ein Ohr angenäht
   c. #Die Arzte haben Niki ein Ohr wieder angenäht

(41) a. Context: *Niki loses his ears in an accident. Unfortunately, only one can be retrieved, the other one is lost for good.*
   b. # Die Arzte haben Niki wieder ein Ohr angenäht
   c. Die Arzte haben Niki ein Ohr wieder angenäht

→ DO can be located inside of the result phrase (when scope is computed).

i) $[_{vP}$ v $[_{RP}$ object$_i$ Result $]]$ (Hale & Keyser 2000)
ii) $[_{vP-1}$ v$_{event}$ $[_{vP-2}$ Object$_i$ v$_{be}$ [PRO$_i$ PP]$ (Dobler 2008a)[7]
iii) $[_{vP-1}$ v$_{event}$ $[_{vP-2}$ Object$_i$ v$_{be}$ [t$_i$ PP]$

5.2 Conclusion

Group A: #restitutive again > existential operator
    melt, freeze, cool, warm, empty, fill, open, close ...
    paint (in) pink, dye brown, color blue, hammer flat, open wide, ...

Group B: restitutive again > existential operator
    put, place, donate, construct, build, ...

- Group A contains verbs undergoing the causative alternation; but this is not the right generalization as group B contains such verbs, too (cf. *(sich) ansiedeln*) (Dobler 2008a).

- Group A contains de-adjectival verbs, but we get the same result if we replace "paint pink" with "paint in pink" (cf. Dobler 2008a).

- The <u>correct generalization</u> (Dobler 2008a, b): *change of state verbs* vs. *change of location* (as well as *creation verbs* ≈ cause to be in a location).

6. On the position of the subjects of unaccusatives: can they block *there*-insertion in Spec,vP?

- Dobler investigated transitive constructions, while we are interested in unaccusatives.

- Many of the Group-A verbs express a change-of-state and have an unaccusative alternant. If "*transitive object* ≈ *unaccusative subject*", we would expect the same results for the unaccusative counterparts.

---

[7] This structure might eventually explain why extraction out of the object of these verbs is possible.

- The transitives in Group B express a change of location; the unaccusatives allowing *there* express also a change-of-location (come into existence ~ come to be in a location).

Prediction:[8]

- The argument of change-of-state unaccusatives is located outside the ResultP in the specifier of the unaccusative vP; it blocks *there*-insertion.

- The argument of change-of-location unaccusatives can be located inside the ResultP; if it stays in this position it does not block *there*-insertion in Spec,vP.[9]

6.1 Verbs of change of location

- *Verbs of Appearance*:

(42) a. Context: *Until about 200 years ago, bears used to live in Bavaria, but they were completely wiped out by the inhabitants in the 19th century.*
    b. Letzten Sommer ist wieder ein Bär in Bayern aufgetaucht/erschienen
    c. Last summer, a bear appeared in Bavaria again

- *Verbs of Inherently Directed Motion*

(43) a. *Context*: *Until about 200 years ago, bears used to live in Bavaria, but they were completely wiped out by the inhabitants in the 19th century.*
    b. Letzten Sommer ist wieder ein Bär nach Bayern gekommen
    c. Last summer, a bear came to Bavaria again

(44) a. Context: *Until about 200 years ago, bears used to live in Bavaria, but they were completely wiped out by the inhabitants in the 19th century. In Northern Italy, however, some bears still exist.*
    b. (#)Man hat mir erzählt, dass letzten Sommer wieder ein Bär in Bayern auftauchte
    c. (#)Last summer, a bear appeared from northern Italy in Bavaria again

---

[8] In order to test this prediction, we checked several examples with English native speakers. The results presented here are somehow idealised, as not all speakers judged them in a similar manner. However, we think that the overall picture is correct; the #-sign indicates that a reading *restitutive again >> indefinite theme* is not available. We would like to thank Eva Dobler, Terje Lohndal, Andrew McIntyre, Walter Pederson and Marc Richards for providing us with judgements.

[9] Many of the *there*-insertion verbs are stative or atelic; while these allow a reading *again << indefinite*, it is not clear that this is a *restitutive* reading.
(i)   <u>*Verbs of Existence*</u>:
      a. Jetzt lebt/haust wieder ein Maulwurf in unserem Garten
      b. A mole lives in our garden again
(ii)   <u>*Verbs of Spatial Configuration*</u>:
      a. A cross hangs above the table again
      b. jetzt hängt wieder ein Kreuz über dem Tisch
      <u>*Meander Verbs*</u>:
      a. Wir hoffen, dass sich bald wieder Flüsse durch diese Ebene schlängeln.
      b. We hope that soon a river will meander through this area again
If our account of the distribution of *there* is correct, these verbs must have a structure as in (iv) below. However, at the moment we have no clear distributional evidence in favor of this.
(iv)   [_{vP} *there* lives/hang/meander [_{secondaryP} *theme* in place]]

- *Verbs of disappearance*: (die, disappear) It is argued in Levin, that these verbs allow *there*-insertion marginally; it is argued in Deal (2009) that these verbs do not allow there-insertion. (We do not discuss this class here, as it is hard to test.)

6.2 Verbs of Change of State[10]

(45) a. *Context: Yesterday, Sally visited a popsicle factory. There she had the opportunity to taste the popsicle mixture before it was frozen. She really loved it.*
   transitive example (Dobler 2008a):
   b. #Daheim angekommen hat Sally wieder ein Eis am Stiel geschmolzen
   c. #Once she was at home, Sally melted a popsicle again.

   unaccusative example:
   b'.#Daheim angekommen ließ sie wieder ein Eis am Stiel schmelzen
   c'. #Once she was at home she made/let a popsicle melt again

(46) a. *Many years ago, a type of squirrel existed which was yellow. Unfortunately, they all died due to a mysterious infection.*
   b. #Forscher haben es geschafft, dass sich in einem Labor wieder ein Eichhörnchen rot gefärbt hat.
   c. #Scientists working in a Swiss laboratory managed to bring it about that a squirrel turned yellow again.

6.3 '*Verbs of change of state*' under a '*come into existence*' reading

- In addition to its use as a verb of change of state, the verb *break* also has a use as a verb of coming into existence, as in *The war broke (out.)*

- Besides its change-of-state sense, the verb *open* has an appearance sense paraphraseable as 'become visible' or 'come into existence''.

Question: Is this difference relevant for *there*-insertion? It seems so as a tendency:
   (1[(very good] - 5[very bad])

(47) a. There broke a vase in the living room 5   4   4 4
   b. There opened a window in the living room 5   4+   3 5
   c. During the spring, there suddenly broke (out) a war in west India. 5   2   2,5 2
   d. Suddenly, there opened a cavity underneath their feet. 1   2   2 3
   e. Suddenly there opened a gap in the middle of the street 3   1   4 3

- The '*come into existence*' reading makes available the scope again$_{restiutive}$ < indefinite
(48) a. *For hundreds of years, people could get into the mountain through a small hole/crack. After a strong earthquake, this entrance was blocked. But after a long period of rain,*
   b. a hole opened in the rock again which allowed the people to enter.
   c. Im Laufe der Zeit hat sich aber wieder eine Lücke geöffnet

---

[10] There is a general complication with change-of-state verbs. Many of these verbs express "the disruption of material integrity" (Levin 1993). Since we are interested in a restitutive reading, these verbs are complicated to test; how can something start out broken, become united and break again?

(49) a. *Context: When we started here, all the walls were covered with numerous gaps and holes which we closed with great effort.*
      b. But during the storm, a huge gap opened again.
      c. Durch den Sturm hat sich plötzlich wieder ein Spalt in der Wand öffnete

- This suggests that the relevant parameter is **change of state vs. change of location/existence**.
- Does this also hold for locative inversion and post-verbal nominatives?

7. Bare post-verbal nominatives and locative inversion

- NB. The above proposal analyzes *there* as an expletive, not as a locative.

- Bare post-verbal nominatives and the locative inversion are sensitive to the same restriction on verb classes: they are both **in** with *change of location/existence verbs* and both **out** with *change of state verbs*. They are out with (most) unergatives.[11]

(50) a. On the table appeared many wonderful delicacies.   (*locative inversion*)
      b. *On the table broke several precious glasses.
      c. *In the nursery smile half a dozen new born babies

  - Postverbal bare nouns receive an existential interpretation only.

(51) a. irthan   pedia   (*Greek VS with bare NPs*)
         came-3pl children.NOM
      b. ??eliosan pagota
          melted ice-creams
      c. ??etrehan   pedhia
          were running children.NOM

- This contrast is totally unexpected by all known analyses of the respective constructions.

- <u>post-verbal nominatives</u>: Under a GB analysis, one can explain why (51a) is in but not (51c) involving unergatives. The two verb classes differ in locus of the projection of the argument as in (52):

(52) a.   [IP NP [VP V]   *unergative*
      b.   [VP V NP]   *unaccusative*

→   On this view, the behavior of bare nouns can be explained: since these are licensed under head-government, they can only be licit in the complement position of a verb.

←   But this analysis of cannot account for the contrast in (51a vs. b).

- <u>locative inversion</u>: If unaccusative predicates have a structural representation as in (53) it is not clear why locative inversion should be blocked with break verbs.

(53)   [vP unaccusative argument (PP)]

---

[11] See Borer 2005, for Hebrew, Belletti 1988 for Italian, Torrego 1989 for Spanish, Alexiadou 1996, Alexiadou & Anagnostopoulou 1998a for Greek, Rigau 1997 for Catalan.

- Additional issue: note that both in Greek VS and in English locative inversion V-movement takes place (Collins 1997). If this is the case, then all (50a, b) and (51a, b) should be possible irrespectively of the exact point of projection of the internal argument, Spec,vP or Spec,ResultP.[12][13]

(54)   a. √arrive [$_{vP}$ NP]
         b. *melt [$_{vP}$ NP]
         c. [$_{TP}$ V [$_{vP}$ NP]]

- In *there*-insertion, the contrast is regulated by the presence vs. absence of an expletive *there* in Spec,vP. But both in locative inversion, which is not subject to the definiteness restriction, and in VS in Greek, which has been explicitly argued to lack a covert expletive (Alexiadou & Anagnostopoulou 1998), we would expect that irrespectively of the deep position of the object, the surface structure should still be ok, contrary to fact.

- The two constructions are similar on a further count: they are both also possible with the same class of certain unergative verbs. In Greek VS this is so only under the condition that there is an overt locative argument present (Alexiadou & Anagnostopoulou 1999, Alexiadou to appear; see also Borer 2005 for Hebrew and Torrego 1989 for Spanish). See also *there*-insertion in so called 'outside verbals' (cf. (16') above and Deal (2009).

- The group of unergative verbs includes verbs of emission, agentive verbs of manner of motion (cf. 16'c) and activity verbs such as *work, chatter, sing and doze*. Note that (55) does not receive a telic interpretation (unlike 16'c). NB: postverbal nominatives and locative inversion with unergatives are not amenable to an unaccusative analysis of these predicates (see Levin & Rappaport 1995, Borer 2005, Alexiadou to appear):

(55)   **edo** etrehan   pedja
         here ran-3PL children

(56)   Into the room walked a tall girl

---

[12] Note that we can establish also for Greek that scope relations between the counterpart of *again* and indefinites hold. Greek has an adverb similar to *again* that is ambiguous between a restitutive and repetitive reading. The picture is rather more complex in view of the relatively free word order of Greek (Alexiadou & Anagnostopou 2009):
(i)   *Context*: *Until about 200 years ago, bears used to live in Bavaria, but they were*
                  completely wiped out by the inhabitants in the 19th century.
         To 2008   irthe ksana mia arkuda/arkudes sti Vavaria
         In 2008   came again a bear/bears   to Bavaria
(ii)   Context: *Many years ago, a type of squirrel existed which was yellow. Unfortunately,   they   all died out due to a mysterious infection.*
         #Elveti epistimones kataferen na kitrinisi /-un ksana enas skiuros/skiuri.
         Swiss scientists   managed subj yellow-3sg/3pl again a squirrel/squirrels
[13] Note that for locative inversion, and if bare post-verbal nominatives involve a locative, one could propose a minimality account: if the DP is projected in Spec,vP with *change of state verbs*, fronting of the PP is blocked, if this is projected in the complement domain of the vP. Cohen & Erteschik-Shir (2002) argue that the PP is an adjunct in this case. This might work for English, since the PP has an A'-A status, but not immediately for Greek, where the locative is always in Spec,CP, i.e. it undergoes A'-movement. Cf. Deal (2009) for a VP fronting analysis.

- In agreement with Borer (2005), this seems to suggest that the whole phenomenon is related to the syntax of locatives. In fact, this is an old intuition. Bresnan (1993) argues that unaccusatives select a locative argument as well as a theme argument.

- In the spirit also of Hale & Keyser (2000), not all unaccusatives select a locative argument. Those unaccusatives that select a locative argument are characterized by their ability to undergo locative inversion as illustrated in (57).

(57) a. In the corner was a lamp.
      b. Among the guests was sitting my friend Rose.
      c. Back to the village came the tax collector.

- The sentences in (57) illustrate that unaccusative verbs have the required argument structure, namely a theme and a locative. The locative inversion test distinguishes unaccusatives which describe a change of location from those that describe a change of state:

(58) a. On the table appeared many wonderful delicacies.
      b. *On the table broke several precious glasses.

- The unacceptability of (58b) shows that inchoatives such as *break* which select a theme argument do not select a locative. The locative in this case is an adjunct, and therefore locative inversion cannot occur.

- What is the function of the locative? Building on Cohen & Erteschik-Shir (2002) locative arguments can be (stage) topics, hence topicalized; locational adjuncts cannot:

(59) a. As for the party, John appeared at it.
      b. ??As for the party, the glass broke at it.

- Since *appear* is an unaccusative verb, the location *the party* is its argument, and may be a topic, as in (59a). In contrast, *the party* is not an argument of *break*, hence it may not be a topic, and this is why (59b) is odd. Similar considerations hold for Greek VS:

(60) a. Oso ja to parti, o Janis pige (eki)
         As for the party, John went there
      b. ??Oso ja to parti, to potiri espase (eki)
         As for the parti, the glass broke (there)

- Thus, **the necessary distinction is whether the location can play the role of a stage topic**. As just indicated, adjuncts are hard to construe as topics. It follows that only locations that are arguments can be topics.

- **What is the position of the locative**? Since it functions as a stage topic, it is in Spec,CP (Rizzi 1997), Ward & Birner (1995).

- Branigan (1993) argued that locative inversion involves first A and then A' movement to Spec,CP. Others, e.g. Collins (1997), Alexiadou & Anagnostopoulou (2001) take it as a case of satisfying EPP in Spec,CP.

- Turning to Greek and Hebrew VS, change of location verbs receive, in the absence of an overt locative, a deictic interpretation, i.e. they are 'speaker-oriented' (see Beninca 1988, Pinto 1997, Tortora 1991, Kayne 2008).

- As is well known, BPs are ambiguous between existential and generic interpretations. In VS, they are necessarily interpreted as existential and cannot be generic (unless under focus).

- This is accounted for due to the presence of the locative (Freeze 1992). That locations interact with the interpretation of BPs has been observed before.

- Crucially, only those predicates which have locative arguments can have existential bare plural subjects (following Cohen & Erteschik-Shir 2002). This is precisely the case in Greek VS.

- Why can the locative remain covert with Greek verbs *arrive*, but something has to be overt in their English counterparts, namely *there*?

- We believe this has to do with the EPP. Crucially, since EPP must be satisfied via overt XP move in English, *something* must be overt to check the EPP. English inserts *there*.
- Note that this could be made to follow under the proposal that EPP relates to the PF interface: PF can recognize only elements with phonetic content (therefore it is natural to suggest that a null locative cannot check the EPP-feature). For some semantic arguments that the EPP is related to the PF-interface see Sauerland (1997).
- In pro-drop languages, the locative can remain silent as it is not responsible for EPP checking, V-movement & morphology takes over this function.

- Why are some unergative verbs ok? Locatives can, in the context of some unergative verbs, be interpreted as stage topics of the sentence, freeing a BP, if present, to receive an existential interpretation.
- But in this case the locative must be overt, as it triggers a shift in the interpretation. Verbs of change of state, with only few exceptions, cannot receive such an interpretation.

8. Conclusions and open questions

- The theme of change-of-location verbs originates inside the result-phrase where it can, in principle, stay.
- The theme of change-of-state verbs is obligatorily located in Spec,vP, not in the Result state.
- This difference presumably feeds the causative alternation.
- *There-insertion* is blocked in the latter context.
- Cross-linguistically, several phenomena are sensitive to this 'semantic' parameter, *change of state vs. change of location*. At closer inspection, however, these other phenomena seem to be related to the presence a locative argument. Thus the interaction is between two arguments and not between an expletive and an argument.
- Crucially, *change of location* verbs contain a covert (or overt) locative, which is independent of the presence of an expletive *there*. This can be clearly seen also with the so-called outside verbals.
- The analysis offered here suggests that *there* is not (in fact cannot be) a locative, but a formal mechanism to check EPP, triggering definiteness effects.

- How general is this split for other unaccusativity diagnostics?

Genitive of negation: (Pesetsky 1978, Babby 1980, 2001, Harves 2002, and others):

(61) a. Otveta ne   prišlo(Babby 1980:71)   *change of location*
          answer-GEN MASC SG NEG came-NEUT SG
          'No answer came.'

      b. Meždu   brevnami **ne skryvalos'** tarakanov   *some unergatives*
          between beams   NEG hide cockroaches-GEN
          'There were no cockroaches (hiding) among the beams.' (Babby 2001:50-51)

Masha Polinsky (pc) suggests that some change of state verbs seem odd in this context.

If Partee & Borschev (2005) are correct in their analysis of this pattern as involving a locative perspective, triggering an existential interpretation of the argument DP, this is not surprising.

- What about the unaccusativity hypothesis?
- A suggestion for a reformulation: unaccusatives are those verbs that lack VoiceP.

References:

Alexiadou, A. to appear. Post-verbal nominatives: an unaccusativity diagnostic under scrutiny. In R. Folli & C. Ulbrich (eds.) *Interfaces in Linguistics: New Research Perspectives*. Oxford University Press.

Alexiadou, A. 1996. Aspectual restrictions on word order. Folia Linguistica XXX 1-2: 36-46.

Alexiadou, A. & E. Anagnostopoulou. 1998a. Unaccusativity mismatches in Greek. Paper presented at 8th CGG in Palmela.

Alexiadou, A. & E. Anagnostopoulou. 1998b. Paremetrizing AGR: Word-order, V-movement and EPP-checking. Natural Language and Linguistic Theory 16: 491-539.

Alexiadou, A. & E. Anagnostopoulou. 2001. The subject in situ generalization, and the role of Case in driving computations. *Linguistic Inquiry* 32: 193-231.

Alexiadou, A. & Elena Anagnostopoulou. 2007.. The subject in situ generalization revisited. In H.-M. Gärtner & U. Sauerland (eds) *Interfaces + Recursion*. Berlin: Mouton de Gruyter, 31-60.

Alexiadou, A. & E. Anagnostopoulou. 2009. Observations on the syntax and interpretation of the adverb ksana in Greek. Paper presented at the University of Athens, April 2009.

Alexiadou, A., E. Anagnostopoulou & F. Schäfer. 2006. The properties of anticausatives cross-linguistically. In Phases of interpretation, ed. M. Frascarelli, pp. 187-211. Berlin: Mouton

Babby, L. 1980. *Existential Sentences and Negation in Russian*. Ann Arbor Michigan: Karoma Publishers.

Babby, L. 2001. 'The Genitive of Negation: a Unified Analysis', in S. Franks & al. (eds.) *Proceedings of FASL 10*.

Beck, S. & K. Johnson 2004. Double objects again. *Linguistic Inquiry* 35:1, 97-124.

Belletti, A. 1988. 'The Case of Unaccusatives', *Linguistic Inquiry* 19: 1-34.

Benincà, P. (1988). 'L'ordine degli elementi della frase e le costruzioni marcate', in L. Renzi, L. and G. Salvi (eds.), *Grande Grammatica Italiana di Consultazione*. Bologna: Il Mulino, 115–119.

Borer, H. 2005. *Structuring sense, Vol. II. The normal course of events*. Oxford University Press.

Bresnan, J. (1993). 'Locative Inversion and the Architecture of UG', Ms. Stanford.

Chierchia, G. 1989. A semantics for unaccusatives and its syntactic consequences. Ms., Cornell University. [Published 2004 in *The unaccusativity puzzle*, eds. A. Alexiadou et al. Oxford: Oxford University Press.]

Chomsky, N. 1981. Lectures on government and binding. Dordrecht: Foris.

Chomsky, N. 1995. The Minimalist program. Cambridge, MA: MIT Press.

Chomsky, N. 2000. Minimalist inquiries: The framework. In Step by step: Essays on minimalist syntax in honor of Howard Lasnik, eds. R. Martin, D. Michaels & J. Uriagereka, pp. 89-155. Cambridge: MIT Press.

Chomsky, N. 2001. Derivation by phase. In Ken Hale: A life in language, ed. M. Kenstowicz, pp. 1-52. Cambridge, MA: MIT Press.

Chomsky, N. 2001. Derivation by Phase. In M. Kenstowicz (Ed.), *Ken Hale: A Life in Language* (pp. 1-52). Cambridge, MA: The MIT Press.

Chomsky, N. (2004). Beyond Explanatory Adequacy. In A. Belletti (Ed.), *Structures and Beyond: The Cartography of Syntactic Structures*, Vol. 3 (pp. 104-131). Oxford: Oxford University Press.

Cohen, A. & N. Erteschik-Shir. 2002. Topic, Focus and the interpretation of bare plurals. *Natural Language Semantics* 10.

Collins, C. 1997. *Local Economy*. Cambridge, Mass: MIT Press.

Deal, A. R. 2009. The origin and content of expletives: evidence from "selection" . to appear, Syntax 12:3.

Dobler, E. 2008a. 'Again' and the structure of result states'. Proceedings of ConSOLE VX.

Dobler, E. 2008b. Creating as putting something into the world. Proceedings of ConSOLE XVI.

Embick, D. 2004. On the structure of resultative participles in English, *Linguistic Inquiry 35.3*, 355-392.

Freeze, R. 1992. Existentials and other locatives. *Language* 68, 553-595.

Haegeman, L. 1991. *Introduction to government and binding theory*. Oxford: Blackwell.

Hale, K. & S.J. Keyser. 2000. There-insertion unaccusatives. Ms., MIT.

Harves, S. (2002). *Unaccusative Syntax in Russian*. Ph.D. Dissertation. Princeton University.

Hoekstra, T. 1988. Small clause results. Lingua 74:101-139.

Hoekstra, T and Mulder, R. 1990. 'Unergatives as Copular Versbs: Locational and Existential Predication', *The Linguistic Review* 7: 1-79.

Kayne, R. S. 1984. Connectedness and binary branching. Dordrecht: Foris.

Kayne, R. (2008). Expletives, Datives and the Tension between Morphology and Syntax', in T. Biberauer (ed.) *The Limits of Syntactic Variation*. Amsterdam: John Benjamins, 175-217.

Levin, B. 1993. English verb classes and alternations: a preliminary investigation. Chicago: University of Chicago Press.

McIntyre, A., 2004 Event Paths, Conflation, Argument Structure and VP Shells. Linguistics 42(3):523-571.

Milsark, G. 1974. Existential sentences in English. Ph.D. dissertation, MIT.

Nissenbaum, J. 2006. Decomposing resultatives: two kinds of restitutive readings with 'again'. Poster presented at NELS 37, University of Illinois, Urbana-Champaign, October.

Ortega-Santos, I. 2005. On Locative Inversion and the EPP in Spanish. *Actas del VIII Encuentro Internacional de Lingüística del Noroeste de la Universidad de Sonora* (México).

Partee, B. & V. Borschev. 2005. Genitive of negation, scope of negation in Russian existential sentences. In Proceedings of FASL 10.

Pesetsky, D. (1982). *Paths and Categories*. Ph. D. dissertation, MIT.

Pinto, M. (1997). *Licensing and Interpretation of Inverted Subjects in Italian*. Doctoral diss. Utrecht.

Ramchand, G. 2008. *Verb Meaning and the Lexicon: A First Phase Syntax*. To appear via the Cambridge University Press. Reinhart 2002).

Richards, M. 2007. On Object Shift, Phases, and Transitive Expletive Constructions in Germanic. In P. Pica et al (eds) *Linguistic Variation Yearbook* 6. Amsterdam/New York: John Benjamins, pp. 139-159.

Richards, M. & T. Biberauer 2005. Explaining *Expl*. In M. den Dikken & C. Tortora (Eds.), *The Function of Function Words and Functional Categories* (pp. 115-153). Amsterdam/New York: John Benjamins.

Richards, N. 2004. A distinctness condition on linearization. Ms, MIT.

Rigau, G. 1997. Locative sentences and related constructions in Catalan. In A. Mendikoetxea & M. Uribe-Etxebarroa (eds.) *Theoretical Issues at the Morphology-Syntax Interface*. UPV, 395-421.

Sauerland, U. 1997. 'Scope Freezing'. *Proceedings of NELS 28*.

Schäfer, F. 2007. *by itself*. ms. Universität Stuttgart.

Schäfer, F. 2009. *The Causative Alternation*. In Language and Linguistics Compass, Vol. 3.

von Stechow, A. 1996. The different readings of wieder 'again': a structural account. Journal of Semantics 13:87-138.

von Stechow, A. 2007. Syntactic and lexical causativation: BECOME and CAUSE again. Talk presented at ConSOLE XV, Brussels, January.

Torrego, E. 1989. 'Unergative-unaccusative Alternations in Spanish', MIT Working Papers 10.

Tortora, C. 2001. 'Evidence for a Null Locative in Italian', in G. Cinque & G. Salvi (eds.), *Current Studies in Italian Syntax: Essays offered to L. Renzi*. Amsterdam: Elsevier, 313-326.

Ward, G. & B. Birner. 1995. Definiteness and the English existential. Language 71: 722-742.

Webelhuth, G. 1992. Principles and parameters of syntactic saturation. Oxford University Press, New York.