

## 24.902 Outline (October 27 & 29): Unaccusativity

Background: the **Uniformity of Theta Assignment Hypothesis (UTAH)** is the conjecture that there is a uniform mapping between  $\theta$ -roles and syntactic positions in all languages. Keep this in mind...

### 1. Introduction to Unaccusativity

Let us start with Raising. Recall the properties of these predicates:

- (1) **Properties of a Raising Predicate (e.g. *seem*)**
- does not take an external argument; and
  - does not assign accusative case; and
  - subcategorizes for an infinitival IP complement.

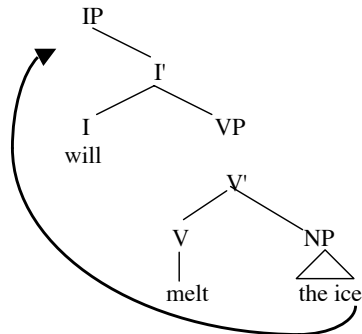
There is no obvious reason why a predicate with properties (a) and (b) should also have to have property (c). Shouldn't we also find predicates that (a) fail to take an external argument; (b) do not assign accusative case; but (c) subcategorize for something *other* than an infinitival IP complement, e.g. an NP.

An obvious candidate for such a predicate is verbs like *melt* when it takes only one argument:

- (2) The ice will melt.

If a patient is always an internal argument, then *the ice* in (2) must be an internal argument that moves to Spec,IP from the *complement of V* position, not Spec,VP.

- (3) *The ice will melt.*



There is evidence that this is correct, to which we turn shortly. Verbs like *melt* (or *seem*, for that matter) that take only internal arguments, and no external argument, are called **unaccusative**.

Contrast a verb like *phone* in (4):

- (4) Bill phoned.

*Bill* here is an agent, and therefore is plausibly an *external argument*, unlike *the ice* in (3). This makes sense, if UTAH is correct, because *Bill* in (4) should occupy the same syntactic position as it does in sentences like (5):

- (5) Bill phoned Tom.

Why do unaccusative and unergative verbs sound alike, i.e. occur in sentences of the form *NP V*? We have already seen that the external argument of an English verb (assuming its original position is Spec,VP) moves to Spec,IP. This movement appears to be necessary in order to assign case to the argument --

- (6) \*It will [VP John read the book] [with dummy *it*]

-- but it also appears to be motivated by the fact that I itself must have a specifier in English. Even when there is no case problem elsewhere in the sentence -- as in (8), where the CP argument does not need case -- there must be some specifier for IP. This is the requirement called the **Extended Projection Principle (EPP)**:

- (7) **Extended Projection Principle (EPP)**  
IP always has a specifier.

- (8) a. It was believed [that the world is round]  
b. \*Was believed [that the world is round].

Notice that example (6) has a case problem (*John* does not receive case), but no EPP problem, while (8b) has an EPP problem, but no case problem.

It is because of case and EPP that a sentence whose verb is unaccusative will often be hard to distinguish from a sentence whose verb is unergative. How might we learn whether the unaccusative/unergative distinction is real? What properties might help us distinguish these classes of verbs -- thereby also putting UTAH to the test?

Suppose we were to find a pair of verbs  $V_1$  and  $V_2$ , that meet the following conditions:

- $V_1$  takes both an external and an internal argument.
- $V_2$  takes only one argument.

3. The  $\theta$ -role borne by the internal argument of  $V_1$  is the same as the  $\theta$ -role borne by the single argument of  $V_2$ .

It would be natural to speculate under such circumstances that  $V_2$  is unaccusative: the single argument of  $V_2$  bears the same  $\theta$ -role as  $V_1$ 's internal argument because it too is an internal argument. It becomes a subject for case and EPP reasons, which masks its underlying status as an internal argument.

As it happens, English has a large number of pairs that meet these specifications, where the  $\theta$ -role in question is patient or theme. In many cases, the members of the pair actually have the same pronunciation. These are pairs like *sink/sink*, *melt/melt*, *drop/drop*. The two-argument member of the pair is semantically "causative": e.g. *sink* in (9a) means *cause to sink*, and appears to be identical to the single-argument member of the pair, except for having an extra "Causer" argument:

- (9) a. The navy sank the submarine. [patient is direct object]  
 b. The submarine sank. [patient is subject]
- (10) a. We closed the door.  
 b. The door closed.
- (11) a. The waiter dropped a glass.  
 b. A glass dropped.
- (12) a. We slid the soap into the closet.  
 b. The soap slid into the closet.

A few pairs are semantically similar, but show a vowel alternation:

- (13) a. The stagehand raised the curtain.  
 b. The curtain rose.
- (14) a. You must lay the object on its side.  
 b. The object must lie on its side.<sup>1</sup>
- (15) a. Mary will set the lamp on the table.  
 b. The lamp will sit on the table.<sup>2</sup>

Others show completely different phonology, but still show the same apparent semantic identity except for the extra  $\theta$ -role. An example is *bring* and *come*. A curiosity of this pair is the fact that we can see the semantic identity by noting their

<sup>1</sup> Many speakers, of course, do not command this distinction.

<sup>2</sup> In some Southern US dialects, both verbs are *set*.

parallel behavior in idiom. [This is added value provided by this summary. We didn't do this in class.]

- (16) a. The mailman brought the package yesterday.  
 b. The package came yesterday.
- (17) a. Mary brought up the topic of linguistics at lunch.  
 b. The topic of linguistics came up at lunch.
- (18) a. The war brought Bill to his senses.  
 b. Bill came to his senses.
- (19) a. I brought Sue around to my point of view.  
 b. Sue came around to my point of view.
- (20) a. After John fainted, we brought him to.  
 b. John came to.

It is quite tricky to show that the verbs of the (b) sentences in (9)-(20) are indeed unaccusative in *English*. We will provide evidence below.

On the other hand, such verbs in many other languages behave as an obviously distinct class from unergative "sound-alikes".

For example: many languages form the past or perfect tense<sup>3</sup> by using an auxiliary verb followed by the past participle. The auxiliary verb is typically either *have* or *be*. Some languages uniformly use one of the other. In English, the perfect tense uses *have*, and in Spanish the compound past tense also uses *have*. In Hindi and in the South Slavic languages (e.g. Bulgarian, Slovenian and Serbo-Croatian), the past tense uses *be*.

In other languages, however, some verbs use *have* and others use *be* (examples: Italian and Dutch). When a language employs both auxiliaries, the auxiliary *be* is always reserved for verbs that we would expect semantically to be unaccusative. Thus, the Italian and Dutch counterparts to the (b) verbs of (9)-(20) take *be*.<sup>4</sup>

<sup>3</sup> Past tense: *I lived in New York*. Perfect tense: *I have lived in New York*.

The perfect tense has complicated semantics. One distinctive property is the condition of "present relevance". In *I have lived in New York*, the fact that I lived in New York is assumed to be relevant in some way to other current properties that characterize me. And oft-cited demonstration of this is the fact that *Einstein lived in Princeton* is a normal and true thing to say in 2002, but *Einstein has lived in Princeton* carries the odd presupposition that Einstein is still alive.

<sup>4</sup> In some languages, such as French, certain verbs that take *be* in Italian take *have* instead (and there are rules governing this difference) -- but this discrepancy is one-way. No verbs that one expects semantically to be unergative take *be*.

(21) **Italian**

- a. Giovanni è arrivato. 'John arrived' (**be**)
- b. La nave è affondata. 'The ship sank' (**be**)<sup>5</sup>
- c. Giovanni ha telefonato. 'John telephoned' (**have**)
- d. Giovanni ha letto il libro. 'John read the book' (**have**)

(22) **Dutch**

- a. Jan is gevallen. 'John fell' (**be**)
- b. Jan heeft gelachen. 'John laughed' (**have**)

The connection between (hypothesized) unaccusativity and auxiliary selection is not limited to Indo-European languages. Old Japanese, for example, appeared to make a similar distinction, using the auxiliary suffix *-nu* for verbs that would take *be* in Italian (the unaccusatives!) and *-tsu* for verbs that would take *have* in Italian (the unergatives and the two-argument transitives):

(23) **Perfective Auxiliary Selection in Old Japanese**

[K. Takezawa (1989 talk; citing Yoshida 1973)]:

- a. **-tsu**: oki-tsu ('have placed'), tsuge-tsu ('have told'), kiki-tsu ('have listened'), chirash-tsu ('have scattered' trans.), shi-su ('have done'), etc. [normal transitives, unergatives]
- b. **-nu**: ki-nu ('have come'), nari-nu ('have become'), he-nu ('have passed'), sugi-nu ('have elapsed'), chiri-nu ('have fallen/scattered' intr.), etc. [unaccusatives]

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**2. No passivization of unaccusatives**

Of course, all these tests (at the moment) merely tell us that the verbs one might guess to be unaccusative do indeed behave in a special manner. But do they really lack an external argument and show movement from complement position to Spec,IP? Modern Japanese provides evidence, as we already saw in a problem set. Our familiar numeral quantifier stranding test teaches us that the subject of verbs that we expect to be unaccusative actually does start out as a complement.

This section offers some evidence that putative unaccusative verbs really do lack an external argument.

Consider the two properties of passive morphology listed below:

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<sup>5</sup> Thank you Maria for correcting my bad Italian.

(24) **Properties of passive morphology:**

1. Passive morphology (A) eliminates a verb's external argument or else (B) causes the verb's external argument to be realized as a *by*-phrase instead.<sup>6</sup>
2. Passive morphology takes away the ability of a verb to assign accusative case

- **Can property 1 of passive morphology apply vacuously?** That is, can morphology that tinkers with a verb's external argument be added to a verb that lacks an external argument in the first place, i.e. to an unaccusative verb?

The answer, interestingly appears to be *no*:

(25) **A linguistic universal: the "1 Advancement Exclusiveness Principle"**<sup>7</sup>

A verb of the unaccusative class may not be passivized.

To see this fact, however, we must first observe that **property 2 may apply vacuously** in some languages. These languages allow so-called **impersonal passives** of those verbs that we might think are unergative.

In an impersonal passive construction, the external argument is eliminated or reassigned to a *by*-phrase -- but no direct object moves to subject position. Since these are fundamentally intransitive verbs (or transitive verbs optionally used intransitively), a dummy element must fill Spec,IP position. Some examples:

(26) **Impersonal passive: German**

Es wurde getanzt.  
It was danced.  
'[unspecified] danced]

(27) **Impersonal passive: Dutch**

- a. Er wordt hier door de jonge lui veel gedanst.  
it becomes here by the young people much danced  
'There's a lot of dancing by young people here.'
- b. Hier wordt (er) veel gewerkt.  
here becomes there much worked  
'Here people work a lot.'

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<sup>6</sup> Where is the *by*-phrase located in the tree? Some people suggest that it is the Spec,VP -- perhaps sitting on the right. Others propose that it is a modifier or even some kind of complement. I won't go into the question here (even though it's an important one, given UTAH), except to note that the question is -- perhaps surprisingly -- open.

<sup>7</sup> Never mind the funny name.

(28) **Impersonal passive: Russian**  
 Bylo napisano ob ètom v gazete.  
 was written about this in the paper  
 '[unspecified] wrote about this in the paper'

(29) **Impersonal passive: French**  
 Il a été tiré sur le bateau.  
 it was shot at the boat  
 '[unspecified] shot at the boat'

In contrast, the verbs that we would guess to be unaccusative may not be passivized at all. They lack impersonal passives. Here are some Dutch examples, but the phenomenon is universal:<sup>8</sup>

(30) **Active vs. \*Passive of unaccusative: Dutch**  
 a. De lijken zijn al gerot/ ontbonden.  
 the corpses are already rotted/decomposed  
 b. \*Door de lijken werd al gerot/ ontbonden.

(31) **Impersonal passive of unergative vs. \*unaccusative: Dutch**  
 a. In de zomer wordt er hier vaak gezwommen.  
 'In the summer it is swum here frequently.'  
 b. \*In de zomer wordt er hier vaak verdrongen.  
 'In the summer it is drowned here frequently.'

We cannot offer the same demonstration in English, because English lacks impersonal passives. In English, if a verb does not assign accusative case -- be it unergative or unaccusative -- it may not receive passive morphology. This means it is impossible to tell whether (32b) is unacceptable because of vacuous elimination of an external argument, since it is already unacceptable because of vacuous elimination of accusative-case assigning capability:

(32) a. \*It was swum here frequently.  
 b. \*It was drowned here frequently.

The situation is as follows:

	English	Dutch, French, etc.
vacuous elimination of external argument ok?	<b>no (universal)</b>	<b>no (universal)</b>

<sup>8</sup> Lithuanian is often cited as a counterexample, since apparent passives of unaccusative verbs are possible in this language. But recent work at MIT by Olga Vaysman shows that these apparent passives are actually quite a different phenomenon (something called an "evidential"), so Lithuanian is not a counterexample after all.

vacuous elimination of accusative-assigning capability ok?	<b>no</b>	<b>yes</b>
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### 3. Burzio's Generalization

The properties of unaccusative verbs seem to be very similar to the properties of passive verbs:

- (33) **Properties of unaccusative verbs:**  
 1. An unaccusative verb lacks an external argument.  
 2. An unaccusative verb fails to assign accusative case.

In fact, there appears to be a link between these two properties. The generalization in (34), called **Burzio's generalization**, appears to be true (with some qualifications):

- (34) **Burzio's generalization**  
 If a verb licenses accusative case, it has an external argument.

That is, there is no verb *ypen* with, say, the meaning of 'open', that lacks an external argument and assigns accusative case. Such a verb would occur with a dummy subject:

- (35) \*It ypened the door.  
 'The door opened'.

We have seen that Burzio's generalization entails the absence of a verb like *ypen* in the lexicon. Interestingly, it also entails the absence of any morpheme that could eliminate the external argument role of a verb without also eliminating the accusative case assigning capacity of that verb. That is, it also provides **a link between the two properties of passive**.

Consider: if a language has a morpheme M that eliminates the external argument of a verb, the morpheme should have two other properties:

- (a) M may not be added to a verb that lacks an external argument in the first place.  
 (b) M also deprives the verb of its accusative case-assigning capacity.

Property (b) is automatic, given Burzio's generalization. This means that the lexicon does not have to state that M deprives the verb of its accusative case-assigning capacity. It is a general property of grammar.

**Added value from reading the summary: something I did not say in class.**

*An explanation for why no language allows vacuous de-external-argument-ization, but some languages allow vacuous de-accusative-case-ization.*

Perhaps (a) is automatic as well. Perhaps when the lexical entry for a morpheme says "I deprive a verb of X", the process can *never* happen vacuously.

In languages that allow impersonal passives, then, the passivize morpheme does *not* say in its lexical entry "I deprive a verb of accusative case-assigning capability". The fact that the passive morpheme has this effect is automatic.

In languages like English that do *not* allow impersonal passives, the passive morpheme does say in its lexical entry "I deprive a verb of accusative case-assigning capability". This means that the process cannot be vacuous, and impersonal passives are ruled out.

#### 4. No passive of unaccusative verbs in English: "pseudopassives"

English lacks impersonal passives, but it has a curious (and somewhat unique) construction that offers an "end run" around Burzio's generalization. This "stupid language trick" allows us to see the effects of the ban on passivization of unaccusatives even in English.

An English verb that takes a PP complement allows a passive form in which it is the object of the preposition that moves to subject position. For no good reason, this construction has come to be called "pseudo-passive", though there is *nothing* "pseudo" about it! Some examples:

- (36) a. The table was sat on \_\_ (by Fred).
- b. Mary has been spoken to \_\_ (by Pete).

It appears that the P has moved to V and glued to it (a process of head movement called "incorporation"). For example, the PP may not be moved rightward -- something usually possible for PPs:

- (37) a. Fred sat recently on it.
- b. \*It was sat recently on \_\_ (by Fred).
- (38) a. Pete spoke on Friday to her.
- b. \*She was spoken on Friday to \_\_ (by Pete).

Passive morphology on V appears to affect the V+P unit, so that Burzio's generalization has an effect on the case-assigning potential of the P. That is why the object NP must move for case reasons.

Pseudo-passives are like impersonal passives in languages like Dutch in that the verb is not an accusative-assigner, but thanks to V+P incorporation, passive morphology is able to attach to the verb anyway. Thanks to this trick, it is now relevant to compare unergative verbs like the agentive use of *sit* (see below) and *speak* to unaccusative verbs.

As expected, none of the verbs that would take the auxiliary *be* in Italian -- i.e. none of the unaccusatives -- have a pseudo-passive! The most famous discussion is from a 1984 paper by David Perlmutter and Paul Postal: "The 1-Advancement Exclusiveness Law" in D. Perlmutter and C.G. Rosen, eds. *Studies in Relational Grammar 2*, University of Chicago Press, from whom these examples are taken:

- (39) a. \*The package was accumulated on by dust.
- b. \*The room was burst in by the bubble.
- c. \*The dome was collapsed under by the model.
- d. \*The bridge was existed under by trolls.
- e. \*The bed was fallen on by dust.
- f. \*The hill was grown on by grass.
- g. \*The hall was increased in by the noise.
- h. \*The oven was melted in by the ice cube.
- i. \*The woods were vanished in by Little Red Riding Hood.

Minimal pairs (also from Perlmutter and Postal's paper) are provided by verbs that have both an agentive and non-agentive use. The agentive use behaves like an unergative verb, while the non-agentive use behaves like an unaccusative:

- (40) a. The table was sat on by Fred.
- b. \*The table was sat on by the lamp.
- (41) a. The closet was slid into by Mary.
- b. \*The closet was slid into by the soap.

#### 5. Appendix 1: Resultative constructions as a test for unaccusativity

•  A *resultative* predicate modifies the underlying direct object of an active verb.

- (42) **Resultative predicate modifying direct object**
- a. Tom cut the steak into slivers.
- b. The GE 1521 will blow your hair dry in seconds!

- A resultative predicate may not modify a non-direct object.

- (43) **Resultative predicate may not modify object of P**  
 a. \*Tom cut into the steak into slivers.  
 b. \*The GE 1521 will blow at your hair dry in seconds!
- (44) **Resultative predicate may not modify subject of an unergative or transitive verb**  
 a. \*John shouted hoarse.  
 b. \*John shouted the news hoarse.  
  
 c. \*Mary danced tired.  
 d. \*Mary danced the tango tired.  
  
 e. \*They cried wet.
- (45) **Resultative predicate *may* modify the subject of a passive sentence (a former direct object!)**  
 a. The steak was cut \_\_\_ into slivers.  
 b. My hair was blown \_\_\_ dry by the GE 1521.
- (46) **Resultative predicate *may* modify the subject of an unaccusative!**  
 a. The rug shook clean.  
 b. The door came open.  
 c. The cookie broke into pieces.

**Ergo: the subject of an unaccusative behaves like a direct object**

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## 6. Appendix 2: The famous *ne*-cliticization test for unaccusativity in Italian<sup>9</sup>

### The moral of the story in advance

**In a language in which movement of a nominative to SPEC,IP is not forced, you see the argument DP of unaccusatives and passives in direct object position.**

- (47) **A magical fact about Italian:**  
 Finite I may license nominative on a DP that remains in VP.
- (48) **A fact about Italian:**  
 A bare quantifier in direct object position must cooccur with a pronoun *ne* that cliticizes to I.<sup>10</sup>
- (49) **Direct-object bare quantifiers require *ne*□**  
 a. Gianni inviterà molti studenti.  
    Gianni will-invite many students  
  
 b. \*Gianni inviterà molti.  
    Gianni will-invite many.  
  
 c. Gianni ne inviterà molti.  
    Gianni of-them will-invite many
- (50) **Pre-verbal subject bare quantifiers do not allow *ne*.<sup>11</sup>**  
 a. \***Molti ne** inviteranno Gianni.  
    Many of-them will-invite Gianni.  
  
 b. \***Molti ne** telefoneranno.  
    Many of-them will-phone  
  
 c. \***Molti ne** saranno invitati.  
    Many of-them will-be invited  
  
 d. \***Molti ne** affondarono.  
    Many of-them will-sink

[all ok without *ne*]

<sup>9</sup> Work of the Italian linguists Adriana Belletti and Luigi Rizzi in the 1970s.

<sup>10</sup> i.e. moves to I, attaches to it, and does not bear independent stress.

<sup>11</sup> It is irrelevant whether the subject started as a Spec,VP or as a complement of VP. Preverbal bare quantifiers simply do not take *ne*.

(51) **Post-verbal nominative bare quantifiers with passive and unaccusative verbs allow and require *ne*.**

a. **Ne**            saranno invitati **molti**.  
of-them    will-be invited many

b. **Ne**            affondarono **molti**.  
of-them    will-sink    many

(52) **...but not post-verbal nominative bare quantifiers with unergative verbs:**

\***Ne**            telefoneranno **molti**.  
of-them    will-phone    many

**Conclusion:** The "magic" case rule of Italian allows an underlying direct object to remain a direct object even when marked nominative by I, which is why it acts like a direct object with respect to *ne*.

Another argument for the overall analysis of unaccusativity!

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## 7. Semantics of unaccusativity

In the previous summary, we had the following rules:

(53) **Some rules that map  $\theta$ -roles to syntactic positions**

- a. An Agent or Causer of a predicate *P* is never an internal argument of *P*.
- b. A Patient or Theme of a predicate *P* is always an internal argument of *P*.

These rules got us this far, but they are inadequate.

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First, there are arguments not easily identifiable as Agent or Causer that nonetheless behave like Agent and Causer. Levin and Rappaport Hovav suggest the following more general version of (53a):

(54) **Immediate Cause Linking Rule**

The argument of a verb that denotes the immediate cause of the eventuality described by that verb is its external argument.

Cross-linguistically verbs like the following, whose subjects are *not* Agents, are nonetheless **unergative**.

*cough, shiver, snore, tremble, yawn*  
*sparkle, stink, shine*

For example, they take the auxiliary *have* in Italian (*ha* below):

(55) *ha* tossito 'coughed', *ha* dormito 'slept', *ha* russato 'snored', *ha* termato 'trembled'

(56) *ha* scintillato 'sparkled', *ha* puzzato 'stank', *ha* brillato 'shone'

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Also, simple being a patient or an object in motion (Theme) is not sufficient grounds for being inevitably mapped to internal argument position. The notion of "directed change" is relevant:

(57) **Directed Change Linking Rule**

The argument of a verb that corresponds to the entity undergoing the directed change described by that verb is its ... internal argument.

When an argument is both the immediate cause and undergoing directed change, it is the Directed Change Rule that wins. No matter how agentive the verb, it is unaccusative! That is why *run* takes the auxiliary *be* in (58a).

The same verb, in a context where there is no directed change, is unaccusative. That is why *run* takes *have* in (58b)

(58) a. Gianni è corso a casa in due ore.  
Gianni is run to house in two hours

b. Gianni ha corso nella casa per due ore.  
Gianni has run in the house for two hours

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**Some other rules (not discussed in class):**

(59) **Existence Linking Rule**

The argument of a verb whose existence is asserted (or denied) is its direct internal argument.

(60) **Default Linking Rule**

An argument of a verb that does not fall under the scope of any of the other linking rules is its **direct internal** argument.

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(61) **Overall Ranking**

**Directed Change, Existence >> Immediate Cause >> Default**