

A-movement: case-driven movement of arguments

## 1 Raising Predicates

We have already seen instances of A-movement.

- (1) John might - have - been - eating pizza.

So far though this A-movement has been clause-internal i.e. *John* in (1) ends up within the same clause where it is Merged. The movement does not cross an IP. This is not true of all A-movement. A-movement can in principle cross clause boundaries.

- (2) a. [*IP* John seems [*IP* John to be happy]].  
b. [*IP* Sally is likely [*IP* Sally to leave]].

Arguments for A-movement:

One of the major arguments for A-movement comes from the fact that the raising predicate (*seems*, *likely* etc.) does not impose any requirements of its own on the subject. It does not enter into a semantic relationship with its subject. Moreover the constraints that do apply on the subject of the raising predicate are the constraints that are imposed by the embedded clause.

### 1.1 Expletive Subjects

- Raising Predicates allow for expletive subjects.

- (3) a. There seems to be a vampire in the city.  
b. It is likely to be the case that James will arrive tomorrow.

- A raising predicate allows for expletive subjects only if its clausal complement allows for expletive subjects.

- (4) a. There seems to be a vampire in the city.  
(There is a vampire in the city.)  
b. \*There seems to laugh a man/\*There seems a man to laugh.  
(\*There laughs a man)  
c. It is likely to be the case that James will arrive tomorrow.  
(It is the case that James will arrive tomorrow.)  
d. \*It is likely to laugh a man/\*It is likely a man to laugh.  
(\*It laughs a man.)

## 1.2 Idiom Chunks

• Other evidence for raising comes from the distribution of phrases which are idiomatic. These phrases have a special meaning only when they appear with certain other words. For this reason, such phrases are called 'idiom chunks.'

- (5) a. The cat is out of the bag.  
b. The cat has got his tongue.  
c. The shit has hit the fan.

Outside the immediate syntactic context of each other, the different parts of the idiom chunk do not receive an idiomatic interpretation.

- (6) a. The cat thinks that it is out of the bag.  
b. The cat believes that it has got his tongue.

However, parts of an idiom chunk can be separated from other parts by a raising verb.

- (7) a. The cat seems to be out of the bag.  
b. The cat is likely to have got his tongue.  
c. The shit is certain to hit the fan.

## 1.3 How to be a Raising Predicate

- Don't assign a  $\theta$ -role to your specifier.
  - Take an infinitival complement.
- A-movement is never possible out of a finite clause.

Some Raising Predicates:

- (8) a. There is *about* to be a war in Mazar-e-sharif.  
b. There is *apt* to be cholera in Kandahar.  
c. There is *bound* to be a riot in Quetta.  
d. There is *going* to be trouble in Nuristan.  
e. There *chanced* to be a rocket launcher in his truck.  
f. There *grew* to be opposition to the policies of the Taleban.  
g. There *proved* to be toxins in the mail.  
h. There *threatens* to be a famine in Herat.

Whether a certain predicate takes infinitival complements or not is not always predictable. Compare *likely*, *certain* vs. *probable*, *necessary*.

- (9) No  $\theta$ -role to the subject:
- a. It is likely that we will triumph over the forces of evil.  
b. It is certain that we will triumph over the forces of evil.  
c. It is probable that we will triumph over the forces of evil.  
d. It is necessary that we triumph over the forces of evil.

However, only *likely/certain* allow for Raising as can be seen by the adistribution of expletive subjects.

- (10) a. There is likely to be a long fight against the forces of evil.  
b. There is certain to be a long fight against the forces of evil.  
c. \*There is probable to be a long fight against the forces of evil.  
d. \*There is necessary to be a long fight against the forces of evil.

## 2 Control Predicates

Not all predicates that take infinitival complements are Raising predicates.

- (11) a. John tried to leave.  
b. Mary wants to leave.  
c. Samir is anxious to leave.

• A quick test for the absence of Raising is the impossibility of expletive subjects.

- (12) a. \*There tried to be a cat in the garden.  
b. \*There wants to be a cat in the garden.  
c. \*There is anxious to be a cat in the garden.

• The same point is made by the distribution of idiom chunks:

- (13) a. \*The cat tried to be out of the bag.  
b. \*The cat wants to get his tongue.  
c. \*The shit is anxious to hit the fan.

• These facts make sense once we note that control predicates assign a  $\theta$ -role to their Specifier positions. Since A-movement is always into non- $\theta$  positions, this rules out A-movement.

• We assume that the covert subject of the infinitival clause complements of control predicates is occupied by a silent pronoun PRO, which is understood as coreferent ('controlled') by an argument of the matrix, the subject in the examples at hand.

- (14) a. John<sub>i</sub> tried [PRO<sub>i</sub> to leave].  
b. Mary<sub>i</sub> wants [PRO<sub>i</sub> to leave].  
c. Samir<sub>i</sub> is anxious [PRO<sub>i</sub> to leave].

### 2.1 The distribution of PRO

PRO can only appear in subject positions.

- (15) a. I<sub>i</sub> want [PRO<sub>i</sub> to meet Björk].  
b. \*I<sub>i</sub> want [Björk to meet PRO<sub>i</sub>].  
(≠ I want Björk to meet me.)

- (16) a. Neal<sub>i</sub> remembers [PRO<sub>i</sub> abandoning the investigation].  
 b. I<sub>i</sub> left [without [PRO<sub>i</sub> giving an explanation]].  
 c. Samuel<sub>i</sub> died [PRO<sub>i</sub> waiting for Godot].  
 d. Avi<sub>i</sub> arrived [PRO<sub>i</sub> hungry].

PRO can be thought of as satisfying the EPP requirement in non-finite clauses.

PRO cannot appear in the subject positions of finite clauses.

- (17) John/\*PRO likes pizza.

PRO is in general in complementary distribution with overt NP's.

- (18) a. Agnes<sub>i</sub> tried [PRO<sub>i</sub>/\*Bill to leave].  
 b. Jonas<sub>i</sub> hopes [PRO<sub>i</sub>/\*Bill to win].  
 c. Jonas<sub>i</sub> hopes for [Bill/\*PRO<sub>i</sub> to win].  
 d. Avi<sub>i</sub> considers [Bill/\*PRO<sub>i</sub> to be intelligent].  
 e. Avi<sub>i</sub> believes [Bill/\*PRO<sub>i</sub> to be intelligent].

The distribution of PRO follows if we assume that

- (i) PRO does not need case, and  
 (ii) PRO cannot bear case.

The fact that PRO does not need case explains why it can appear in positions where overt NP's cannot (cf. 18) i.e. positions where case is not available.

The fact that PRO cannot bear case explains why it cannot appear in object positions or in the subject position of finite IP's. These are case positions.

There is a problem with the above account in that there are environments where the complementary distribution between PRO and overt NP's breaks down.

- (19) *without*  
 a. You<sub>i</sub> can't be kind without [PRO<sub>i</sub> being cruel first].  
 b. It's hard to name something these days without [there being a direct connotation that immediately comes to mind]. (Jeff Tweedy from Wilco in salon.com)

- (20) *want*  
 a. Xena<sub>i</sub> wants [PRO<sub>i</sub> to leave].  
 b. Xena wants [Aries to leave].

One proposal that has been made in regard to the breakdown of the complementarity between PRO and overt NP's has involved postulating that verbs like *want* can take both IP and CP complements, while verbs like *believe/consider* can only take IP complements. There seems to be evidence for at least part of this proposal.

- (21) a. *want* allows for CP complements:  
 I want [<sub>CP</sub> for [Bill to leave]].  
 b. *want* allows for PRO:  
 I want [<sub>CP</sub> C<sup>0</sup> [PRO to leave]].

In addition, *want* either allows for the deletion of the *for* or alternatively it also allows for IP complements. Given that the complementizer *that* in English can be optionally deleted when the CP is in an object position, the deletion of *for* is not particularly mysterious.

- (22) a. I know [<sub>CP</sub> (that) [he is innocent]].  
 b. I want [<sub>CP</sub> (for) [Bill to win]].

In contrast to *want*, *consider/believe* do not permit CP complements. Thus they obligatorily assign case to the subject of their infinitival complement and hence PRO is not a possibility.

- (23) a. *believe* does not allow for CP complements:  
 \*I believe [<sub>CP</sub> for [Bill to be honest]].  
 b. *believe* does not allow for PRO:  
 \*I<sub>i</sub> believe [<sub>CP</sub> C<sup>0</sup> [PRO<sub>i</sub> to be honest]].

Proponents of this way of describing the distribution of PRO try to relate the inability of certain verbs to assign Exceptional Case to a fact about their subcategorization. Thus according to this view, verbs like *try* select for a CP complement. This is why they do not assign exceptional case and allow for a PRO subject.

- (24) a. Elias<sub>i</sub> tried [<sub>CP</sub> C<sup>0</sup> [PRO<sub>i</sub> to work hard]].  
 b. \*Elias tried [<sub>CP</sub> C<sup>0</sup> [Mary to work hard]].  
 (intervening CP blocks ECM)

This assumption about the subcategorization of *try* has several consequences. It also needs further empirical support. For now we can stay agnostic between having *try* be a non-ECM verb and *try* being a verb that obligatorily selects for a particular kind of CP complement.

There is still an issue with *without* which can assign case but yet allows PRO subjects. An analysis of the sort constructed for *want* is possible here, but requires independent support. The kind of evidence which showed that *want* could in principle take CP complements is not available for *without*. The situation is in fact more like the one with *try*. So we can either say that *without* takes both IP and CP complements or just say that *without* does ECM optionally.

To sum up:

- PRO can never appear in normal environments of case marking.
- PRO can appear in certain instances of ECM.

## 2.2 Obligatory vs. Optional Control

All the cases that we have seen so far have involved ‘obligatory’ control i.e. PRO’s which are understood as related to a particular argument of the matrix verb. In certain environments, PRO can have arbitrary reference somewhat like *one*. Such a PRO is called PRO<sub>arb</sub>. PRO<sub>arb</sub> lacks an overt controller. Environments where PRO<sub>arb</sub> can appear are referred to as environments of optional control.

- (25) Obligatory Control
- a. John tried [PRO to behave himself/\*oneself].
  - b. John was reluctant [PRO to behave himself/\*oneself].
  - c. John abandoned the investigation [PRO to keep himself/\*oneself busy].

- d. John arrived [PRO pleased with himself/\*oneself].
- (26) a. PRO<sub>arb</sub> to behave oneself/\*himself in public is important.  
 b. John<sub>i</sub> thought that it was important [PRO<sub>i</sub>/PRO<sub>arb</sub> to behave himself<sub>i</sub>/oneself<sub>arb</sub> in public].  
 c. John<sub>i</sub> wonders [how PRO<sub>i</sub>/PRO<sub>arb</sub> to behave himself<sub>i</sub>/oneself<sub>arb</sub> in public].  
 d. Today is the day [on which [PRO<sub>arb</sub> to behave oneself/\*himself in public]].
- PRO<sub>arb</sub> seems to be limited to appearing in infinitival complements of intransitive adjectives (i.e. adjectives like *important* as opposed to adjectives like *anxious*), and in infinitival questions and infinitival relative clauses.
  - PRO<sub>arb</sub> is not possible in complements of transitive verbs/adjectives (e.g. *want/try/persuade* and *eager/anxious*).

### 2.3 Subject vs. Object Control

Depending upon the matrix predicate, it can be the subject or the object of the matrix predicate that controls the PRO subject of the infinitival clause.

- (27) Subject Control
- a. Morten<sub>i</sub> has decided [PRO<sub>i</sub> to leave].
  - b. Nils<sub>i</sub> is willing [PRO<sub>i</sub> to leave].
  - c. Ulf<sub>i</sub> is eager [PRO<sub>i</sub> to leave].
- (28) Object Control
- a. Reidar ordered Eivind<sub>i</sub> [PRO to leave].
  - b. Reidar persuaded Eivind<sub>i</sub> [PRO to leave].
  - c. Reidar instructed Eivind<sub>i</sub> [PRO to leave].
  - d. Reidar allowed Eivind<sub>i</sub> [PRO to leave].
  - e. Reidar told Eivind<sub>i</sub> [PRO to leave].

Based on the examples in (27) and (28), we could conclude that in environments of obligatory control, the nearest c-commanding NP is always the controller. This seems to work pretty well, but there is one prominent counterexample: *promise*.

- (29) Roger<sub>i</sub> promised Rune's sister<sub>j</sub> [PRO<sub>i</sub>/\*<sub>j</sub> to behave himself/\*herself in public].

### 2.4 There is no 'expletive' PRO

- (30) a. You<sub>i</sub> can't be kind without [PRO<sub>i</sub> being cruel first].  
 b. \*There can't be peace without [PRO<sub>i</sub> being war first].  
 c. \*It is true that John is smart without [PRO<sub>i</sub> being true that he is a physicist].
- (31) a. There occurred three more accidents without there being any medical help available on the premises.  
 b. \*There occurred three more accidents without PRO being any medical help available on the premises.

## 2.5 Raising vs. Control: A semantic difference

Raising infinitives and Control infinitives behave differently under passivization.

- (32) Raising: (32a) = (32b)
- The doctor seems to have examined the patient.
  - The patient seems to have been examined by the doctor.
- (33) Control: (33a)  $\neq$  (33b)
- The doctor is anxious to examine Hafdis.
  - Hafdis is anxious to be examined by the doctor.

## 3 Properties of A-Movement

- (34) Properties of A-movement:
- Moved element is an NP.
  - Movement is obligatory.
  - The site from which the NP moves is a position to which no case is assigned.
  - The landing sites of the movement are positions to which no  $\theta$ -role is assigned.
  - The movement terminates in a position where Case is assigned.
  - Movement goes strictly upward. In particular, each step of the movement is to a c-commanding position.
- (35) John might  $t_{J1}$  seem  $t_{J2}$  to  $t_{J3}$  have  $t_{J4}$  been  $t_{J5}$  eating pizza.  
A-chain = (John,  $t_{J1}$ ,  $t_{J2}$ ,  $t_{J3}$ ,  $t_{J4}$ ,  $t_{J5}$ )  
The A-chain consists of several copies (or under older terminology traces).  
*John* is the head of the A-chain. The head receives Case.  
 $t_{J5}$  is the tail/foot of the A-chain. The tail/foot receives a  $\theta$ -role.

A-movement only takes place if **forced**. Therefore it is not possible to 'raise' an NP that has already received case.

- (36)
- It seems [Claudia likes Susan].
  - \*Claudia<sub>*i*</sub> seems [ $t_i$  likes Susan].
  - \*Susan<sub>*i*</sub> seems [Claudia likes  $t_i$ ].

A-movement cannot skip positions.

- (37) Superraising is not possible:  
John<sub>*i*</sub> seems that [it is likely [ $t_i$  to win]].  
John<sub>*i*</sub> seems that [it is certain [ $t_i$  to fix the car]].

Pre-raising configurations:

- (38) I<sup>0</sup>[+Prs] seem that [it is likely [*John* to win]].  
I<sup>0</sup>[+Prs] seem that [it is certain [*John* to fix the car]].

Superraising is ruled out by two considerations:

- The matrix  $I^0[+Prs]$  must attract the nearest NP. However the nearest NP in (37) is *it* and it already has Case and therefore it cannot enter into a relationship with the matrix  $I^0[+Prs]$ . The presence of the *it* block the matrix  $I^0[+Prs]$  from looking further and attracting *John*.

- (39) Attract closest NP:  
 $I^0[+TNS]$  [XP . . . [YP  
 $I^0$  can only attract XP and not YP.

From a *Move* perspective, YP cannot skip the position occupied by XP.

- Even if *it* was not present, the matrix  $I^0[+Prs]$  would not be able to attract *John* because there is a closer attractor, the  $I^0[+Prs]$  of the embedded clause.

- (40) No attracting over another attractor:  
 $I^0[+TNS1]$  [. . .  $I^0[+TNS2]$  [XP  
Only  $I^0[+TNS2]$  can attract XP.  $I^0[+TNS1]$  cannot.

From a *Move* perspective, XP must target the closest attractor. In doing so, it would have to target  $I^0[+TNS2]$  where it would end up getting Case and losing any motivation for further Case-driven movement.

## 4 Passives

A-movement can be used to analyze passivization.

- (41) a. Active: Salman Rushdie wrote 'The Satanic Verses.'  
b. Passive: 'The Satanic Verses' was written by Salman Rushdie.

Basic features of English passives:

- (42) a. The main verb appears as the passive participle.  
b. An auxiliary verb appears (typically *be*, sometimes *get*).  
c. The object appears in subject position.  
d. The subject appears optionally as a *by*-phrase.

The passive can be seen as involving two separate operations:

- (43) a. Deletion/Suppression of the Agent/External Argument  
b. Promotion of the highest internal argument.

Since the formation of a passive involves these two operations, only verbs where both these operations can apply can be passivized. Thus to be passivized, there must be an Agent/External Argument that can be suppressed. The verb *have* does not have an Agent and hence it cannot be passivized.

- (44) a. John has two cars.  
b. \*Two cars were had by John.

Similarly, even if a verb has an Agent/External argument that can be suppressed, it must in addition have an internal argument that can be promoted to subject position. This is why *laugh* cannot be passivized.

- (45) a. John laughed.  
b. \*was laughed by John.

It should be noted though that the meaning of the passive makes reference to an agent even when the agent is not overtly expressed.

- (46) a. The ship was sunk.  
(Passive; Somebody must have sunk the ship.)  
b. The ship sank.  
(It might just have sprung a leak. An agent is not required.)

Passive verbs do not assign case to their objects.

- (47) Active *believe* can assign case.  
a. *believe* can take a finite CP as a complement:  
Lucia believes that Darren is talented.  
b. *believe* is also an ECM verb that can take an infinitival complement:  
Lucia believes [Darren to be talented].
- (48) Passive *believe* cannot assign case.  
a. It is believed [that Darren is talented].  
Finite CP's don't need case.  
b. \*It is believed [Darren to be talented].  
*Darren* needs case.

Luigi Burzio noted that passives were not the only class of verbs that did not assign a  $\theta$ -role to their subject and did not assign case to their objects. He called this class of verbs *unaccusative* and proposed the following generalization which has since come to take his name.

- (49) Burzio's Generalization  
a. A verb which lacks an external argument fails to assign (accusative) case to its object.  
b. A verb which fails to assign (accusative) case to its object does not assign a  $\theta$ -role to its specifier (i.e. it lacks an external argument).

• An intuition: Accusative is a dependent case i.e. it can only be assigned when there is another argument around.

• How much of Burzio's Generalization can be made to follow from other assumptions?

→ Can a verb exist that assigns two  $\theta$ -roles but which does not assign accusative case?

→ Can a verb exist that assigns accusative case to its internal argument but does not assign an external  $\theta$ -role?

The analysis of the passive:

- (50) John was arrested.

- a. Merge *John* as object of *arrested*  
[<sub>VP</sub> arrested John]
- b. Since *arrested* does not assign case to its object, or a  $\theta$ -role to its specifier, *John* can be raised there.  
[<sub>VP</sub> John [arrested t<sub>J</sub>]]
- c. The passive auxiliary *be* is Merged.  
[be [<sub>VP</sub> John [arrested t<sub>J</sub>]]]
- d. *John* raises again.  
[<sub>VP</sub> John [be [<sub>VP</sub> t<sub>J</sub> [arrested t<sub>J</sub>]]]]
- e. I<sup>0</sup>[+Pst] is Merged.  
[I<sup>0</sup>[+Pst] [<sub>VP</sub> John [be [<sub>VP</sub> t<sub>J</sub> [arrested t<sub>J</sub>]]]]]
- f. *John* raises for the last time.  
[<sub>IP</sub> John [I<sup>0</sup>[+Pst] [<sub>VP</sub> t<sub>J</sub> [be [<sub>VP</sub> t<sub>J</sub> [arrested t<sub>J</sub>]]]]]]]

- This analysis of the passive allows us to assign the object  $\theta$ -role in a uniform fashion in both actives and passives.
- Note that the passive is not *derived* from the active. Rather, the active and the passive share a common subcomponent.
- The movement that takes place as part of passive formation is a kind of A-movement and therefore obeys the general constraints on A-movement. In particular, it obeys the rule that only the NP closest to the target/attractor can move.

- (51) a. Sylvie gave Babs a book.  
b. Babs was given a book by Sylvie.  
c. \*A book was given Babs by Sylvie.

#### 4.1 Passives and Expletives

Expletive *there* can appear with passives because passives involve auxiliary *be*.

- (52) There were [several people arrested].

The progressive participle also appears with the auxiliary *be* and hence expletive *there* can appear with progressive participles also.

- (53) There were [several policeman patrolling the streets today].

#### 4.2 Passives and ECM

ECM verbs when passivized become Raising verbs.

- (54) a. Marla believes [Bradford to be incompetent].  
b. Bradford<sub>i</sub> is believed [t<sub>i</sub> to be incompetent].
- (55) a. I've never known [the President to lie].

- b. The President<sub>i</sub> has never been known [t<sub>i</sub> to lie].
- (56) a. They reported [the patient to be in great pain].
- b. The patient<sub>i</sub> was reported [t<sub>i</sub> to be in great pain].
- (57) a. I consider [my students to be conscientious].
- b. My students<sub>i</sub> are considered [t<sub>i</sub> to be conscientious].

The fact that ECM infinitives when passivized become Raising infinitives has led people to propose that ECM infinitives and Raising infinitives are in fact identical. They are both IP's of the same kind.

The two together are then contrasted with Control infinitives which are claimed to be CP's.

If the infinitival complement of a passivized ECM verb is also passivized, the object of the infinitival complement can raise all the way to the matrix subject position.

- (58) a. Active; Active  
Christine believes [Ross to have insulted Graeme].
- b. Active; Passive  
Christine believes [Graeme<sub>i</sub> to have been insulted t<sub>i</sub> by Ross].
  - c. Passive; Active  
Ross<sub>i</sub> is believed [t<sub>i</sub> to have insulted Graeme].
  - d. Passive; Passive  
Graeme<sub>i</sub> is believed [t<sub>i</sub> to have been insulted t<sub>i</sub> by Ross].

## 5 Argument Structure

A classification of verbs:

- (59) a. Transitive Verbs:  
see, eat, hit, read, kill etc.
- b. Intransitive Verbs:
    - i. Unaccusative:  
arrive, sink, leave, appear, arise, happen, all passives, raising verbs  
(the single argument is an internal argument)
    - ii. Unergative:  
laugh, bathe, dance etc.

Transitive verbs have two arguments - an internal argument and an external argument. The internal argument receives case from the verb, while the external argument receives case higher in the tree.

Intransitive verbs have only one argument and there is an option concerning whether this single argument is to be the internal argument or the external argument.

Within the syntactic calculus that we have developed in class, we will represent the difference between Merger as an internal argument and Merger as an external argument in terms of whether the single argument is Merged to the left of the verb or to the right of the verb.

- (60) a. Unaccusative: [V ARG]  
 b. Unergative: [ARG V]

In both unaccusatives and unergatives the single argument does not receive Case and needs to move higher in the tree for Case. The absence of Case for Unaccusatives follows from Burzio's Generalization, while the absence of case for Unergatives follows from the fact that the single argument has not been Merged as an object – it is to the left, and not to the right, of the verb.

## 5.1 Tests for Unaccusativity

Some evidence for making a distinction between unergatives and unaccusatives comes from the fact that unergatives allow for an optional object while unaccusatives do not.

- (61) a. Unergative:  
 John danced (a dance).  
 John laughed (a hearty laugh).  
 b. Unaccusative:  
 John arrived (\*an arrival/??). The book was read (\*a good read).

Further evidence concerning the distinction between unergative intransitives and unaccusative intransitives is found in Italian. See Burzio (1986), Belletti and Rizzi (1981) for details.

### 5.1.1 *Ne*-cliticization

*Ne*-cliticization is a process that picks out direct objects in Italian.

- (62) a. Giacomo ha insultato due studenti  
 Giacomo has insulted two students  
 'Giacomo has insulted two students.'  
 b. Giacomo ne ha insultati due  
 Giacomo of-them has insulted two  
 'Giacomo has insulted two of them.'

In addition, Italian allows for subjects to appear postverbally.

- (63) a. La ragazza/lei l'ha comprato  
 the girl/she it-has bought  
 'The girl/she has bought it.'  
 b. L'ha comprato la ragazza/lei  
 it-has bought the girl/she  
 'The girl/she has bought it.'

*Ne*-cliticization is not possible out of postverbal subjects of transitive verbs.

- (64) a. L'hanno comprato tre ragazze  
 It-have bought three girls  
 'Three girls have bought it.'

- b. \*Ne I'hanno comprato tre  
of-them it-have bought three

The subjects of passives can also be postverbal. However, in contrast to subjects of transitive verbs, Ne-cliticization out of postverbal subjects of passives is possible.

- (65) a. Molti studenti furono arrestati  
Many students were arrested  
'Many students were arrested.'
- b. Furono arrestati molti studenti  
were arrested many students  
'Many students were arrested.'
- c. Ne furono arrestati molti  
of-them were arrested many  
'Many of them were arrested.'

A contrast is found between the possibility of Ne-cliticization out of postposed subjects of unaccusative intransitives and subjects of unergative intransitives.

- (66) Unergatives: *ne*-cliticization is not possible
- a. Molti studento telefonano  
many students telephone  
'Many students telephone.'
- b. Telefonano molti studenti  
telephone many students  
'Many students telephone.'
- c. \*Ne telefonano molti  
of-them telephone many

- (67) Unaccusatives: *ne*-cliticization is possible
- a. Molti studenti arrivano  
many students arrive  
'Many students arrive.'
- b. Arrivano molti studenti  
arrive many students  
'Many students arrive.'
- c. Ne arrivano molti  
of-them arrive many  
'Many of them arrive.'

• Irrespective of the ultimate analysis of *ne*-cliticization, we see that the facts group passives with unaccusative intransitives and transitives with unergative intransitives.

### 5.1.2 Auxiliary Selection

Auxiliary selection is another phenomenon that distinguishes between unaccusative intransitives and unergative intransitives.

In English, all perfects take the same auxiliary *have*.

- (68) a. Jamie has programmed the keyboards. (transitive; unergative)
- b. The keyboards have been programmed. (passive; unaccusative)
- c. Jamie has danced. (intransitive; unaccusative)
- d. Jamie has arrived. (intransitive; unergative)

In Italian, unergative perfect participles take *have*, while unaccusative perfect participles take *be*.

- (69) a. Unergative; Transitive  
      Giacomo ha insultato due studenti  
      Giacomo has insulted two students  
      ‘Giacomo has insulted two students.’

- b. Unergative; Intransitive  
      Giacomo ha telefonato  
      Giacomo has telephoned  
      ‘Giacomo has telephoned.’

- c. Unaccusative; Intransitive

      Giacomo è arrivato  
      Giacomo is arrived  
      ‘Giacomo has arrived.’

- d. Unaccusative; Passive

      Notevoli danni sono stati arrecati alla chiesa  
      important damage are been caused to-the church  
      ‘Important damage has been caused to the church.’

### 5.2 Causative-Ergative Alternations

Many verbs in English participate in an alternation called the Causative-Ergative alternation (also the Transitive-Ergative alternation). (see Keyser and Roeper (1984) for details)

- (70) a. John broke the door.
- b. The door broke.
- (71) a. John might drown the wombats.
- b. The wombats might drown.
- (72) a. The missiles will sink the ship.

- b. The ship will sink.
- (73) a. Grace rolled the ball down the hill.
- b. The ball rolled down the hill.

In the spirit of our analysis of the passive, the idea is that the subject of the Ergative counterparts of the above pairs starts off in object position. Since the ergative does not have an external argument, its specifier is not a  $\theta$ -position. Hence the object can raise up to get case.

The transitive-ergative alternation does not cause a change to the shape of the verb. This is not true crosslinguistically e.g. in Hindi, where the transitivity alternation is marked overtly on the verb stem.

- (74) a. Zariin gend luṛkaa rahii hai  
 Zariin.f ball roll<sub>tr</sub> Prog.f is  
 'Zariin is rolling the ball.'
- b. gend luṛak rahii hai  
 ball roll<sub>intr</sub> Prog.f is  
 'The ball is rolling.'

### 5.3 Middles

The 'middle' alternation is similar to the transitive-ergative alternation in that the object of a verb appears in the subject position and in that there is no overt subject. (see Keyser and Roeper (1984) for details)

- (75) a. Greek translates easily.
- b. The baggage transfers efficiently.
  - c. Messages transmit rapidly by satellite.
  - d. The boxes will not transport easily.

However, there are important differences between middles and ergatives. Middles are possible with a wider variety of verbs than ergatives. But they require a generic tense and an adverb of manner. In an episodic sentence without an adverb of manner, middles are perceived to be degraded or unacceptable.

- (76) a. # Yesterday Greek translated.
- b. # Today the baggage transferred.
  - c. # Just now the message transmitted by satellite.

The various properties of the middle are not the domain of our inquiry right now. What matters is that their derivation can be taken to involve A-movement of the object into subject position.

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