## SEMANTIC DETERMINANTS OF VALENCE IN THE CAUSATIVE-INCHOATIVE ALTERNATION

# Maria Poponeţ PhD, "Babeş-Bolyai" University of Cluj-Napoca

Abstract: This paper starts from the premise that the morphological marking on inchoative verbs can be semantically explained in that unmarked inchoatives were conceptualized by speakers as expressing spontaneous events (Haspelmath 1993). While the unmarkedness of the Romanian inchoatives that we analyze can assumably be explained by their primary meaning which refers to a spontaneous event in the world, we set out to investigate if the placement of the verb on the spontaneity scale (Haspelmath 2005) has a bearing on the acceptability of transitive variants of the verb. Apparently, transitive acceptability is also closely tied to meaning; it depends on the direct object argument selected by the verb and ultimately on the type of event expressed by the verb phrase. Importantly, the possibility to express a directly caused external event varies from verb to verb, and even for the same verb depending on the direct object or subject argument. Belonging to the internally caused class does not necessarily ban transitive acceptability, and being part of the automatic class does not freely license transitive uses.

Keywords: Romanian, unmarked inchoatives, event type, transitive acceptability, valence.

#### 1. Introduction

This paper focuses on the semantics-syntax interplay in morphologically unmarked inchoatives in Romanian, pointing out the semantic determinants of basic intransitivity, along with the meaning-related conditions that need to be met in order for transitives to be licensed. Our discussion revolves around valence, i.e. the number of arguments taken by a verb, which can plausibly be determined by semantic factors (Haspelmath 1993; Levin and Rappaport Hovav 1995).

Thus, Levin and Rappaport Hovav (1995) split verbs of change of state into internally caused verbs and externally caused verbs, primarily due to the meanings expressed by these verbs. Internally caused verbs express events in which properties of the arguments are sufficient for bringing about the event, while externally caused verbs denote events in which the arguments alone cannot be held responsible for the changes, which are caused by an external force.

In Levin and Rappaport Hovav's (1995) theory, lexical semantic representations underlie argument structure, the two verb types being assigned different lexical semantic representations. Externally caused verbs have a dyadic lexical semantic representation typical of transitive verbs, comprising a causing event [x do-something] and a change of state event [y become <STATE>], as is represented in (1). The derivation of the intransitive variant of an externally caused verb of change of state involves the "existential binding" of the causer argument x in the mapping from lexical semantic representation to argument structure.

## (1) [[x do-something] cause [y become <STATE>]]

By contrast, internally caused verbs have a monadic lexical semantic representation consisting of the change of state event (2), which is carried over to argument structure.

(2) [y become <STATE>]

The difference in the lexical semantic representations of the two verb categories is held responsible for the participation in the causative-inchoative alternation of externally caused verbs and the lack of participation of internally caused verbs (Levin and Rappaport Hovav 1995)<sup>1</sup>.

Inchoatives are intransitive verbs that express a change resulting in a state. It has been claimed in the literature that from a syntactic point of view inchoatives are unaccusative verbs, i.e. intransitive verbs whose surface subject is an underlying direct object (Perlmutter 1978; Burzio 1986). The participation of these verbs in the causative alternation, i.e. the availability of a transitive variant in which the subject argument is the causer of the change of state expressed in the inchoative, has been considered a diagnostic of unaccusativity (Levin and Rappaport Hovav 1995). In the causative transitive (3b), the subject argument of the corresponding inchoative (i.e. *vaza* "the vase" in (3a)) is in direct object position, reinforcing the unaccusative analysis of the inchoative.

- (3) a. *Vaza* s- a spart. vase.DET SE AUX.3SG break.PTCP "The vase broke."
  - b. Copilul a spart vaza. child.DET AUX.3SG break.PTCP vase.DET "The child broke the vase."

Going back to Levin and Rappaport Hovav (1995), it is worth mentioning that these authors claimed that the derivation of externally caused inchoatives from transitive bases is supported by morphology, e.g. in languages with anticausative morphology, like Romance languages, inchoatives derived from transitive bases carry the *se/si* reflexive pronoun (Haspelmath 1993<sup>2</sup>; Levin and Rappaport Hovav 1995). In other words, morphological marking is indicative of the basic valence of verbs: inchoatives marked with the reflexive pronoun are basically transitive verbs, while inchoatives that are not marked with the reflexive pronoun are basically intransitive verbs. The morphologically marked intransitive *a se sparge* "to break" in (3a) is derived from transitive *a sparge* "to break" in (3b); the verb is basically transitive. In Romanian, most inchoatives are morphologically marked and show transitive variants.

However, in the case of Romanian unmarked inchoatives which allow transitive variants, basic intransitivity is not necessarily synonymous with rigid intransitivity (against Levin and Rappaport Hovav 1995), as we will see next.

#### 2. Romanian unmarked inchoatives with a transitive variant

Romanian registers a small number of inchoatives that are not morphologically marked with the reflexive pronoun *se*, but, nonetheless, allow transitive versions (Dragomirescu 2010):

(4) **Romanian unmarked inchoatives that allow a transitive variant:** *a adormi* "to fall asleep", *a amorți* "to benumb", *a amuți* "to become mute", *a asurzi* "to become deaf", *a cheli* "to go bald", *a clocoti* "to boil", *a crește* "to grow", *a decădea* "to decline, to deteriorate", *a dospi* "to rise", *a flămînzi* "to starve", *a fuziona* "to fuse", *a îmbătrîni* "to grow old", *a încărunți* "to turn grey", *a îngheța* "to freeze", *a întineri* "to grow young",

-

<sup>&</sup>lt;sup>1</sup> McKoon and Macfarland (2000) demonstrate that internally caused verbs of change of state in English have transitive uses albeit with a restricted range of subjects.

<sup>&</sup>lt;sup>2</sup> The causative-inchoative alternation is marked cross-linguistically by causative morphology, anticausative morphology, and there can also be non-directed alternations (Haspelmath 1993).

a învia "to revive", a leşina "to faint", a orbi "to become blind", a paraliza "to be stricken with paralysis", a plesni "to burst, to crack", a reîntineri "to grow young again", a reînvia "to revive again", a roși "to blush, to redden", a scădea "to diminish", a seca "to dry", a varia "to change, to alter". (Dragomirescu 2010: 114)

In what follows, starting from the hypothesis that event spontaneity underlies the unmarkedness of these verbs, we will investigate the conditions for the acceptability of their transitive uses, which are closely tied to the object argument selected and the event type expressed by the verb phrase.

That morphological unmarkedness is connected with conceptual meaning, i.e. to the subjective perception of the event by the speaker (Haspelmath 1993), seems to be supported by the first meanings of the lexical entries of these verbs listed in *Dicţionarul explicativ al limbii române* (henceforth, DEX), which describe spontaneous events.

Moreover, Haspelmath (2005) proposes the organization of verbs along a spontaneity scale (as exemplified in (5) with English verbs) and argues that the position of verbs on this scale may have a bearing not only on their morphological marking, but also on transitive acceptability. The higher a verb (meaning) is on the spontaneity scale, the slimmer its chances are to be morphologically marked with anticausative morphology (in anticausative languages) and to show transitive variants.

(5) **internally caused verbs** (*sprout, rot, rust*) > **automatic verbs** (*melt, freeze, dry, sink*) > **costly verbs** (*break, open, split*) (Haspelmath 2005: 17)

Inspired by Haspelmath's (2005) spontaneity scale, we will explore if the finer-grained classification of verbs of change of state into: (i) verbs that describe internally caused maturation changes in biological entities, (ii) verbs that denote other internally caused changes most of which are impairments, and (iii) automatic verbs, may be relevant for transitive acceptability.

## 2.1. Verbs denoting maturation changes

For starter, there are unmarked inchoatives denoting genetically determined maturation changes, i.e. *a creşte* "to grow", *a îmbătrîni* "to grow old" and *a încărunți* "to turn grey", whose form can be explained by their denoting events controlled by the body. However, although they denote maturation processes, the verbs do not behave uniformly regarding transitive acceptability.

On the one hand, *a creşte* "to grow" (6a) lacks transitives, irrespective of subject type, agent or non-agentive cause (6b), as in this language growing is regarded as solely an internally controlled process. It is commonly agreed in the literature that causative transitives are allowed if the event described by the verb plus direct object is considered to be directly caused by an external force (Wolff 2003; Levin 2009). Romanian registers transitive variants of this verb that carry the meaning "to raise children" or "to grow animals", which can be paraphrased "to provide conditions for growth".

- (6) a. Animalele cresc repede. animals.DET grow.PRS.3PL fast "Animals grow fast."
  - b. \*Fermierii/ \*Condițiile favorabile cresc animalele. farmers.DET conditions.DET favourable grow.PRS.3PL animals.DET "The farmers/favourable conditions cause the animals to grow."

By contrast, *a îmbătrîni* "to grow old" (7a) allows a transitive both with agent and cause subjects (7b), because despite being a pre-programmed process, aging can be accelerated by environmental factors or even people. There is also a homonymous transitive with the meaning "to make someone look old".

- (7) a. Andrei a îmbătrînit.
  Andrei AUX.3SG grow old.PTCP
  "Andrei grew old."

Although argued to be exclusively an intransitive verb in DEX, we have found attested examples on the internet with transitive *a încărunți* "cause to turn grey", albeit with an internal causer, i.e. *stresul* "the stress" in (8b), and an internalized causer, i.e. *fumatul* "the smoking" in (8c).

- (8) a. *Unii oameni încărunțesc de tineri.* some people turn grey.PRS.3PL of young "Some people turn grey in young age."
  - b. Nu există dovezi că stresul not exist.PRS.3PL proofs that stress.DET te încărunțeşte.

    CL.2SG.ACC cause to turn grey.PRS.3SG "There are no proofs that the stress makes one turn grey." (medmax.ro)
  - c. Fumatul încărunțește. smoking.DET cause to turn grey.PRS.3SG "Smoking makes one turn grey." (cdn4.aradon.ro)

The inchoatives *a întineri* "to grow young" and *a reîntineri* "to grow young again" denote seemingly internally caused processes that are unlikely to occur in our world. Therefore, the use of transitives in these cases does not fall in the scope of events that can be judged from the point of view of this world. Indeed, the transitive counterpart of *a întineri* "to grow young" (9a) allows agent and cause subjects and is synonymous with "cause to become young in aspect" (9b), although the aging process is not reversed.

- (9) a. El întinereşte pe zi ce trece. he grow young.PRS.3SG PE day which pass.PRS.3SG "He grows younger every day."
  - b. Anturajul/ Aerul curat îl întinerește.
    company.DET air.DET fresh CL.3SG.ACC cause to grow young.PRS.3SG

"The company/fresh air makes him grow young again."

The verb *a învia* "to revive" allows a transitive version with the meaning "cause to regain consciousness" (see the alternation in (10a,b)). Importantly, when the event cannot be directly caused from outside as when it refers to nature revival (11a), the transitive is not possible (11b). The verb *a reînvia* "to revive again" behaves in a similar way.

- (10) a. Ion a înviat după ce a fost
  Ion AUX.3SG revive.PTCP after what AUX.3SG be.PTCP
  în moarte clinică.
  in death clinical
  "Ion revived after being clinically dead."
  - lb. Vrăjitoarea Ioana înviat a witch.DET Ioana CL.3SG.ACC AUX.3SG revive.PTCP Ion, рe care în era PE Ion who be.IPF.3SG in clinică. moarte clinical death "Ioana, the witch, revived Ion, who was clinically dead." (Dragomirescu 2010: 321)
- (11) a. *Primăvara, natura învie.* spring.DET nature.DET revive.PRS.3SG "In spring, the nature revives."
  - b. \*Fermierii/ \*Căldura învie natura.
    farmers.DET heat.DET revive.PRS.3PL/3SG nature.DET
    "The farmers/heat revive(s) the nature."

#### 2.2. Verbs denoting impairments and other internally caused changes

The morphological unmarkedness of the verbs that denote impairments, i.e. *a amuţi* "to become mute", *a asurzi* "to become deaf", *a cheli* "to go bald", *a leşina* "to faint", *a orbi* "to become blind" and *a paraliza* "to be stricken with paralysis", falls into place given the autonomy of these processes that affect the body. Nonetheless, some processes can be viewed as directly caused by an external entity and license transitives.

Our internet search confirmed the unique intransitivity noted in DEX for *a amuţi* "to become mute" (12a) with reference to medical condition. However, there are transitives with the meaning "cause to become speechless momentarily or to stop talking" (12b).

- (12) a. *A amuţit din cauza unei răceli.*AUX.3SG become mute.PTCP from cause.DET a.GEN cold.GEN "He became mute because of a cold."
  - b. *Cînd* a *început* să *cînte*when AUX.3SG begin.PTCP SĂ sing.SUBJ.3SG *m* a amuţit.

    CL.1SG.ACC AUX.3SG become mute.PTCP

    "When he began to sing, he left me speechless."

    (romaniprinlume.info)

We have found causative transitive uses for the unmarked inchoative *a asurzi* "to become deaf" (13a), which signify "cause to lose hearing temporarily" (13b,c).

- (13) a. *A asurzit în urma unei infecții.*AUX.3SG become deaf.PTCP in trace.DET a.GEN infection.GEN "He became deaf as a result of an infection."
  - b. Cerber îi asurzeşte cu
    Cerber CL.3PL.ACC cause to become deaf.PRS.3SG with
    lătratul lui.
    barking.DET his
    "Cerber makes them become deaf with his barking."
    (archive.org)
  - c. *O bubuitură m- a asurzit.*a rumble CL.1SG.ACC AUX.3SG become deaf.PTCP
    "A rumble made me become deaf."
    (books.google.ro)

A cheli "to go bald" (14a) lacks a transitive with the meaning "cause to go bald" (14b). The attested transitives that we found signify "remove hair from one's head", as in (14c); notice the gloss in (14c) "to make him bald", i.e. to remove hair on the spot, rather than "to make him go bald" in (14b), which involves initiating baldness that develops autonomously.<sup>3</sup>

- (14) a. *Petru a chelit repede*.

  Petru AUX.3SG go bald.PTCP early "Petru went bald early."
  - b. \*Duşmanii/ ?\*Pălăriile l- au chelit
    enemies.DET hats.DET CL.3SG.ACC AUX.3PL go bald.PTCP

    pe Petru.
    PE Petru
    "The enemies/hats made Petru go bald."
  - 14-25 c. Oricine frizer plătește unui pay.PRS.3SG hairdresser 14-25 anyone a.DAT de lei doar săcaSĂ of lei only for chelească. CL.3SG.ACC make bald.SUBJ.3SG "Anyone pays a hairdresser 14-25 lei just to make him bald." (www.replicahd.ro)

Although *a leşina* "to faint" (15a) is uniquely intransitive according to DEX, Dragomirescu (2010) argued that the verb has transitive variants and provided the example in (15b).

<sup>&</sup>lt;sup>3</sup> Dragomirescu (2010: 320) also provides a transitive example with the meaning "remove hair directly".

However, the speakers we consulted did not accept the transitive in (15b) below. This accords with our search which did not return attested transitives for *a leşina* "to faint".

- (15) a. *Ion a leşinat din cauza căldurii.*Ion AUX.3SG faint.PTCP from cause.DET heat.GEN "Ion fainted because of the heat."
  - b. ?\*Căldura l- a leşinat pe Ion. heat.DET CL.3SG.ACC AUX.3SG faint.PTCP PE Ion "The heat fainted Ion." (Dragomirescu 2010: 321)

The inchoative *a orbi* "to become blind" (16a) registers transitive uses both with agent and cause subjects, as illustrated by (16b), inspired from examples found on the internet. Moreover, there is a transitive variant with the meaning "cause to lose eyesight temporarily due to light".

- (16) a. Pacientul a orbit.
  patient.DET AUX.3SG go blind.PTCP
  "The patient went blind."
  - b. Medicul/ Ecranul televizorului ldoctor.DET screen.DET TV.GEN CL.3SG.ACC
    a orbit.
    AUX.3SG go blind.PTCP
    "The doctor/TV screen blinded him."

The primary meaning of *a paraliza* "to be stricken with paralysis" describes an internally triggered biological process (17a). The transitives that we identified are not related to the primary meaning of the inchoative and carry the meaning "cause temporary immobility" (17b) or "cause to be stunned".

- (17) a. *A paralizat în urma accidentului*.

  AUX.3SG paralyze.PTCP in trace.DET accident.GEN "He paralyzed as a result of the accident."
  - b. Lovitura l- a paralizat pe pitcherul
    hit.DET CL.3SG.ACC AUX.3SG paralyze.PTCP PE pitcher.DET
    lui Tampa Bay.
    ART.GEN Tampa Bay
    "The hit paralyzed Tampa Bay's pitcher."
    (www.prosport.ro)

The basic meanings of the lexical entries for *a adormi* "to fall asleep", *a amorți* "to benumb", *a flămînzi* "to starve" and *a roși* "to blush" refer to internally caused events, in accord with their morphological unmarkedness. Nonetheless, the verbs differ regarding the acceptability of transitive variants.

The verb *a adormi* "to fall asleep" (18a) behaves as predicted by DEX, allowing transitives with agent and cause subjects (18b).

(18) a. Copilul a adormit.

child.DET AUX.3SG fall asleep.PTCP "The child fell asleep."

b. Mama/ Muzica l- a adormit
mother.DET music.DET CL.3SG.ACC AUX.3SG fall asleep.PTCP

pe copil
PE child
"Mother/The music made the child fall asleep."

On the other hand, although argued to be solely intransitive in DEX, a amorți "to benumb"

(19) a. *Corpul amorţeşte în lipsa mişcării.*body.DET benumb.PRS.3SG in lack.DET movement.GEN
"The body benumbs in the absence of movement."

(19a) allows transitives both with agent (19b) and cause subjects (19c).

b. Dentistul dumneavoastră va trebui să νă have to SÅ CL.2PL.ACC dentist.DET your will amorțească cavității parte 0 benumb.SUBJ.3SG ART.GEN cavity.GEN part bucale. oral "Your dentist will have to benumb a part of your oral cavity." (netdent.ro)

c. Anestezicul local amorţeşte nervii.
anesthetic.DET local benumb.PRS.3SG nerves.DET
"The local anesthetic benumbs the nerves."
(www.desprecopii.com)

The inchoative *a flămînzi* "to starve" (20a) licenses a transitive with a specialized agentive meaning, i.e. "keep someone without food". The transitive presupposes a voluntary agent (20b) and disallows non-agentive causes (20c).

- (20) a. Animalele domestice flămînzesc uneori. animals.DET domestic famish.PRS.3PL sometimes "Domestic animals famish sometimes."
  - b. Bănuiesc că stăpînii flămînzesc uneori assume.PRS.1SG that owners.DET famish.PRS.3PL sometimes animalele.
    animals.DET
    "I assume that the owners famish the animals sometimes."
    (adapted from forum.softpedia.com)
  - c. \*Seceta flămînzeşte animalele. drought.DET famish.PRS.3SG animals.DET "The drought famishes the animals."

A roşi "to blush" (21a) denotes a process determined by properties of the body and cannot be externally caused (21b). There is a transitive version of the verb a roşi with the meaning "to redden", not "to blush".

(21) a. *Ion a roşit cînd a apărut Ioana*. Ion AUX.3SG blush.PTCP when AUX.3SG appear.PTCP Ioana "Ion blushed when Ioana appeared."

b. \*Apariţia Ioanei l- a roşit
appearance.DET Ioana.GEN CL.3SG.ACC AUX.3SG blush.PTCP
pe Ion.
PE Ion

"Ioana's appearance made Ion blush."

#### 2.3. Automatic verbs

The verbs *a clocoti* "to boil", *a îngheţa* "to freeze" and *a seca* "to dry" denote automatic events (Haspelmath 2005), which explains their basic intransitivity. Indeed, this is in line with Labelle (1992), who argued that sometimes high or low temperature is not perceived as an external cause by language. The verbs license transitives, except for *a clocoti* "to boil" (22a), which is solely intransitive as prescribed in DEX. Thus, the speakers that we consulted did not accept the transitive example in (22b) provided by Dragomirescu (2010).

- (22) a. *Apa* clocoteşte pe foc. water.DET boil.PRS.3SG on fire "The water is boiling on the fire."
  - b. ?\*Ion clocoteşte apa pentru ceai.
    Ion boil.PRS.3SG water.DET for tea
    "Ion is boiling the water for tea." (Dragomirescu 2010: 320)

On the other hand, even in the case of automatic verbs there seem to be differences in transitive acceptability depending on the types of direct object arguments merged with the verb. This is illustrated by *a îngheţa* "to freeze", which allows fully acceptable transitives with inanimate direct objects (23b), but not with human direct objects (24b). Moreover, notice that the transitive with a human direct object and a non-agentive cause subject is better than the transitive with an agentive subject because agents do not qualify as direct causers of freezing events involving humans.

- (23) a. Carnea îngheață în frigider. meat.DET freeze.PRS.3SG in fridge "The meat freezes in the fridge."
  - b. *Ion îngheață carnea*.

    Ion freeze.PRS.3SG meat.DET

    "Ion freezes the meat." (Dragomirescu 2010: 321)
- (24) a. Copilul a înghețat.

<sup>4</sup> The transitive example given by Dragomirescu (2010: 322) also involves "to redden", not "to blush".

-

child.DET AUX.3SG freeze.PTCP "The child froze."

b. ?Gerul/ \*Părinții l- a/au
frost.DET parents.DET CL.3SG.ACC AUX.3SG/3PL
inghețat pe copil.
freeze.PTCP PE child
"The frost/parents made the child freeze."

Another spontaneous verb, *a dospi* "to rise" (25a) refers to a chemical process triggered from within the argument. In conformity with DEX, our search did not return transitive variants of this verb, although older versions were attested (25b).

- (25) a. Coca dospeşte. dough.DET rise.PRS.3SG "The dough rises."
  - b. Sătencele obicinuiesc a dospi cocă.
    peasants.DET use to.PRS.3PL PREP.INF leaven dough
    "The peasants use to leaven dough."
    (Dicţionarul limbii române literare contemporane, 1955-1957, https://dexonline.ro/definitie/dospi)

The basic intransitivity of *a plesni* "to burst, to crack" (26a) is not unexpected given that the most frequent cracking events in the world are spontaneous (Haspelmath 2005). Furthermore, the cause of the event is lent completely to properties of the argument, thus banning the acceptability of transitives with the meaning "cause to crack" (26b). It is worth mentioning that Romanian registers a homonymous transitive with the meaning "to hit".

- (26) a. Fructele plesnesc la maturitate. fruits.DET crack.PRS.3PL at maturity "Fruits crack when they are ripe."
  - b. \*Lovitura/ \*Ion plesneşte fructele.
    hit.DET Ion crack.PRS.3SG fruits.DET
    "The hit/Ion causes the fruit to crack."

The verbs a decădea "to decline", a scădea "to diminish" and a varia "to change, to alter" are verbs of calibratable changes of state, i.e. verbs that "describe positive or negative changes along a scale" (Levin 1993: 248). They are predicated of entities with a measurable attribute. Since the verbs of calibratable changes of state, together with a fuziona "to fuse", are not constrained to occur with certain arguments, it is impossible to identify the spontaneous events that underlie their formation. Furthermore, apart from the transitive counterpart of a decădea which has the specialized meaning "deprive of one's rights", the transitive uses of the other verbs depend on the direct object argument selected, which dictates the event type.

## 3. Conclusions

The paper started from the hypothesis that the morphological unmarkedness of inchoatives indicates basic intransitivity. Indeed, it is plausible that the internally caused or automatic

events involved in the primary meanings of these verbs, as enlisted in DEX, explain their basic intransitivity.

However, unmarkedness might indicate basic intransitivity, but not necessarily unique intransitivity (against Levin and Rappaport Hovav 1995), as unmarked verbs of change of state can have transitive variants. Importantly, transitive acceptability is not dictated by class membership. Although internally caused verbs are higher on the spontaneity scale than automatic verbs (Haspelmath 2005) and should lack transitive uses, some internally caused verbs allow transitives. Moreover, some automatic verbs ban transitive uses. Sometimes, there are differences depending on the direct object arguments selected by the same verb. Importantly, transitive uses are licensed if the events expressed by verb phrases are considered to be directly caused by an external force.

## **Bibliography**

Burzio, Luigi (1986). *Italian syntax. A government and binding approach*, Dordrecht: Reidel. *Dicţionarul explicativ al limbii române:* https://dexonline.ro.

Dragomirescu, Adina (2010). *Ergativitatea. Tipologie, sintaxă, semantică*, București: Editura Universității din București.

Haspelmath, Martin (1993). "More on the typology of inchoative/causative verb alternations", in Bernard Comrie and Maria Polinsky (eds.), *Causatives and transitivity*, 87-120, Amsterdam: John Benjamins.

Haspelmath, Martin (2005). "Universals of causative verb formation", *Explaining syntactic universals*, LSA Institute, MIT, 2nd August 2005.

Labelle, Marie (1992). "Change of state and valency", Journal of Linguistics 28: 375-414.

Levin, Beth (1993). English verb classes and alternations: A preliminary investigation, Chicago: The University of Chicago Press.

Levin, Beth (2009). 'Further explorations of the landscape of causation: Comments on the paper by Alexiadou and Anagnostopoulou', MIT Working Papers in Linguistics 49: 239-266.

Levin, Beth and Malka Rappaport Hovav (1995). *Unaccusativity: At the syntax-lexical semantics interface*, Cambridge: The MIT Press.

McKoon, Gail and Talke Macfarland (2000). "Externally and internally caused change of state verbs", *Language* 76(4): 833-858.

Perlmutter, David (1978). "Impersonal passives and the Unaccusative Hypothesis", in *Proceedings of the fourth annual meeting of the Berkeley Linguistics Society*, 157-189, Berkeley: Berkeley Linguistics Society.

Wolff, Phillip (2003). "Direct causation in the linguistic coding and individuation of causal events", *Cognition* 88, 1-48.