

Gergely Pethő & Éva Kardos

On the empirical foundations of the detransitivisation analysis of unaccusatives

Abstract

This paper contributes to the discussion on causative-unaccusative verb pairs in English and Hungarian. It examines numerous assumptions in derivational detransitivisation analyses of such verbs and shows that these assumptions are empirically inadequate. A non-derivational analysis is proposed as an alternative, which seems to be void of the problems that derivational analyses suffer from.

Keywords: causative-unaccusative alternation, selectional restrictions, derivational morphology

1 Introduction¹

Intransitive verbs have been argued to fall into two main classes: the class of unaccusative verbs like *break*, *open*, *clear* and *dry* and that of unergative verbs like *laugh*, *dance*, *speak* and *play*. An important difference between the two types of verbs is that members of the former class often show the **causative alternation**, as illustrated in (1), (2) and (3), while members of the latter class do not generally participate in this alternation, as shown in (4), (5) and (6).

- (1) a. John broke the vase.
b. The vase broke.
- (2) a. Bob opened the window.
b. The window opened.
- (3) a. The sun cleared the sky.
b. The sky cleared.
- (4) a. Mary laughed.
b. *The puppet show laughed Mary.
- (5) a. Kate danced.
b. *The song danced Kate.

¹ We dedicate this paper to Péter Pelyvás, without whom it would never have been written. It was in 2003 that the authors were indirectly introduced to each other by Péter, who advised one of the authors to attend a university course offered by the other author, and urged the other author to keep an eye on this promising student. What followed was a cooperation that has lasted for more than ten years and resulted in a master's thesis, part of a PhD thesis, several joint papers and talks, hundreds of hours of discussions, and lots of fond memories. Thank you, Péter, for helping us become a team almost as inseparable as Levin and Rappaport Hovav, Lakoff and Johnson, or Laurel and Hardy.

- (6) a. The child spoke.
 b. *The mother spoke the child.

The causative alternation illustrated above has generated several questions and answers regarding how alternating verbs differ from non-alternating verbs and, also, how the transitive and intransitive variants of alternating verbs are related to each other. In this paper our goal is to examine the analysis that Levin and Rappaport Hovav (1995) provide and point out some problems that arise in connection with this work. We take a number of the authors' empirical claims under scrutiny and show that they are often not borne out by the facts.

The structure of this paper is as follows: In Section 2 we provide an outline of some crucial tenets of Levin and Rappaport Hovav's theory. In Section 3 we focus on the critical evaluation of evidence cited by the authors in favour of the proposition that there is a derivational relationship between the transitive and intransitive variants of alternating verbs such that the transitive variant serves as the base for the intransitive variant. In Section 4 we introduce new data from Hungarian which should present a considerable challenge for any theory of the causative alternation that attempts to explain this phenomenon purely by derivational means. Section 5 concludes the paper.

2 Levin's and Rappaport Hovav's Detransitivisation Analysis

We begin this section by giving a summary of various analyses that have been proposed for the causative alternation. After that, we narrow down our discussion to Levin and Rappaport Hovav's (1995) work, which we will then thoroughly reflect on in subsequent sections. Since we will be referring to this work very frequently in our paper, we will abbreviate in what follows both the monograph Levin and Rappaport Hovav (1995), as well as its authors, as LRH.

The debate on what the best account of the causative alternation is goes far back to generative semantics and became especially prominent during the 1990s. Some researchers have argued that the event structure of the intransitive verbs participating in this alternation consists of a single change-of-state event, while others have claimed that they have an inherently complex structure in that they also contain a causing subevent. Advocates of the latter view have proposed that transitive variants are basic, whereas intransitive variants are derived through a detransitivisation process, more specifically by deletion of the CAUSE component from the lexical semantics of the transitive base verb (Reinhart 2002, Reinhart & Sioni 2005), or by existentially binding the causer event participant (Levin & Rappaport Hovav 1995) or via a reflexivization process (Chierchia 1989/2004, Koontz-Garboden 2009, Beavers & Koontz-Garboden 2013a,b). Most recently the reflexivisation approach was called into question by Horvath & Sioni (2011, 2013), who leave open the question whether the intransitive alternating verbs are derived from their transitive counterparts but attack the claim that the intransitives contain a CAUSE component. Finally, in a third type of analysis, the intransitive and transitive variants are derived from a common root and not from each other (Piñón 2001). We can briefly characterise each assumption as follows:

- (H1) **The transitivisation hypothesis:** Transitive variants come about as a result of a causativisation process whereby a CAUSE operator is added to the base verb.

(H2) **Detransitivisation hypotheses:**

- a. **Detransitivisation is reflexivisation:** Intransitive variants come about as a result of a reflexivisation process whereby the subject and the theme end up having identical reference.
- b. **Detransitivisation is lexical binding:** Intransitive variants come about as a result of a lexical process whereby the causer subject is existentially bound.
- c. **Detransitivisation is deletion:** Intransitive variants come about as a result of a process whereby a CAUSE operator is deleted from the lexical semantic representation of the base verb.

(H3) **The non-derivational hypothesis:** The intransitive and transitive variants of verbs exhibiting the causative alternation are not related to each other derivationally. Instead, they are derived from a common morphological root.

LRH assume that alternating verbs like *break* and *open* all have a **dyadic** causative structure both in the case of their transitive and intransitive variants, i.e. the event structure of these verbs is **complex** and consists of **two subevents**. In this they contrast with **monadic** verbs, the event structure of which is **simple** and contains a **single subevent**. The lexical semantic representation that they propose for dyadic verbs is illustrated with the verb *break* in (7).

(7) break: [[x DO-SOMETHING] CAUSE [y BECOME BROKEN]]
 (LRH 83, (5) and (6))

The representation in (7) reflects that LRH associate *break* type verbs with a complex lexical semantic structure such that they contain a CAUSE primitive predicate and two subevents, which are both arguments of CAUSE. The first subevent is the **causing subevent** and the second one is the **central subevent**. The former is what initiates the type of change that the latter corresponds to. Verbs like *break* contrast with verbs like *laugh* in that the latter are basically monadic, as illustrated in (8), where the verb is associated with a single laughing subevent.

(8) laugh: [x LAUGH]

According to LRH, this property is what sets *laugh* apart from *break* in the ability to undergo the causative alternation.

In order to provide a more precise semantic characterisation of the difference between *break* type alternating verbs and *laugh* type non-alternating verbs, LRH introduce a distinction between verbs expressing **internally caused** eventualities and verbs describing **externally caused** eventualities. In (9) and (10) we illustrate each class with a few examples:

- (9) Verbs describing internally caused eventualities: *blush, bubble, buzz, flash, glow, ring, shudder, smell, squirt, tremble*
- (10) Verbs describing externally caused eventualities: *bounce, break, close, cook, cool, dry, freeze, melt, open, roll, rotate, sink, spin*

LRH 91f. state that in the case of verbs like those in (9), “some property inherent to the argument of the verb is “responsible” for bringing about the eventuality”, whereas verbs like those in (10) “imply the existence of an “external cause” with immediate control over

bringing about the eventuality described by the verb”. For example, in the case of *blush* it is some emotional property associated with the referent of the single argument of the verb that gives rise to the eventuality. By contrast, verbs like *break* and *open* describe eventualities that cannot have been brought about without some external cause such as an agent, an instrument, or a natural force. This event participant appears explicitly on the syntactic surface in the case of the transitive variant of the verb, as in (1a), and is left unspecified in the case of the intransitive variant, as in (1b), if there is one. A central idea in the theory is that verbs expressing externally caused eventualities can often participate in the causative alternation because of “a complete lack of specification of the causing event” (LRH 107). This property is what allows these verbs to select a variety of causer arguments, as illustrated in (11a), or to appear with just the theme, as in (11b).

- (11) a. The vandals/The rocks/The storm broke the windows. (LRH 103, (48))
 b. The windows broke.

One final facet of the theory that we discuss here concerns the relationship between the transitive causative and the intransitive causative variants of alternating verbs like *break*. As was pointed out earlier in this section, according to LRH, the transitive and intransitive variants are similar in that both types of verbs are associated with a complex event structure containing a causing subevent and a central (caused) subevent. An important respect in which these forms differ, however, is that in the case of the intransitive variants all that the verbal predicate says about the causing subevent is that there exists one. Transitive variants, on the other hand, supply more specific information as to the nature of this subevent.

LRH suggest that the former type of verb comes about as a result of a lexical process, whereby **the cause argument of the verb** – symbolized by *x* in (7) – **is existentially bound**. This lexical binding is assumed to take place in the mapping between the lexical semantic representation of the verb and its argument structure. The first piece of evidence that the authors provide for this is that, unlike in the case of passive verbs, the intransitive variants of alternating verbs are not compatible with *by*-phrases that indicate the presence of a causer argument in argument structure. Consider (12a) and (12b).

- (12) a. The window was broken by Pat.
 b. *The window broke by Pat. (LRH 109, (63a) and (65a))

The same contrast between passives and unaccusatives is illustrated in (13), where the grammaticality of the sentence in (13a) is indicative of there being a causer argument in the argument structure of the passive verb such that it controls the purpose clause. Conversely, the ungrammaticality of (13b) can be taken as evidence for the verb’s argument structure lacking such an argument.

- (13) a. The window was broken to rescue the child.
 b. *The window broke to rescue the child. (LRH 109, (63b) and (65b))

LRH provide numerous empirical arguments in favour of their analysis, which have been accepted without debate in the literature. In what follows we take a closer look at some of these arguments and attempt to demonstrate that they do not stand up to scrutiny.

3 Questioning the Empirical Foundations of the Causative Hypothesis

3.1 Selectional Restrictions and the Volitional Agent Hypothesis

The first argument in favour of LRH's detransitivisation analysis is the observation that in a certain sense the use of the intransitive version of a verb that exhibits the causative alternation is more restricted than the use of the transitive version. LRH 84–86 elucidate the argument as follows: The range of subjects of the intransitive use of such verbs is generally identical to the range of objects of their transitive counterpart, which is explained by the assumption that “the subject of the intransitive use of the verb bears the same semantic relation to the verb as the object of the transitive use”. This correlation is essentially the reason why a systematic alternation is assumed for these verbs in the first place. However, LRH also point out that “the overlap in selectional restrictions [that apply to the intransitive subject and the transitive object, respectively] is not complete”. Consider the examples in (14–16):

- (14) a. He broke his promise/the contract/the world record.
 b. *His promise/The contract/The world record broke.
- (15) a. This book will open your mind.
 b. *Your mind will open from this book.
- (16) a. The waiter cleared the table.
 b. *The table cleared.

(LRH 85f., (9), (11) and (13))

LRH assume that this pattern indicates that the primary use of these verbs, the one from which the other is derived, is “the use with the looser selectional restrictions, if there is one”, which appears to be in these cases the transitive version. They also note that they reject the opposite assumption, i.e. that the basic use is the intransitive one, because this hypothesis would entail that “it would be difficult to derive the transitive use in *The waiter cleared the table*, which has no intransitive counterpart, short of asserting that the transitive and intransitive uses of a verb like *clear* are not related” (ibid.).²

We can summarise the conclusion LRH draw based on the above examples as follows:

- (H4) **LRH's Hypothesis on the asymmetry of selectional restrictions:** If the transitive and intransitive uses of an alternating verb do not have identical selectional restrictions with respect to their theme argument, then it is always the transitive use that allows a wider range of themes.

Finally, based on this hypothesis and on cross-linguistic observations that seem to point into the same direction, LRH formulate the following generalisation, which we will refer to in what follows as the **causative hypothesis** or CH for short:

- (H5) **LRH's causative hypothesis:** All alternating unaccusative verbs are fundamentally causative, and derived from their transitive counterpart.

² The use of ‘derive’ and ‘related’ in this sentence might be slightly confusing for the reader out of context. What LRH mean here is that given the premise above it would be difficult to generate or produce the transitive use of the verb unless one accepted the claim that the transitive version is equally ‘basic’, i.e. listed in the lexicon, and thus the two uses ‘are not related’ to one another through some sort of lexical or syntactic operation.

In addition to stating this generalisation, LRH also propose an explanation why the transitive uses in (14) to (16) do not have intransitive counterparts. Their explanation sets out from the observation that not all transitive causative verbs can detransitivise, e.g.:

- (17) a. The baker cut the bread.
 b. *The bread cut. (on the interpretation ‘The bread came to be cut’)
- (18) a. The terrorist killed/assassinated/murdered the senator.
 b. *The senator killed/assassinated/murdered.
- (19) a. Anita Brookner just wrote a new novel.
 b. *A new novel wrote.

(LRH 102, (42), (43) and (44))

Based on such examples and Smith’s (1970) proposal, they formulate the following generalisation, which we will refer to below as the **volitional agent hypothesis**, or **VAH**:

- (H6) **LRH’s volitional agent hypothesis:** “[T]he transitive causative verbs that detransitivize are those in which the eventuality can come about spontaneously without the volitional intervention of an agent. [...] [Verbs that do not detransitivize like those in (17) to (19)] have meanings that specify that the eventuality they describe must be brought about by a volitional agent, the change they specify obviously cannot come about independently. In contrast, the change specified by alternating verbs such as *break* can come about without the intervention of a volitional agent. Consequently, alternating verbs allow natural forces or causes, as well as agents or instruments, as external causes, and, hence, as subjects” (ibid.).

LRH believe that the same regularity explains why examples like (14b) through (16b) are unacceptable. An intransitive use is only possible if “the change can come about without the intervention of an agent” for the given theme (LRH 103). For example, (16b) is excluded because for a table to be cleared there must be an agent carrying out this action; it does not happen by itself. By contrast, the sky “can clear through the intervention of natural forces” (LRH 104) and thus the detransitivised version of the verb can be used in a sentence like *The sky cleared*.

We can thus summarise the VAH as follows:

- (H6’) **The VAH rephrased:** A verb phrase that expresses an externally caused eventuality and consists of a transitive verb with a theme direct object participates in the causative alternation if and only if this type of event can come about without the intervention of a volitional agent.

While this is without doubt an attractive and elegant explanation for the observed phenomena, it raises a number of questions, which we will examine in the following paragraphs.

3.2 *Cut and Other Verbs of Injury*

One logical consequence of the VAH, which we will examine first, is the following:

(H6'') **Consequence of the VAH:** If an externally caused transitive verb cannot detransitivise (with any theme direct object), then it expresses a type of event that always requires a volitional agent to happen.

One of the verbs which LRH claim to behave according to this rule is *cut*. In particular, they observe that the sentence **The lightning cut the clothesline* is unacceptable and explain this as follows in terms of the VAH: “The very meaning of the verb *cut* implies the existence of a sharp instrument that must be used by a volitional agent to bring about the change of state described by the verb” (LRH 103).

The sentence in question is clearly odd, but it is puzzling why the authors chose a natural force as the subject for the transitive verb instead of a non-instrument, non-volitional entity that happened to have a sharp edge and would thus be compatible with the basic meaning of this verb (as described in the above quotation). In fact, *cut* and similar verbs that do not detransitivise are often perfectly acceptable with a non-agentive, non-instrument – but, importantly, sharp – subject and in these cases express events that are almost necessarily non-volitional. Levin (1993) herself cites the sentence *The glass cut Rachel's toe* in connection with her alternation 2.12, the “Body-Part Possessor Ascension Alternation”, indicating that other *cut* verbs (verb class 21.1) behave similarly. In fact it is not just verbs of cutting but more generally verbs of injury (including *poke* verbs, Levin 1993's class 19) that work fine with a non-instrument (and even a natural force) subject in a non-volitional context, and we should also note that not only is the object not required to be a human body-part, but a human or other volitional entity need not even be involved in the event at all:

- (20) Glass shards can cut your digestive tract.
- (21) Those few inches of wire rope scraped up the side of the fairlead pretty well.
- (22) Something pointy apparently had pierced the bag.
- (23) The machine severed the arm above the wrist.
- (24) A house fire injured one person and displaced four others.

Therefore, we should assume that these verbs exhibit the causative alternation in accordance with the predictions that follow from LRH's explanation, i.e. they should have a natural intransitive version where the theme, or in other words the object of the transitive version, appears as subject. However, this is not true for any of the above verbs – and for many others that are just as perfect with non-volitional subjects in non-volitional contexts:

- (20') *My digestive tract cut (because of some glass shards).
- (21') *The side of the fairlead scraped up (pretty well).
- (22') *The bag pierced.
- (23') *His arm severed.

Note that some of these verbs do in fact have normal intransitive uses, but those are either conatives or appear in a non-conative directional construction. Consider (25–27).

- (25) It fell off the wall and its sharp edge cut through a bundle of wires.
 (26) Her rope scraped against a sharp edge until it broke.
 (27) A tree branch pierced through her back and through her lung region.

One possible way to rescue the VAH would be to assume that (20') to (23') are irrelevant for some independent reason, and what we see in (25) to (27) are the predicted intransitive versions of the verbs in (20) to (22) derived by the causative alternation. However, we believe that these intransitive forms do not have anything to do with the causative alternation. First of all, we know of no other systematic cases where the causative alternation should require the presence of directional constructions to be applicable.³ Secondly, the truth conditions of the sentences (25) to (27) are quite different from those of the corresponding transitive sentences, with the subject of the intransitive predicates appearing as object:

- (25') #He cut its sharp edge through a bundle of wires.
 (26') She scraped her rope against a sharp edge until it broke.
 (27') He/she pierced a tree branch through her back and through her lung region.

Whereas (25) is perfect, (25') makes hardly any sense at all, and whereas (26) and (27) describe a situation that simply happens as a result of certain circumstances, (26') and (27') describe a volitional action. Thirdly, (25) through (27) are closely synonymous to the corresponding transitive version with the oblique directional replaced by a direct object: This indicates that the relationship between the arguments and the verb in (25) through (27) is very similar to the relationships in (25'') to (27'').

- (25'') Its sharp edge cut a bundle of wires.
 (26'') Her rope scraped a sharp edge.
 (27'') A tree branch pierced her back and her lung region.

Fourthly, a (sometimes volitional, sometimes non-volitional) agent can appear as the subject in sentences like (25) through (27):

- (25''') He cut through a bundle of wires.
 (26''') She scraped against one tree trunk after another but she barely noticed.
 (27''') She pierced through my shield.

With respect to all of these properties, (25) to (27) are similar to the transitive uses of verbs that undergo the causative alternation rather than their intransitive uses, and therefore we conclude that the intransitive directional constructions appearing in these sentences are not derived by detransitivisation in the sense of the causative alternation.⁴ Given that (20') to

³ In fact LRH observe that verbs of manner of motion like *march*, *jump* and *run* appear to demand a directional phrase to allow a transitive externally caused use. Regardless of the scope of this generalisation and whether it is correct, it is clearly independent of the issue in (25) to (27): here it is the intransitive rather than the transitive version of the verb that requires a directional PP. Furthermore, verbs like *march* do not exhibit the causative alternation according to LRH but a fundamentally different process where an intransitive is causativised. This is thus clearly irrelevant from the perspective of our examples above.

⁴ Above, we ignored the occasional metaphoric verb of motion use of *pierce* and other similar verbs, which appears in sentences like *I followed right behind him as he pierced through the crowd*. This use is clearly irrelevant to the issue we are discussing here.

(23') are unacceptable and (25) to (27) irrelevant, we have established that contrary to LRH's VAH there are several verbs – at least the verbs of injury discussed above – that cannot detransitivise despite their not requiring a volitional agent. This represents an argument against the VAH.

3.3 *Verbs of Killing and Dying*

In the following paragraphs we approach the VAH from a slightly different perspective in order to demonstrate that it fails to predict the behavior of further verbs as well. We will be looking at a group of verbs, all expressing the same general type of externally caused event, some of them being transitive only, others alternating between a transitive and an intransitive use. We will ask the question whether we can confirm the correlation that LRH claim to hold, i.e. that the verbs are exclusively transitive in exactly those cases where the event type requires a volitional agent, whereas all verbs that do not demand a volitional agent exhibit the causative alternation.

Like the *cut* type verbs we have discussed above, some verbs of killing are also quoted by LRH as examples bearing out the VAH (cf. examples 17 and 18 above), and thus we might expect these verbs to fit the authors' hypothesis particularly well. However, on closer examination of LRH's characterization of verbs of killing, we find several surprising points that lead us to question whether this verb class indeed represents an excellent case for the VAH.

First of all, it is unclear what LRH think about the central verb of this class, *kill*. In their examples (18a,b), which we have quoted above, they present three verbs that do not detransitivise. On the same page they then repeat the same example as (45a,b), but without the verb *killed*, and comment on the examples as follows: "Consider some verbs that never detransitivize, such as the verbs *murder* and *assassinate* [...]. These particular verbs require an animate intentional and volitional agent as subject." They continue with the sentences we have already quoted as part of their formulation of the VAH above; we repeat the first of these sentences here: "Since these verbs have meanings that specify that the eventuality they describe must be brought about by a volitional agent, the change they specify obviously cannot come about independently." LRH do not mention the fact that they omit *kill* from (45), nor do they give any explanation for this. Therefore it is unclear how we should interpret this omission. One possibility is that it was intentional, i.e. LRH believe that a murder or assassination "must be brought about by a volitional agent", as opposed to a killing, which can "come about independently". However, this would raise the question why *kill* cannot detransitivise, although it should according to the VAH given that the event does not require an agent. Another possibility is that LRH omitted *kill* simply for the sake of brevity or some other trivial reason, and do not want to imply by this omission that *kill* differs from *assassinate* or *murder* with respect to the necessity of a volitional agent. If this is indeed the correct explanation, LRH would simply be mistaken.

In fact, whereas LRH appear to claim that verbs of killing always require a voluntary agent (and this circumstance, combined with the VAH, is presumed to be the reason for the fact that these verbs never detransitivise) this claim is certainly false. At least some verbs of killing, including *kill*, can be used naturally with either a non-volitional agent, or a subject that is not an agent at all but some other external or internal 'factor' of the event:

- (28) Banker's son accidentally killed himself when he slipped while trying to re-enact Tudor hanging for upcoming school play.

- (29) Globally, cancer kills 50% more men than women.
- (30) Global warming kills about 160,000 people through its effects every year.
- (31) Old age kills about two-thirds of the people who die every day in the world.
- (32) Curiosity killed the cat.

Although some of these (especially 31 and 32) might seem more or less strange or metaphorical, the fact of the matter is that – as usual when it comes to selectional restrictions – there are no hard and fast general rules for what is and is not a permissible subject for *kill*, nor is there a clear line of demarcation between these two groups of subjects. Instead we are dealing with subtle, gradual and often very subjective differences between judgements of acceptability. This graduality stands in stark contrast, however, to the absolutely clear-cut fact that *kill* never undergoes the causative alternation and thus intransitive *kill* with a patient subject simply does not exist. If the VAH were true, such a contrast would be very surprising; what we should expect to see is an intransitive unaccusative use of *kill* that is sometimes more, sometimes less acceptable depending on context and who we ask.

As we have indicated above, other verbs expressing an event in the course of which a living being gets killed as a result of some external cause also allow non-volitional and even non-agentive subjects:

- (33) In the first Omen movie, the pane of glass beheaded a photojournalist played by David Warner.
- (34) Lightning electrocuted several farm animals.
- (35) A sharp-ended fence impaled a moose when it tried to leap over the fence.
- (36) A speeding truck crushed him to death on the spot.
- (37) Angelcare is recalling 600,000 baby monitors after a sensor pad cord strangled two infants.
- (38) Boy accidentally stabbed as uncle whittles piece of wood. Authorities in Oklahoma City say a 4-year-old boy was killed after he fell on top of a top of a knife used by his uncle to whittle a piece of wood.
- (39) Teen accidentally hanged himself preparing for school play.
- (40) A Canadian man trying to smash a mouse with his gun accidentally shot himself in the forehead instead.

Some of these (*electrocute*, *strangle*, *stab*, *hang*) are listed in Levin's (1993) list of *poison* verbs (class 42.2), others are not, but there is no obvious difference between these two groups. Note that, as Levin states, in general "these verbs do not entail that the action they denote results in death," i.e. it is not part of their lexical meaning that the patient dies. Whether this happens depends on "our conception of how effective the means involved is in causing death." Thus these verbs lexicalise a certain manner of injuring rather than a specific result, namely, death of the patient. It is worth pointing out that the *poison* type non-alternating verbs of killing can have a natural force as their subject, as evidenced by (34). This confirms our earlier suspicion that the reason why **The lightning cut the clothesline* is not acceptable is connected to the violation of selectional restrictions related to the manner of the specific event expressed (i.e. that lightning can be said to electrocute but not really to cut, since it does not have an edge), and not – as LRH essentially claim – by a purported general principle according to which transitive-only externally caused verbs necessarily have a volitionally acting agent.

There is a striking contrast between the *poison* class verbs and the other type of verbs of killing appearing in Levin's (1993) classification, the *murder* class (class 42.1). This latter class includes verbs like *assassinate*, *butcher*, *eliminate*, *execute*, *liquidate*, *massacre* and *murder*. Furthermore Levin also lists *kill* as belonging to this group, although she points out that it has "the least specific meaning [... and] it also differs from the other class members in its behavior." The *murder* class verbs, with the exception of *kill* and the possible exception of *slay* (also listed by Levin), have in common that they are indeed only compatible with volitional agent subjects. The reason for this is presumably that these verbs "lexicalize something about the purpose or manner of killing." In particular, all of them entail that the agent specifically intends to end the life of the patient, often (e.g. *assassinate*, *butcher*, *massacre*, *slaughter*, *murder*) in a way that can be characterised as cruel, ruthless or malicious. An action that is acknowledged by the speaker to be accidental cannot be properly described using one of the *murder* verbs.⁵ Furthermore, apart from lexicalizing the manner of killing (in this sense), they also entail that a specific result state (i.e. the patient is dead) is attained.⁶

There is another conspicuous contrast between the *poison* class verbs discussed above on the one hand, and three verbs of manner of dying (included in the *poison* class by Levin), namely, *suffocate*, *asphyxiate* and *drown*; one could also add further similar verbs, such as *starve*, *freeze* and *bleed (to death)*. What is common to all of these is that on the one hand they have a transitive version which expresses a causative event with an external, at least very typically (but perhaps not necessarily) agentive and volitional causer, and on the other hand they also have an intransitive version which expresses a way of dying that is 'caused externally' only in a very loose sense. By 'in a very loose sense' we mean that there is almost never a volitional agentive causer or a well-delimited causing event involved in these deaths: it is mostly the circumstances or the environment that kill the patient, e.g. lack of air or food, being under water, having a serious wound, or being exposed to extreme cold. The object of the transitive verb has the same semantic relationship to the event as the subject of the intransitive verb, and thus it seems to make sense to characterise all of these as causative alternation verbs. We will point out below, however, that there are reasons to doubt this analysis.

Having established these three groups of verbs of killing, i.e. the *poison* class, the *murder* class, and the transitive versions of the verbs of manner of dying, let us now summarise how they contradict LRH's VAH instead of confirming it. According to the VAH all of the verbs that require a volitional agent as their subject should be strictly transitive; this means that it should be only the *murder* type verbs – with the exception of *kill*, which can have a non-agent subject – that do not alternate. Secondly the VAH entails that all of the verbs in question that do not require a volitional agent subject should have both a transitive and intransitive use; this means that the *poison* type verbs, *kill* and the verbs of manner of dying should alternate. However, in reality it is only the verbs of manner of dying that do alternate – and, to make matters worse, it might well be the case that even these do not exhibit the causative alternation, as we will see below –, whereas no other verbs of killing do. Therefore we can

⁵ Of course speakers frequently do describe traffic accidents as murders, e.g. *A drunk driver murdered a Hopkins student in October of 2009 in a hit-and-run*. However, these speakers interpret and describe the event in question not as an accident but as a crime willingly perpetrated by the driver, and thus the above characterisation still holds for such examples.

⁶ Thus these verbs represent a counterexample to the hypothesis of manner-result complementarity; cf. the discussions of this notion in Rappaport Hovav and Levin (2010) and Beavers and Koontz-Garboden (2012).

state that the VAH fundamentally fails to account for the behavior of even those verbs (and their more general class) that LRH chose as their examples to illustrate their generalisation.

Our discussion of the VAH above shows that – whereas the VAH would without doubt serve as an attractive and elegant explanation both for the patterns observed in (14) to (16) and in (17) to (19) if it were correct – unfortunately its predictions are not borne out. In light of our data the possibility of ‘detransitivisation’ has nothing to do directly with the optionality of a volitional agent subject.

The strongest generalisation involving volitional agents that seems to be supported by the data we have examined appears to be the following instead:

- (H7) **Weakened volitional agent hypothesis:** If (but not iff) a transitive externally caused verb requires a volitional agent subject then it does not undergo the causative alternation, i.e. the *murder* type verbs do not detransitivise.

This generalisation might cover verbs we have not considered previously, in particular *cheat, rob, blackmail, extort, rape; arrest, sentence, imprison, fine, acquit*, etc. At the same time, the transitive versions of the verbs of manner of dying (like *drown, suffocate* or *starve*) raise the question whether even this relatively weak generalisation is really tenable. As we have seen, the latter verbs are almost impossible to use without a volitional agentive subject, and therefore, they should not detransitivise according to (H7); yet they have perfectly acceptable intransitive unaccusative uses.

In these latter cases, however, the generalisation as formulated above is arguably not relevant since we are likely dealing with transitivity of primarily intransitive verbs rather than the opposite process or a non-directed one. LRH observe the regularity that transitivised verbs require a true agent in connection with the transitive causative directional versions of verbs of manner of motion (*march* and *jump*), and this could be a plausible explanation of why the transitive versions of the verbs of manner of dying have such a subject as well. On the other hand, it is unclear whether treating verbs like *drown* on a par with the *march* class is the correct approach, since there are also differences between them: the intransitive versions of the verbs of motion describe a change that is the result of a voluntary action, whereas for the intransitive verbs of dying the change is not voluntary, it results from environmental factors. We will leave the question whether the verbs of dying exhibit the causative alternation open here, since it does not affect the plausibility of our argumentation either way.

3.4 *Reversing the Selectional Restrictions Argument*

Up to this point we have argued that the explanation proposed by LRH for the difference in selectional restrictions exemplified in (14) to (16) is untenable. The question remains, then, whether there is an alternative explanation for these contrasts between the intransitive and the transitive use of alternating verbs which would still support LRH’s causative hypothesis. First of all it should be pointed out that there is nothing in the general mechanism used by LRH to derive inchoative forms – which simply consists in existentially binding the causer argument, as outlined in Section 2 above – that would automatically suggest a solution. Since (apart from this binding) nothing is assumed to be added to the semantic content of the transitive verb in the course of its detransitivisation, it could normally be expected that the selectional restrictions concerning the patient argument do not change at all. A possible, but clearly wrong solution could assume that detransitivisation should not be possible for events where the causer must be made explicit, i.e. in cases where the event is not conceivable without a

specific causer (agentive, volitional or otherwise). This simply cannot be true for the verb phrases in question since the causer may very well remain implicit, as in the passive examples in (41).

- (41) a. The world record was broken yesterday.
 b. My mind was opened during my four years of getting a math degree.
 <http://muckrack.com/JGWhiteAP/statuses/423115868566876160>,
 Retrieved March 23, 2014
 c. The table was cleared.

Whereas we are not aware of any good alternative explanation consistent with the causative hypothesis, we should point out that it is quite straightforward to turn around LRH's selectional restrictions argument and use it as evidence for a transitivity analysis of the causative alternation, i.e. the exact opposite of what LRH have in mind. They observe the following contrast between two pairs of examples:

- (42) a. The dressmaker lengthened the skirt.
 b. *The skirt lengthened.
 (43) a. The mad scientist lengthened the days.
 b. The days lengthened.

(LRH 86, (14), (15), repeated on p. 105 as (57), (58))

LRH claim that the unacceptability of (42b) is explained by the VAH: "Skirts can only be lengthened through the intervention of an agent; hence, the verb *lengthen* as applied to skirts is not typically used intransitively" (LRH 105). Similarly, the acceptability of (43b) is supposed to follow from the VAH by the following logic: "Days, on the other hand, become longer as the earth progresses through a certain part of its orbit around the sun, something that happens without the intervention of an animate agent. And *lengthen* as applied to days is typically used intransitively, although in a science fiction context where artificial manipulation of the length of days is possible, transitive uses might be found, as in [(43a)]" (ibid.).

First of all it should be clear that the VAH cannot explain the unacceptability of (42b). Apart from our claim that the VAH does not work in the first place, this is also shown by clear counterexamples like the following:

- (44) By the medieval and early modern times, skirts became longer and more modest, symbolising femininity.

This is a context in which the 'lengthening' of skirts is not attributed to specific animate agents but to abstract factors like fashion or the 'spirit of the time'. Yet replacing *became longer* by *lengthened* in this context is out, or at best marginally acceptable (and certainly much worse than the *become* construction), indicating that whatever excludes (43b) cannot be the purported VAH, since (44) should be one of the 'not typical' contexts where the VAH would predict intransitive unaccusative *lengthen* to be perfect.

On the other hand, although LRH present (43a,b) as an example that shows that detransitivisation is generally possible for the verb *lengthen* (as opposed to 42b), there is in fact a striking difference in acceptability between *lengthened the days* and *the days lengthened*. With *days* as theme, the intransitive unaccusative use is completely natural,

whereas the transitive version requires a bizarre context as in (43a) or receives a metaphorical interpretation as in (45), or is stylistically marked or – at least slightly – poetic due to the personification of the subject, as in (46).

(45) Praised is the One who has kept me alive and lengthened my days.

(46) Spring lengthened the days.

Even if we try to construct a factually correct subject for the event in question, the transitive causative verb is clearly worse than the periphrastic causative construction:

(47) The Earth's axis being tilted relative to its orbital plane causes the days to lengthen/lengthens the days in spring.

In fact it seems that (in a way reminiscent of the verbs of manner of dying) *lengthen* strongly demands an agent subject. This selectional restriction can be ignored, but doing so leads to stylistic markedness and uncertainty about the sentence's acceptability, as usual. For LRH this raises the question how it should be possible to derive, simply by binding the causer argument, an intransitive use that all but excludes an agent causer from a transitive use that demands one. Or, to paraphrase LRH's argument which we have quoted above: assuming that we consider the marked and barely acceptable transitive use of *lengthen the days* as basic, it should be difficult to derive the perfectly natural and acceptable intransitive use in (43b), short of asserting that the transitive and intransitive uses of *lengthen* are not related.

Note that if we assumed contrary to LRH that the intransitive form is basic and non-causative, whereas transitive *lengthen* is derived, i.e. that there is a transitivisation operation at work in this example, and that the causative component it introduces requires a 'true agent' argument, then the facts observed in (43) and (45–47) follow trivially. According to this approach, since the transitive verb requires an agent subject, transitivisation only makes sense if we can conceive of the event described as being caused by the actions of an agent. This does not work as an input filter for the operation, like LRH handle the VAH, but is simply what the transitive verb means. The fact that the transitive causative form of *lengthen* is in general highly marked with *days* as theme trivially follows from the fact that days cannot be actively caused to lengthen, as their lengthening is an automatically occurring natural process. The markedness of (47) and the personification effect in (46) follow from the suggested semantic representation of transitive *lengthen*.

Thus we conclude that in this particular case the evidence used by LRH to support the causative hypothesis in fact appears to point toward the exact opposite conclusion, assuming that we insist on the idea that the intransitive and the transitive version of the alternating verbs are strictly derivationally related. Combined with LRH's observation that the suggested transitivisation approach cannot derive, on the other hand, the transitive use in (42a), cases like those exemplified in (42) through (47) present a serious challenge for any strictly derivational approach to the causative alternation, whatever direction they assume. We will examine further evidence supporting this conclusion in the next subsection.

3.5 Counterexamples against the Asymmetry Hypothesis, and the Problem of External versus Internal Causation

What we have established so far is that even if LRH's claim, according to which for all themes of intransitive verbs participating in the causative alternation we can find a corresponding transitive variant with the same theme, should be consistent with the facts, this would not tell us anything regarding the truth or falsity of the causative hypothesis. The reason for this is, firstly, that the explanation by which LRH connect their observations regarding the selectional restrictions of the alternating verbs with the causative hypothesis, i.e. the voluntary agent hypothesis, was found to be highly problematic, and thus we lack a direct link between the observations in (14) to (16) and the CH. Secondly, as we have demonstrated in connection with the purported causative alternation verb *lengthen*, it is sometimes hard to see whether the examples adduced by LRH for the CH actually support it or rather point toward the exact opposite theory.

Now we will question the truth of LRH's empirical claim itself. As LRH state, "it is not difficult to find alternating verbs where the selectional restrictions on the subject of the intransitive variant and the object of the transitive variant are not identical" (LRH 85). Whereas they present a number of examples where the intransitive use is not acceptable for certain theme arguments that the transitive version allows, it is likewise not difficult to find counterexamples where the selectional restrictions associated with the intransitive version are less strict, i.e. where an intransitive alternating verb allows a subject that normally cannot appear as the object of its transitive counterpart:

- (48) a. His voice broke.
b. *Age broke his voice.
- (49) a. The couple broke up last year.
b. *Poverty broke the couple up last year.
- (50) a. The MPs broke away to form a new party.
b. *Dissatisfaction broke the MPs away (to form a new party).
- (51) a. The tulip opened.
b. *Sunshine opened the tulip.
- (52) a. The regime opened with a good amount of unsettlement,
b. *The dictator opened the regime (with a good amount of unsettlement).
- (53) a. He cracked under interrogation.
b. *The police officer cracked him (under interrogation).
- (54) a. I sank into depression.
b. *The bad news sank me into depression.
- (55) a. The girl dropped out of school because of too much homework.
b. *Too much homework dropped the girl out of school.
- (56) a. The weather cleared.
b. *The storm cleared the weather.

The examples containing the transitive versions of the verbs above range from unusual and stylistically marked to completely ungrammatical; like in earlier similar cases, it is impossible to draw a clear line between the acceptable and the unacceptable sentences, their acceptance varies between speakers, and highly unusual contexts might help in making them more acceptable. We acknowledge these uncertainties but use the * sign to indicate the highly marked or ungrammatical status of these examples for the sake of simplicity. In this we

follow LRH, who also mark examples like (14b), (15b) and (16b) with a *, even though these are not completely impossible either, only very unusual in normal use. In fact there are naturally occurring examples like (57), where the intransitive inchoative verb *clear* occurs with *the table* as theme, and (58), where the intransitive inchoative verb *break* occurs with *the contract* as theme. Our point is that however we characterise the status of examples like (14b) to (16b), our examples in (48b) to (56b) are no better.

- (57) We finally got her attention and were told to wait while the table cleared.
http://calendar.denverpost.com/denver_co/venues/show/27076-the-ninth-door,
 Retrieved on March 23, 2014)
- (58) The contract broke because a further 5-figure sum was never paid.
http://www.rolling-maul.com/forum_posts.asp?TID=1988&title=london-scottish,
 Retrieved on March 23, 2014)

The point of the examples in (48) to (56) is, of course, that given the unacceptability of the transitive versions and LRH's assumption that the intransitive use in alternating verbs is never 'basic', it seems very difficult to derive the intransitive use short of asserting that the two uses are not related directly, by something like the detransitivisation operation. The question is thus how these examples could be explained away within LRH's framework so that the basic idea of the CH can still be maintained.

Since LRH's generalisation states that it is the externally caused alternating verbs that are always primarily transitive, one possible solution consistent with the CH would be to claim that the intransitive verbs appearing in (48a) to (56a) are not externally but 'internally caused' verbs that happen to have the same form and to express a similar concept to an alternating externally caused verb.⁷ As we have mentioned in Section 2, 'internally caused' verbs as defined by LRH are intransitive and monadic (i.e. their event structure does not in fact contain a causing subevent), and they do not participate in the causative alternation in general. In addition, the intransitive use of *open* in (51) belongs to the same semantic field as the verbs *blossom*, *bloom* and *flower* that LRH discuss as examples of 'internally caused changes of state' (p. 97), making the suggested analysis even more plausible. Other cases like the physical change in (48) and the psychological change in (53) could also reasonably be considered internally caused, similarly to LRH's examples *blush* (p. 97) and *shudder* (p. 100). Furthermore, the authors also mention that events are often "compatible with more than one cognitive construal" and, more specifically, some "can be construed as either internally or externally caused." They discuss the verb *deteriorate* in this context, which is normally exclusively intransitive, but is sporadically used by some speakers as a transitive causative verb (p. 99).

Although this approach superficially supports the CH by declaring (48) to (56) irrelevant, it raises serious methodological and conceptual problems.

First of all, the very **notion of internally vs. externally caused events** is so **vague** that it cannot be used as the basis of a proper scientific argument. LRH and the later literature use this pair of concepts essentially to account for the difference between transitive-only and causative alternation verbs on the one hand and intransitive-only verbs on the other. If we conceptualize an event as externally caused, it is expressed in language by a verb with a dyadic event structure and a primarily transitive event structure, which in turn can undergo

⁷ We adopt LRH's practice of using the 'sloppy' shorthand forms 'internally/externally caused verb' for the accurate but more complicated phrase 'verb describing an internally/externally caused eventuality'.

detransitivisation via the causative alternation. Thus LRH attempt to explain the observed facts by recourse to the conceptual structure of the events involved. This, however, is our crucial problem with their theory: the conceptualisation of an event is not readily accessible to introspection, and relying predominantly or exclusively on linguistic evidence almost certainly leads to circular reasoning. We will illustrate this by the examples already discussed in section 2 above. According to LRH, in an ‘internally caused’ verb “some property inherent to the argument of the verb is ‘responsible’ for bringing about the eventuality”. If this is indeed what ‘internally caused’ means, then it is very hard to tell about most events whether they can be correctly characterised in this way, and generally it is not whole event classes as expressed by verbs that are externally caused, but this is rather the property of characterisations of specific events.

LRH, for instance, claim that *blush* is an internally caused verb. This is reasonable since blushing is always the result of embarrassment, which is an internal psychological state; however, it is equally true that this embarrassment is essentially always due to some external factor, namely, typically something that was said, or some action that was carried out by the blushing person, or possibly somebody else. Moreover, this external factor might have been produced specifically in order to make the person embarrassed and blush. How should we know whether it is the embarrassment or the external causes that is relevant to the classification of the event as internally or externally caused? Should we not expect frequent variation in the classification of this event by various speakers, and thus variation in the argument structure of *blush*? A similar point can be made about the verb *sneeze*. If somebody sneezes, it can certainly be internally caused with no sensible external cause, especially when a person sneezes because they have caught a cold. However, when pepper or dust, for instance, makes somebody sneeze, these represent a very direct and obvious external cause. Why then is it not the case that in the illness-related cases *sneeze* is internally caused and intransitive, whereas in situations where the sneezing is caused by an external annoyance or an allergic reaction the event is conceptualised as externally caused and thus either transitive-only or alternating? As for an ‘externally caused’ verb like *open*, which is supposed to “imply the existence of an “external cause” with immediate control over bringing about the eventuality described by the verb”, how ‘immediate’ is the control of the book over the opening of the mind of the reader in LRH’s example (15)? Is it not the case that some property inherent to the reader – e.g. their thought processes while reading the book – is responsible for bringing about this eventuality? Or in a sports competition where tenths or hundredths of seconds lie between the earlier world record and the one just achieved by an athlete, does the athlete really have immediate control over the breaking of the record? Is it not simply the case that the athlete is trying to achieve the best time possible, and the record ‘breaks’ due to some property inherent in itself, namely, that it happens to be slightly more than the time achieved by the athlete in the course of an independently existing eventuality? Or in what sense and to what degree is a person using a towel (or a hairdryer) to dry their hair (or a damp wall) in immediate control of bringing about the drying? What if the theme does not become dry (or not as dry as they would like it to)?

Whereas we do not doubt that there are ‘clear cases’ that fit LRH’s notions of internally vs. externally caused events (or even verbs), nor that in these cases the presumed correlation between the classification of the event and its argument structure might indeed hold at least in the majority of cases, we believe that the above questions – and similar ones that can be legitimately raised in connection with numerous events and verbs, including those appearing in our examples (48) to (56) – are essentially impossible to decide. We believe that it is highly problematic in this context that in cases that are either unclear, or that appear to be clear

enough with respect to the externally vs. internally caused nature of the event, but where the argument structure of the verb in question differs from what is predicted, LRH use argument structure facts as the **motivation of their claims concerning the conceptual representation** of an event; again, see their discussion of transitive *deteriorate* (p. 99) for a relevant example. The authors even claim that cross-linguistic differences with regard to whether it is the intransitive or the transitive version of a verb like *melt* that is morphologically simple (in languages where the transitive and intransitive uses of verbs are related by morphological derivation or some other visible morphosyntactic process) indicate that the language in question describes the event as either internally or externally caused. It should be stressed, however, that unless the assumed semantic or conceptual differences between verbs that have different argument structures are supported by clear independent evidence, i.e. evidence coming from observations not directly related to argument structure, then this reasoning is **circular** and amounts to **no more than an attempt to rationalise** the observed syntactic facts using fundamentally unverifiable semantic claims.

Apart from these reservations regarding the notion of externally vs. internally caused events, we also see a more general issue in trying to explain away the counterexamples in (48) to (56) either by claiming that these are non-alternating ‘internally caused’ counterparts of the alternating externally caused verbs, or that they represent an idiosyncratic intransitive-only use of the alternating verb: doing so indirectly questions the validity of the selectional restrictions argument for the causative hypothesis itself. Notice that maintaining the position that e.g. the *open* in (51a) is an internally caused version of the ‘normal’ externally caused *open* in fact means to accept that the two verbs are not related to each other in the sense of the quotation from LRH that we have referred to several times above. As we saw in Section 2, an internally caused verb is monadic whereas an externally caused verb is dyadic. LRH obviously do not assume that a mechanism exists by which a monadic structure could be derived from a dyadic one. They do state that there is a mechanism to derive a dyadic, externally caused structure from a monadic, internally caused one (this is how they account for the transitive versions of verbs of manner of motion), but naturally they cannot use it to derive transitive *open* from internally caused intransitive *open* since that would be diametrically opposed to the CH. Therefore the two verbs in question, internally caused and externally caused *open* (just like the two discussed versions of *deteriorate* and obviously all other verbs that have an intransitive internally caused and an alternating externally caused version) indeed **cannot be related to each other** and represent a peculiar case of **homonymy**, assuming that we define homonymy as identical forms with separate, unrelated semantic representations. But if this were a valid option for these pairs of verbs and we thus had an internally caused version of *open* (and other alternating verbs) at our disposal, shouldn’t this internally caused *open* encompass those purported uses of externally caused intransitive *open* where no volitionally acting causer exists at all that could be responsible for the event that something opens? (As a trivial example, consider a door that keeps opening by itself because it is badly balanced.) Or more generally, where to draw the line between the externally caused and the internally caused *open*? In other words, we believe that if LRH appealed to homonymy in the case of examples like (48) through (56), this would render their account of the causative alternation, and in particular the idea that the intransitive versions of the alternating verbs are dyadic, much less plausible. Furthermore, it would beg the question why we should not appeal to homonymy in examples like (14a) and (15a) as well, claiming that the transitive-only arguments appearing there – just like the intransitive-only arguments appearing in (48a) through (56a) – are not compatible with the meaning of normal, alternating *break* and *open* at all, and what we see in these examples are separate verbs that are only

metaphorically connected (but not lexically or syntactically related) to alternating *break* and *open*. This step in turn would trivially lead to what we believe to be a reasonable explanation for the differences in selectional restrictions observed in at least (14), (15) and possibly all of (48) to (56), and would essentially evaporate the selectional restrictions argument for the CH. An analogous argument to the one above could easily be constructed if we tried to explain away (48) to (56) referring to idiosyncrasy instead of internally/externally caused verbs.

4 Cross-Linguistic Evidence from Hungarian: Morphology and Selectional Restrictions

4.1 *The Morphology and Semantics of Causative and Unaccusative Verbs in Hungarian*

In the following subsection we will examine whether morphological relationships between verbs with various argument structures confirm the CH in one specific language, namely, Hungarian. Although LRH do not claim that their theory of the causative alternation is true for all languages, they obviously believe that the CH represents a cross-linguistically valid tendency, and they also frequently refer to evidence from other languages (where the intransitive inchoative version of a verb is morphologically derived from the transitive version) in order to support the validity of the CH in English. The picture we see in Hungarian, however, does not confirm the CH but points in the same direction as the conclusion we indicated above, namely, that there is no derivational relationship in general between the causative and the corresponding inchoative verbs in either direction.

Hungarian is a language with a relatively rich inflectional and derivational morphological system. In the verbal domain, in addition to the well-documented and much discussed fact that it is able to differentiate atelic from telic (or, alternatively, imperfective from perfective) versions of verbs by systematic lexical-morphological means, it also marks various *Aktionsarten* (such as iterative or semelfactive) through derivation, and it also has several derivational patterns – which are partly systematic and in some cases productive – that mark causativisation or anticausativisation.

As pointed out by Horvath and Siloni (2010), Hungarian provides a morphologically uniform and systematic process of causativisation using the derivational suffix *-tat/-tet* or *-at/-et* which derives transitive causative verbs from (intransitive or transitive) unergatives. This process is the Hungarian equivalent of the causativisation of the *march* type verbs (and possibly other classes) also discussed by LRH and mentioned in this paper above;⁸ it has a similar meaning to the ‘make X do something’ construction, but differs from the latter in that it is ‘monoclausal’, i.e. does not involve syntactic subordination. As opposed to causativisation, which is marked uniformly, Hungarian also has pairs of causative-unaccusative verbs which share the same morphological root and contain morphological markings that “occur in an unpredictable fashion on the transitive and/or on the unaccusative member of the alternation”. Horvath and Siloni illustrate this with the following representative examples:

⁸ Horvath and Siloni refer to this derivation as the causative alternation, whereas they refer to the alternation between causative and unaccusative verbs (i.e. the process that LRH call the causative alternation) fittingly as the causative-unaccusative alternation.

(59)	Transitive	Unaccusative
a.	old-Ø 'dissolve'	old-ód(-ik)
b.	olv-aszt 'melt'	olv-ad
c.	fejl-eszt 'develop'	fejl-őd(-ik)
d.	szár-ít 'dry'	szár-ad
e.	nyí-t 'open'	nyí-l(-ik)
f.	fagy-aszt 'freeze'	fagy
g.	zsugor-ít 'shrink'	zsugor-od(-ik)
h.	tör-Ø 'break'	tör(-ik)

(Horvath & Siloni 2010, 158–159)

In a) it is the transitive verb that is morphologically simple, and the intransitive verb contains a (productive) derivational suffix. In b) to e) and g) both the transitive and the intransitive verb contain a suffix, and neither form is morphologically simpler than the other or in any way basic relative to the other; we will refer to these as **'equipollent pairs'** in the following. Example f) is a case where the intransitive form consists of just the root, whereas the transitive form contains an additional derivational suffix. All of the above-mentioned types encompass numerous pairs of Hungarian verbs, i.e. the above list is no more than a small sample of typical cases; furthermore, the list of patterns is not complete either, i.e. there are roots appearing with other transitive/unaccusative suffixes, e.g. *-ít/-Ø*, *-ít/-ul*, *-t/-Ø*, etc. Finally, pattern h), which only appears with a handful of verbs, most importantly Hungarian 'break' (and a few loan verbs like *teleportál* 'teleport', *levitál* 'levitate'), is an analogue of the English causative alternation in the sense that both verbs simply consist of the verb root and nothing else.⁹

Thus it is clear (as has been pointed out repeatedly e.g. by Horvath and Siloni 2011, 2013) that in Hungarian there is no morphological evidence indicating that the causative alternation should go either from transitive to intransitive or in the opposite direction. In fact we find **evidence for both directions**: (59a) for detransitivisation, (59f) and several other patterns not listed here for causativisation along with transitivity. However, in most cases (i.e. in the equipollent pairs) morphological evidence indicates that we have **two separate derivational**

⁹ The *-ik* suffix appearing with the unaccusative version in several lines, including h), is a third person singular subject agreement suffix that is typically used in unaccusative verbs and some unergatives, but never causatives. The parentheses indicate that it is not part of the verb stem but only appears in the dictionary form of the verb, i.e. present tense indicative 3rd person singular. In other words, it functions typically as an inflectional unaccusative (or more generally non-causative) marker. Although *-ik* is never optional with the verbs above, it is worth mentioning that in some verbs it is in fact optional, and it is often (though not necessarily) dropped from the telic, obligatorily transitive version of unergative verbs (e.g. *megeesz* 'eat', *lejátsz* 'play', *elbuk* 'fail') the base atelic, optionally transitive or intransitive version of which necessarily ends in *-ik* in the relevant form (*eszik* 'eat', *játszik* 'play', *bukik* 'fail'). Note that the telic version can be analyzed as having a causative event structure, cf. Pethő & Kardos (2008, 2014).

processes, one deriving the causative version, the other the unaccusative version, from a common root (cf. (H3) in Section 2).

Although this might or might not represent conclusive evidence with regard to the direction of derivation, we should note that native speaker intuitions about which meaning is secondary to the other do not necessarily agree with the morphological picture. It seems that for the pattern in (59a) the transitive version is basic in the sense that if X is the transitive verb and Y is the intransitive verb, it is quite natural to paraphrase the intransitive version as ‘become X-ed’, whereas it is less appropriate to paraphrase the transitive as ‘cause to Y’. By contrast, for all equipollent patterns as well as the pattern where the intransitive is basic, i.e. (59b) to (59g), it is quite natural to say that the transitive means ‘cause to Y’, whereas it is positively bizarre to paraphrase the intransitive as ‘become X-ed’. For pattern (59h) we have no firm intuitions either way, the transitive and the intransitive version can both be paraphrased reasonably well.

If a new verb enters the language or we coin one, it is equally possible to derive productively a causative version if the verb is intransitive or to derive an unaccusative version if the verb is transitive causative. For example, we can derive from the transitive borrowed verb *törnöl* ‘turn undead (in a role-playing context)’ its unaccusative counterpart *törnöl-őd(-ik)* ‘get turned’,¹⁰ whereas for the intransitive-only, unaccusative verb *becsődöl* ‘go bankrupt’ we can freely derive a transitive counterpart *becsődöl-tet* ‘cause to go bankrupt’.¹¹

As for the selectional restrictions data, the closest Hungarian equivalents of (14) confirm our earlier comments that what we are dealing with in these cases is not simply regular, normal *break* but rather a separate, independently lexicalised, metaphorically motivated version of that verb. The same is also true for (48a). In Hungarian it is indeed not the general equivalent of *break* – namely, *tör* – that appears with these themes but other verbs:

- (60) a. Megsértette a szerződést.
 injured.3SG the contract.ACC
 lit. ‘He injured/violated the contract.’
 b. Megdöntötte a rekordot.
 toppled.3SG the record.ACC
 lit. ‘He toppled the record.’
 c. Megszegte az ígéretét.
 cut.3SG the promise.his.ACC
 lit. ‘He cut his promise.’
 d. Mutál a hangja.
 mutates the voice.his.NOM
 lit. ‘His voice is mutating.’

Furthermore, as opposed to English, (60a,b) do participate in the causative alternation:

¹⁰ In fact this verb also has a homonym, which is a borrowed verb used in poker contexts. Both verbs are rare, strictly technical terms for obvious reasons, so it is quite natural if you are a Hungarian speaker but have never heard of them. Our point is exactly that even if you make up a new verb with a compatible meaning out of the blue, it is a possible input for the detransitivisation pattern above, i.e. the process is very productive.

¹¹ Note that the suffix *-tat/-tet*, which is also used to causativise unergatives, doubles as the productive suffix that derives new transitive causatives versions of unaccusatives that do not yet have one.

- (61) a. Sérült a szerződés.
 was.injured.3SG the contract.NOM
 lit. 'The contract was injured/violated.'¹²
 b. Megdőlt a rekord.
 fell.3SG the record.NOM
 lit. 'The record fell over.'

This represents a serious problem for any theory trying to derive the facts in (14) from the conceptual properties of the event description, like LRH's. What the examples in (60) and (61) show us is that it is not because world records do not break by themselves, so to speak, that *the world record broke* is impossible in English. If these two facts were causally related, (61b) would be equally impossible, but it is in fact a perfectly acceptable and even commonly used form. Thus the explanation suggested by LRH for the unacceptability of (14b) is not in fact a valid explanation but only a seemingly plausible post hoc rationalisation of the data.

4.2 Equipollent Deadjectival Pairs and the Causative Hypothesis

LRH observe that English **verbs derived from adjectives** often participate in the causative alternation; they present a long list of such verbs (in part zero-derived from the adjective, in part derived by the suffix *-en*) on LRH 95f. They claim that verbs derived in this way are all externally caused, which is supported by their observation that they are based on **stage-level** adjectives (expressing temporary, transitory properties) rather than individual-level adjectives (describing permanent properties). Finally, this generalisation explains in LRH's framework that these verbs, being externally caused, systematically participate in the causative alternation since they fulfil the prerequisites of the detransitivising rule. Specific empirical statements that LRH 96f. make are the following: The verb *smarten* can only be based on the 'dress fashionably' sense of the adjective since the 'intelligent' sense is individual-level; *toughen* can only be based on the 'resistant to tearing' sense because the 'difficult' sense is individual-level; and the deadjectival verb *tame* does not have an inverse counterpart *wild* or *wilden* because *wild* is necessarily individual-level but *tame* is not.

Apart from the fact that there are reasons to doubt the validity of these specific claims – *smarten* is in fact commonly used in the 'become intelligent' sense at least in the phrasal verb *smarten up*, and there is no difference whatsoever between the two meanings of *tough*, as well as between *tame* and *wild* with respect to the stage-level versus individual-level distinction¹³ – it is worth pointing out that the above observations are specific to English and do not hold across languages. In Hungarian in particular we find no evidence indicating that deadjectival verbs are primarily transitive. Most deadjectival verbs form equipollent pairs with the

¹² Of course the Hungarian verb is not in any sense a passive but an unaccusative. We had to approximate its meaning using a passive because English *violate* and *injure* do not have an unaccusative counterpart.

¹³ This is especially trivial to show in the *tame* versus *wild* distinction. Assuming that *tame* is 'not necessarily' individual-level, i.e. possibly stage-level, it must have a contrary counterpart that is also stage-level for it to make sense, otherwise a transition between stages, which is at the core of the notion of a stage-level predicate, could not occur. This contrary counterpart of *tame* is of course *wild*, so regardless of whether we believe that the adjective *tame* is individual-level or stage-level, *wild* will have exactly the same status. The real difference between *wild* and *tame* lies not in the stage-level versus individual-level distinction but in the fact that ('externally') causing an animal to become *tame* is a more obviously useful activity than making something or someone *wild*, which (loosely speaking) explains the fact that the lexicalised verb *tame* is part of the English lexicon but *wild/wilden* is not. *Wilden* can be derived productively, as shown by Google hits where this verb does occasionally appear with the predicted meaning.

derivational suffix pairs *-ít* (causative transitive) and *-ul/-ül* or *-odik/-edik* (unaccusative), which attach to the adjectival root. The meaning of these suffixes can thus be adequately described as ‘cause to become X’ and ‘become X’ respectively, the adjective itself being X; therefore there is no morphological reason to assume that one of the meanings is derived from the other, nor does the intransitive version entail that the change was ‘externally caused’ in LRH’s sense. Some examples include *vadít / vadul* ‘wild’, *szelídít / szelídül* ‘tame’, *gyorsít / gyorsul* ‘quick, fast’, *szabadít / szabadul* ‘free’, *szépít / szépül* ‘beautiful’, *sárgít / sárgul* ‘yellow’, *zöldít / zöldül* ‘green’, *szűkít / szűkül* ‘narrow’, *rövidít / rövidül* ‘short’, *tisztít / tisztul* ‘clean’, *némít / némul* ‘mute’, *süketít / süketül* ‘deaf’, *özvegyít / özvegyül* ‘widow’, *ferdít / ferdül* ‘bent’, *okosít / okosodik* ‘intelligent’, *lelkesít / lelkesedik* ‘enthusiastic’, *nehézít / nehezedik* ‘heavy, difficult’, *keményít / keményedik* or *keményszik* ‘hard’, *csinosít / csinosodik* ‘pretty’, *bátorít / bátorodik* ‘brave’, *szomorít / szomorodik* ‘sad’, *szegényít / szegényedik* ‘poor’, *feketít / feketedik* ‘black’, *fehérít / fehéredik* ‘white’, *színesít / színesedik* ‘colored, colorful’, *fényesít / fényesedik* ‘bright’, *melegít / melegedik* (or *melegszik*) ‘warm’, *hosszabbít / hosszabbodik* ‘longer’, *nagyobbít / nagyobbodik* ‘bigger’.¹⁴

Many of the underlying adjectives are not stage-level in the sense that they are not transient but permanent properties of the objects they describe, although naturally they are not unchangeable properties, otherwise these deadjectival verbs would not make any sense. Note that deadjectival verbs that LRH claim not to exist in English are perfectly acceptable in Hungarian, including *tame*, *wild*, *difficult* and *intelligent*. As for *wild*, both the stage-level and the individual-level meaning of this adjective have corresponding lexicalised alternating deadjectival verbs; the verbs are (arbitrarily) distinguished by different particles: *megvadít / megvadul* ‘become/make wild in the sense of behaving in an uncontrolled, possibly violent way’ and *elvadít / elvadul* ‘become/make wild of an animal in the sense of not being tame or domesticated anymore’.

Some deadjectival verbs derived with the above suffixes lack a transitive or an intransitive counterpart for no particular reason (beside chance). For example, intransitive *durvul* ‘become rough, coarse’, *lilul* ‘become purple’ and *lustul* ‘become lazy’ are parts of the Hungarian lexicon but *durvít*, *lilit*, *lustít* are not (they can be derived occasionally, either by the application of a productive rule or by analogy, depending on what theory of morphology one prefers). By contrast, the causative deadjectival verbs *könnyít* ‘make easy, light’, *kurtít* ‘make short’, *ködösít* ‘make nebulous’ do not have an unaccusative counterpart. In yet other cases the deadjectival forms have a completely idiosyncratic meaning not related to the meaning of the root anymore. For example, the root *közös* ‘common’ is the base of the *-ít*-derived verb *kiközösít* ‘exclude from a group’¹⁵ and the *-ül*-derived verb *közösül* ‘copulate’. Similarly, the verbs derived from the adjectival root *hülye* ‘stupid, idiotic’ have – in addition to particle verb versions that behave regularly, in line with the pattern observed with the other verbs – lexicalised meanings that are completely idiosyncratic, namely, *hülyít* ‘kid’ and *hülyül* ‘behave in a silly manner’. Furthermore, some adjectives do not have lexicalised deadjectival verb counterparts at all. There is no semantic reason why this should be so, e.g. whereas there are verbs for most basic colour terms (as the above examples show), there is none for the

¹⁴ Some of these verbs are usually combined with a verb particle, others often appear without one. This is not relevant to our discussion so we ignore this aspect here. Also, for each Hungarian verb we provide the English counterpart of their adjectival or nominal morphological root.

¹⁵ We are using a particle verb here because simple *közösít* without a particle is not used and cannot readily be derived productively, i.e. with the meaning ‘make common’ (for no particular reason; it probably simply has to do with the fact that the corresponding unaccusative form is already taken and that the productively derived forms typically come in pairs, i.e. some sort of lexical blocking).

compound colour terms or most non-basic simple ones (e.g. **rózsaszínít* / **rózsaszínedik* ‘pink’; **narancssárgít* / **narancssárgul* ‘orange’; **bézsít* / **bézsül* ‘beige’; **drappít* / **drappul* ‘beige’). And although there are (either alternating, or only transitive or intransitive) verbs for some adjectives that describe psychological personality traits or states, e.g. *brave*, *enthusiastic*, *wild*, *sad*, this is not true for others, e.g. *cowardly* (**gyávít* / **gyávul*), *happy* (**vidámít* / **vidámodik*), *diligent* (**szorgalmasít* / **szorgalmasodik*).

One lesson learned from equipollent deadjectival verbs in Hungarian is that it is **not necessary to assume a universally valid process of detransitivisation** in order to be able to account for the fact that there are intransitive unaccusative verbs, even if these alternate with a transitive verb. It is a perfectly valid option, and one that is empirically strongly supported by the Hungarian verbs above, to start out from a common root and derive both the transitive and the intransitive version of an alternating verb (as well as the non-alternating verbs, of course) in an equipollent manner from this root. The root in question can be a separately existing word, e.g. an adjective like in the deadjectival verbs above, but it can also be an ‘abstract’ root that does not exist outside of the verbs in question, which is the case in the other equipollent pairs in (59).

A second lesson learned is that some (and we believe that indeed most) of the generalisations about alternating verbs that LRH formulate and attempt to explain by referring to general semantic and conceptual reasons are in fact **language-specific, random and arbitrary**. There is no general explanation beside **lexicalisation** for the fact that certain adjectives form alternating verbs in English but not in Hungarian or vice versa; that certain adjectives form verbs in Hungarian but not other verbs; or that some verbs only have a lexicalised transitive or intransitive version. These are exactly as random facts as the distribution of the deadjectival verbs between the zero-derived and the *-en*-derived pattern in English or the choice between *-ul/-ül* and *-odik/-edik* in the intransitive versions of the Hungarian verbs.

4.3. *Detransitivisation in Hungarian*

In the following section we examine some properties of the detransitivising derivational operation in Hungarian (as exemplified by (59a) above) which are related to our discussion of LRH’s theory. This operation is worth looking into especially because it corresponds most closely to the process that LRH assume to be responsible for the causative alternation in general, i.e. we start out with a lexically transitive verb and derive from it an unaccusative form. The difference is that LRH deny the lexical status of the unaccusative uses of the English causative alternation verbs, claiming that the only way to account for their properties is to derive them from the transitive uses by an on-line process (which is why they consistently talk about transitive and intransitive **uses** of a verb rather than separate transitive and intransitive verbs), whereas the Hungarian detransitivised verbs are obviously just as lexicalised as the equipollent verbs we have discussed above. In other words, the detransitivised intransitive verbs in Hungarian are not ‘derived’ from the transitive verb in the sense LRH have in mind, i.e. they do not lack a lexical representation of their own, and are thus ‘not related’ to their transitive counterpart in the sense of LRH.

As we have seen, one phenomenon that the VAH cannot account for is the fact that verbs of injuring and surface contact like *cut* or *impale* do not alternate in English (although they are used with subjects other than volitional agents). This turns out to be another contingent, i.e. non-necessary property of English, since in Hungarian these verbs often do have intransitive unaccusative versions, derived usually by the pattern in (59a). Thus the derived

intransitives are morphologically more complex – and, as we mentioned above, appear to be semantically less basic – than their transitive counterpart: *vágódik* ‘cut’, *dőfődik*, *szúródik* ‘stab, pierce’, *horzsolódik*, *karcolódik* ‘bruise, scrape’, *dörzsölődik* ‘rub’, *felnyársalódik* ‘impale’, *zúzódik* ‘crush, smash’, *vésődik* ‘hew, imprint’. It should be pointed out that not all verbs in this general semantic class are derived by the detransitivising operation. The verb pair *tép* / *tépődik* – lexical equivalents of the English causative alternation verb *tear* – are related to each other through the very same pattern, whereas their very close synonym, the verb pair *szakít* / *szakad* belongs to the equipollent type (59d). These are close synonyms in the sense that the two pairs can quite freely replace each other in the same non-idiomatic contexts, and their truth conditions are (at the very least almost) completely identical, much like in the case of *tear* and *rip* in English. In particular it is not the case that *tépődik* implies or suggests a situation with an external cause or an agent causer, whereas *szakad* does not; there is in fact no difference between the two verbs in this respect.

Although it is not completely clear what the semantic effect of the productive detransitivising derivation is, a reasonable approximation is that it indicates that the event happened accidentally or incidentally, i.e. as the result of some indirectly related event that the unaccusative verb does not describe and that is (generally or in the specific situation at hand) not directed at bringing about the result in question, which is in turn described by the verb. Thus a situation where a person is stabbed by another can only be truthfully described using the transitive verb *megszúr* but not using its unaccusative counterpart *megszúródik* or by the same verb with an instrumental subject:

- (62) a. Bertalan megszúrta Zsombort.
 Bertalan telic.pricked Zsombor.ACC
 ‘Bertalan pricked Zsombor.’
 b. % A kés megszúrta Zsombort.¹⁶
 The knife telic.pricked Zsombor.ACC
 c. % Zsombor megszúródott.
 Zsombor telic.got.pricked

Conversely, a situation where a person is walking (which can be taken to be an indirectly related causing event, one that is not described by the verb) and, while doing so, incidentally steps on a thorn and is injured by it (the thorn piercing their leg), can be described using either an instrumental subject with the transitive verb, or a non-intentional agent subject and a reflexive or body-part object with the transitive verb, or different versions of the intransitive verb:

- (63) a. Egy tövis megszúrta Zsombor lábát.
 a thorn.NOM telic.pricked Zsombor leg.his.ACC
 ‘A thorn pricked Zsombor’s leg.’
 b. Zsombor megszúrta magát (egy tövissel).
 Zsombor telic.pricked self.ACC a thorn.with
 ‘Zsombor pricked himself (with a thorn).’

¹⁶ The % sign indicates that the sentence is syntactically and semantically acceptable, but is not an appropriate description of the situation under discussion, essentially for pragmatic reasons (violation of the maxim of quantity).

- c. Zsombor megszúrta a lábát (egy tövissel).
 Zsombor telic.pricked the leg.his.ACC a thorn.with
 ‘Zsombor pricked his leg (with a thorn).’
- d. Zsombor lába megszúródott (egy tövistől).
 Zsombor leg.his.NOM telic.got.pricked a thorn.from
 ‘Zsombor’s leg got pricked (by a thorn).’
- e. Egy tövis beleszúródott Zsombor lábába.
 a thorn.NOM into.got.pricked Zsombor leg.his.into
 ‘A thorn pricked into Zsombor’s leg.’

Note incidentally that in addition to the causative-unaccusative alternation seen in (63a) and (63d) the derived intransitivised verb *szúródik* is also used in a directional construction reminiscent of the pattern we saw in (25) through (27) and their modified versions we discussed above. This indirectly supports the position that the patterns in (25) through (27) could be considered detransitivised unaccusative versions of the base verb, although they should still be distinguished from the intransitive use resulting from the causative alternation. Since the detransitivising suffix seems to require that the verb must describe what happened to the theme argument rather than something that the agent bringing about this result did, there are several verbs that do not detransitivise in this way. This includes some verbs of surface contact or injury which are relatively close in meaning to *bruise*, *scrape* and *rub* (that do exhibit the (59a) pattern). The verbs in question are transitive-only and do not have a usual alternating intransitive counterpart, e.g. *vakar* ‘scratch in order to suppress an itch’, *kapar* ‘scratch by an animal’, *karmol* ‘scratch by a person (using fingernails) or animal (using claws) in order to injure’. Our explication of the semantic effect of the detransitivising derivation provides a plausible reason why this should be expected: these transitive verbs describe the action of an agent but not a change in the patient. This does not mean that it is impossible to derive words like *vakaródik*, *kaparódik* or *karmolódik*, they just make very little sense, i.e. it is unclear in what context they could be coherently used. Similarly, the equivalents of the *murder* class verbs including *kill* are transitive only (e.g. *gyilkol* ‘murder’, *öl* ‘kill’, *kivégez* ‘execute’, *lemészárol* ‘massacre’), but their possible intransitive version is unusual and unacceptable in a somewhat different way. In this case the event clearly leads to a result – unlike scratching –, namely, the death of the patient; however, the intransitivised verbs like *gyilkolódik*, *kivégződik*, *lemészárolódik* would essentially express that the patient’s being murdered, executed or massacred happened accidentally, by itself or as a result of the circumstances, i.e. these verbs say that there was either no agent responsible for the death or they downplay the role of a possible agent in bringing about the death. These effects appear to be fundamentally incompatible with the meaning of these verbs, which focus on the motivations or actions of the agent, as we have seen for their English equivalents. In addition to these two semantically determined sets of verbs there are in fact many others that do not detransitivise with *-ódik/-ődik* in accordance with the above, i.e. verbs that are not causative and thus do not express a change (e.g. *néz* / **néződik* ‘look at’, *tart* / **tartódik* ‘hold’) or verbs describing the motivations or actions of an agent (e.g. *lop* ‘steal’, *vesz* ‘take’, *vásárol* ‘buy’).

Of course the above considerations do not explain why *öl* ‘kill’ cannot undergo detransitivisation. Whereas this is unclear, we will simply assume that this happens for the same reason why *meghal* ‘die’ cannot transitive, whatever this reason is; or in other words, we are dealing with some sort of arbitrary blocking connected to lexicalisation. Indeed lexicalisation and blocking obviously play a very important role in determining when a transitive verb can detransitivise. The detransitivised derivatives of causative transitive verbs

that form equipollent pairs with an unaccusative are usually quite bad. For example, while the *-ít*-derived deadjectival transitive verbs could in principle undergo morphological detransitivisation (e.g. *szabadítódik*, *szépítődik*, *feketítődik*), these are quite systematically not lexicalised, not used, and if used one cannot help wondering what the speaker is trying to convey with these verbs as opposed to the normal *-ul-* or *-odik*-derived forms.¹⁷ In a few other cases the detransitivised forms are commonly used as an alternative equivalent in meaning to the equipollent unaccusative verb, although there is a difference in register: the detransitivised form is felt by some speakers to be less ‘correct’ or less appropriate in a formal context, e.g. *nyit* – *nyitődik* – *nyílik* ‘open’; *alakít* – *alakítódik* – *alakul* ‘form, shape, transform’.

Despite the general productivity of this derivational process and the relatively systematic meaning contrasts observable between the transitive and intransitive verbs in question, the fact that the derived forms are often lexicalised (i.e. that they exist in the lexicon independently of the transitive base) naturally gives rise to a plethora of idiosyncrasies – idiosyncrasies that accounts like the one proposed by LRH, which denies the independent lexical representation of the ‘derived’ intransitive forms in the lexicon, would have a very hard time accounting for. For example, although the intransitivised verbs are not passives in general, the verb *íródik* ‘be written’ – which is morphologically derived from *ír* ‘write’ – does in fact express a passive meaning and is also irregular in allowing a *by*-phrase (with the postposition *által*) with its past participle, which is normally only possible for transitive verbs. Not only is the meaning of the verb *játszódik* ‘take place, happen’ – which is derived from *játszik* ‘play’ – not predictable based on the meaning of its base verb and the usual semantic effect of the derivation, but the base verb is not even a causative transitive verb, so it should not have been possible to derive the intransitive in the first place. Similarly, the unaccusative verb *kitudódik* ‘be revealed, become known (of a former secret)’, whereas containing the (non-causative transitive) verb root *tud* ‘know’, is obviously not derived from a base causative transitive **kitud*, since the latter simply does not exist. In yet another typical case *-ódik* is just redundant, i.e. it does not add anything to the meaning of the already intransitive unaccusative base: *lát* ‘see’ – *látsz(-ik)* ‘appear, be visible’ – *látszódik* ‘appear, be visible’. In other cases a polysemous transitive causative verb has both a detransitivised and an equipollent counterpart, which divide up the transitive verb’s meanings in an unpredictable way, e.g. *sért* ‘injure, insult’ – *sértődik* ‘feel insulted, offended’ – *sérül* ‘get injured’. There are numerous transitive causative verbs with an intransitive and sometimes, but not always unaccusative *-ódik/-ődik*-derived counterpart that is not the regular detransitivised version of the former, but has an arbitrary, idiosyncratic meaning, e.g. *rág* ‘chew’ – *rágódik* ‘pine away’; *képzél* ‘imagine’ – *képződik* ‘hallucinate’; *tör* ‘break’ – *törődik* ‘care’; *szeg* ‘cut’ – *szegődik* ‘take up a certain job’; *végez* ‘carry out, finish’ – *végződik* ‘end (in some particular way)’.

¹⁷ At the same time it should be noted that occasionally the detransitivised forms are used as a passive paraphrase, instead of the usual passive-like construction in Hungarian, which is formed with the active transitive verb and a general 3rd person plural subject. This passive use of detransitivised verbs is not only relatively rare (i.e. much less frequent than the passive-like construction) but also considered non-standard and ‘incorrect’ by some speakers. Note that in this specific use, as opposed to all others discussed in this section, it is reasonable to assume that the detransitivised verb’s meaning contains a causative element, whatever this means in terms of its semantic, event structure and argument structure representation.

4.4 *The Implausibility of Derivational Accounts of the Causative Alternation*

Summing up the last section of our paper so far, we have seen no evidence in Hungarian for LRH's claim that in the causative alternation it is necessarily the transitive version that is basic and the one from which the intransitive version is derived; nor for their claim that the intransitive unaccusative version contains a causative meaning component (either in the equipollent or the detransitivising case); nor that the semantic restrictions and regularities assumed by LRH for the causative alternation are universally valid. But most importantly, we do not see any reason to agree with LRH's position that a theory of the causative alternation should be preferred which insists on **deriving one use** of an alternating verb **from another**. In Hungarian in particular it is completely obvious for all causative-unaccusative pairs (and this includes the detransitivised cases as well), that – apart from the occasional productive derivation – the intransitive as well as the transitive versions are lexicalised, i.e. listed in the lexicon rather than derived on the fly whenever they are used. This is so obvious because of the unquestionable fact that if the verbs in question were not lexicalised then it simply could not be predicted for either form which of the several possible derivational morphemes they should be derived with. Since there is essentially no disagreement between speakers of Hungarian in the choice of the derivational morpheme, nor are there any strong rules for the choice of any of the derivational morphemes discussed, the only account compatible with the empirical data is one that assumes **ubiquitous lexicalisation**. This account is also supported by the numerous cases where not only the form but also the meaning of an alternating verb is not perfectly predictable.

Despite the all but self-evident fact that lexicalisation is ubiquitous in Hungarian causative and unaccusative verbs, there are also widespread **systematic patterns** in Hungarian, just like in English. In particular, it is very clear that even though the intransitive and transitive verbs are both lexicalised, the overwhelming majority of unaccusatives appears in pairs with causatives, and causatives that describe the causation of a change of state also overwhelmingly alternate with an unaccusative. The verbs appearing in such pairs share more or less the same root, and the derivational suffix attached to the root – while the choice of the specific suffix is unpredictable – signals unambiguously whether the verb is the causative or the unaccusative half of the pair. In other words: Whereas the choice of *-ít, -t, -tat/-tet* and *-aszt/-eszt* is more or less perfectly random, the verb marked by this affix will always be the causative member of a pair, whereas the suffixes *-ódik/-ődik, -ul/-ül, -l, -od/-ed* and others unambiguously mark the unaccusative member, as does the agreement suffix *-ik* in the 3rd person singular form. If a verb stem ends in a zero affix, its status will always be the opposite of the pair's other member, which always ends in one of the unambiguous suffixes. With respect to the semantic properties of the alternating verbs, it is systematically true (apart from the numerous idiosyncrasies that are due to lexicalization) that the meaning of the intransitive verb is 'BE/BECOME P(y)' whereas the meaning of the transitive verb is 'x CAUSE-TO BE/BECOME P(y)', where P is some property that may or may not be lexicalised by the root. This proves that a systematic causative alternation between intransitive and transitive verbs is very much possible even if both the transitive and the intransitive versions of all involved verbs are lexicalised, or to put it another way, the observation that such an alternation is highly systematic **does not necessitate** – and indeed is not even sufficient to motivate – **the assumption that this systematicity results from the constant application of lexical derivational rules**. Consequently these rules should fall victim to Occam's razor in a scientific theory of the causative alternation, especially since there are no strong independent reasons to maintain them.

In the light of this fact as well as the obvious idiosyncrasies visible in the English causative alternation, including those exemplified in (14) to (16) and (48) to (56), it seems **implausible** to us **to maintain the position that English is any different** in this respect **from Hungarian**. For example, it seems extremely implausible to assume that English intransitive *break* is not lexicalised, like LRH claim. This assumption, which essentially says that speakers of English have not memorized the fact that intransitive *break* exists, or at the very least that they always derive all its unaccusative meanings on the fly from the meaning of the corresponding transitive use, seems untenable to us. We believe that the only plausible assumption is that intransitive *break* indeed is not derived from transitive *break*. The two verbs are not related via a quasi-syntactic operation, but both are retrieved as such from the lexicon, and both have **independent lexical representations**, allowing for idiosyncratic variation. What they have in common is not a single underlying semantic representation complete with an event and an argument structure, but **one or more conceptual-semantic roots**, i.e. constants in the sense of Rappaport Hovav and Levin's (1998) theory of lexical conceptual representations. These common semantic roots can be inserted in something like the causative template and the unaccusative template assumed in this latter paper, accounting for the fact that the two verbs obviously have part of their meaning in common, without being forced to derive one from the other.

4.5 *The by itself-Test in Hungarian*

Finally, we conclude this paper by contributing some new data from Hungarian to the discussion on modification by the adverbial *by itself*, a test which is often used to argue for the claim that the intransitive variants of verbs undergoing the causative alternation lexicalise a CAUSE operator, similarly to their transitive counterparts. As originally discussed by Chierchia (1989/2004), this diagnostic allows one to distinguish between verbs having a CAUSE meaning component and those lacking such a component. Chierchia assumes that *by itself* is an anaphor that must be bound by an NP that is the sole causer of the eventuality described by the verbal expression in the clause containing this adverbial. This property of *by itself* gives rise to the effect that an intransitive verb occurring with *by itself* can receive the interpretation that the denoted eventuality comes about without outside help. This is illustrated in (64), where *by itself* is bound by *the glass* in (64a) and by *the ship* in (64b).

- (64) a. The glass broke by itself.
 b. The ship sank by itself.

By contrast, verbal expressions expressing states are incompatible with the modifier *by itself*, which is taken to indicate their having no CAUSE predicate in their lexical semantic representation. Consider (65) for illustration.

- (65) *Tom knew the answer by himself.

Examples of the type in (64) contrast with yet another group of verbs which, albeit compatible with *by itself*, cannot receive the interpretation that the denoted event came about without outside help. Instead, the most natural reading that these examples can receive is that the subject carried out the eventuality alone. Consider (66a,b):

- (66) a. #Peter walked by himself. (on intended reading)
 b. #Kate danced by herself.

In the remainder of this section we would like to point out our concern in connection with this argument in light of how this test works in Hungarian, where the ablative-marked reflexive anaphor *magától* ‘himself-ABL’ can yield the reading that (i) the action denoted by the verbal predicate was carried out without outside help or (ii) the subject carried out the action without having been told to do so. We illustrate this in (67).

- (67) A gyerek magá-tól fel-húzta a cipő-t.
 The child.NOM himself-ABL up-pulled the shoe-ACC
 ‘The child put on the shoe by him/herself.’

The example above has multiple interpretations: It either receives the reading that the child put on the shoe without receiving any help from another person or that the child put on the shoe despite not having been asked or told to do so. As pointed out by Rákosi (2012: 193), Hungarian *magától* does not give rise to an ‘alone’ reading, which is what clauses containing unergative verbs like *walk* and *dance* receive in English (see (66)).

The problem that we address here has already been highlighted by Rákosi (*ibid.*) in regard to data like (68), which suggests, despite claims to the contrary, that *magától* can actually be linked to a causer that is not lexicalised by the head verb of the clause containing the anaphor.

- (68) Magam-tól tud-om a válasz-t.
 myself-ABL know-1SG the answer-ACC
 lit. ‘I know the answer by myself.’ (Rákosi 2012: 193, (32))

The sentence in (68) contains the non-causative stative verb *tud* ‘know’ and is possible in a context where the subject defends themselves in a situation where they are accused of illegally using someone else’s idea in providing an answer to a question. Some more data illustrating this phenomenon are given in (69).

- (69) a. Kati magá-tól hall.
 Kati.NOM herself-ABL hears
 lit. ‘Kati hears by herself.’
 b. Mari magá-tól lát.
 Mari.NOM herself-ABL sees
 lit. ‘Mari sees by herself.’

In (69a) and (69b), *magától* occurs in the environment of the non-causative stative verbs *hall* ‘hear’ and *lát* ‘see’, respectively, and, in both cases, it denies the existence of an external causer, e.g. some hearing (69a) or seeing aid in (69b). These facts lead us to conclude that modification with *magától* cannot be used to identify a CAUSE meaning component in the lexical semantic representation of verbs. Consequently, this is not an adequate test to distinguish between verbs lexicalising a dyadic, causative structure and those having a monadic, non-causative structure.

Another set of data pointing towards a similar conclusion is provided in (70a-c), where *magától* occurs with the verbs of emission *rezeg* ‘vibrate’, *világít* ‘glow’, and *villog* ‘flash’, which are all characterised by LRH as verbs expressing internally caused eventualities.

- (70) a. Magától rezeg a telefon.
 itself-ABL vibrates the telephone.NOM
 ‘The telephone vibrates by itself.’
 b. Magától világít a telefon.
 itself-ABL glows the telephone.NOM
 ‘The telephone glows by itself.’
 c. Magától villog a képernyő.
 itself-ABL flashes the screen.NOM
 ‘The screen flashes by itself.’

The data above are similar to those in (68) and (69) in that they can occur in situations where it is the existence of an outside causer that is denied by the anaphor *magától*. In other words, (70a-c) mean that the telephone or screen is emitting sound/light spontaneously, i.e. not because some agent did something like pushing a button that led to this result. In fact these sentences can be naturally used in situations where the appliance is producing sound or light for no sensible reason, e.g. because it is broken. We take these data to serve as further evidence against the claim that anaphoric modification can be used to isolate a CAUSE component in the meaning of verbs. Alternatively, it could, of course, be argued that verbs like those in (70) lexicalise a CAUSE operator, which is what *magától* picks out. This would, however, undermine another facet of LRH’s theory of causative-unaccusative verb pairs, namely the distinction between verbs expressing internally caused eventualities and verbs expressing externally caused eventualities (cf. Section 3.5). Thus, in light of the data above, we conclude that in addition to the arguments based on selectional restrictions and patterns of derivational morphology, the argument revolving around modification with *by itself* also proves to be inadequate in support of LRH’s theory of the causative alternation, at least in Hungarian.

5 Conclusion

The objective of this paper was to contribute to the discussions concerning the semantic properties of verbs participating in the causative alternation. The standard empirical arguments most widely cited by proponents of the detransitivisation analyses of this alternation have been codified in Levin & Rappaport Hovav (1995). Whereas these arguments have generally been accepted as true without debate in the literature, we have identified a number of problems in the authors’ English data that raise doubts about the empirical basis of their general theory. More specifically we have presented arguments against LRH’s volitional agent hypothesis and showed that there are numerous counterexamples against their generalisation according to which the intransitive version of alternating verbs is compatible with a more restricted set of theme arguments than the transitive version. We have argued that as a consequence, the argument based on selectional restrictions that LRH provide in favour of the causative hypothesis is not conclusive.

We have also called into question the claim proposed by LRH and other authors in favour of detransitivisation analyses, according to which in languages that have morphologically derived alternating verb pairs the intransitive form is generally morphologically more complex, leading to the conclusion that it is also semantically derived from the transitive. As we have seen, Hungarian is a language where the morphology of alternating verb pairs provides evidence for both derivational directions, but it also has numerous ‘equipollent’ pairs

derived from the same root by different suffixes neither verb being basic relative to the other. Given the fact that the direction of morphological marking is almost completely random in alternating pairs, as is the specific suffix marking the intransitive and transitive variants, alternating pairs in Hungarian are necessarily lexicalised. This conclusion is further strengthened by numerous alternating verbs that show semantic idiosyncrasies. Yet Hungarian alternating verbs are exact lexical equivalents and behave in essentially the same systematic way in general as the causative alternation verbs in English. This led us to conclude that the observation of systematic alternation between lexical items does not constitute sufficient motivation for the assumption of a lexical and semantic derivational relationship, which proponents of the detransitivisation approach take for granted. The Hungarian data indicate that universally a non-derivational approach – which assumes that intransitive and transitive verbs are lexicalised independently and related through a common semantic root included in an event structure template or frame – seems more adequate.

References

- Beavers, J. & Koontz-Garboden, A. (2012): Manner and result in the roots of verbal meaning. *Linguistic Inquiry* 43, 331-369.
- Beavers, J. & Koontz-Garboden, A. (2013a): In defense of the reflexivization analysis of anticausativization. *Lingua* 131, 199-216.
- Beavers, J. & Koontz-Garboden, A. (2013b): Complications in diagnosing lexical meaning: a rejoinder to Horvath and Siloni (2013). *Lingua* 134, 210-218.
- Chierchia, G. (1989/2004): A semantics for unaccusatives and its syntactic consequences. In: Alexiadou A., Anagnostopoulou, E. & Everaert M. (eds.): *The Unaccusativity Puzzle*. Oxford: Oxford University Press, 22-59.
- Horvath, J. & Siloni, T. (2010): Lexicon versus syntax: evidence from morphological causatives. In: Rappaport Hovav, M., Doron, E. & Sichel, I. (eds): *Lexical Semantics, Syntax, and Event Structure*. Oxford: Oxford University Press, 153-176.
- Horvath, J. & Siloni, T. (2011): Anticausatives: against reflexivization. *Lingua* 121, 2176-2186.
- Horvath, J. & Siloni, T. (2013): Anticausatives have no Cause(r): A rejoinder to Beavers and Koontz-Garboden. *Lingua* 131, 217-230.
- Koontz-Garboden, A. (2009): Anticausativization. *Natural Language and Linguistic Theory*, 27, 77-138.
- Levin, B. (1993): *English Verb Classes and Alternations: A Preliminary Investigation*. Chicago: University of Chicago Press.
- Levin, B. & Rappaport Hovav, M. (1995): *Unaccusativity at the Syntax-Lexical Semantics Interface*. Cambridge: The MIT Press.
- Pethő, G. & Kardos, É. (2008): *Transitivity and event structure: evidence from Hungarian*. Paper presented at the Transitivity Workshop, University of Cologne, Cologne.

- Pethő, G. & Kardos, É. (2014): Argumentumszerkezeti tények az eseményszerkezet tükrében [Argument structure facts in light of event structure properties]. In: Havas F., Horváth K., Kugler N. & Vladár Zs. (eds.): *Nyelvben a világ. Tanulmányok Ladányi Mária tiszteletére* [The world in language. Papers in honor of Ladányi Mária]. Budapest: Tinta, 66-76.
- Piñón, C. (2001): A finer look at the causative-inchoative alternation. In: *Proceedings of SALT 11*. Ithaca, NY: Cornell Linguistics Circle.
- Rákosi, Gy. (2012): In defence of the non-causative analysis of anticausatives. In: Everaert, M., Marelj, M. & Siloni, T. (eds.): *The Theta System: Argument Structure at the Interface*. Oxford: Oxford University Press, 177-199.
- Rappaport Hovav, M. & Levin, B. (1998): Building verb meanings. In: Butt, M. & Geuder, W. (eds.): *The Projection of Arguments: Lexical and Compositional Factors*. Stanford: CSLI Publications, 97-134.
- Rappaport Hovav, M. & Levin, B. (2010): Reflections on manner/result complementarity. In: Rappaport Hovav, M., Doron, E. & Sichel, I. (eds.): *Lexical Semantics, Syntax, and Event Structure*. Oxford: Oxford University Press, 21-38.
- Reinhart, T. (2002): The theta system: An overview. *Theoretical Linguistics* 28, 229-290.
- Reinhart, T. & Siloni, T. (2005): The lexicon-syntax parameter: reflexivization and other arity operations. *Linguistic Inquiry* 36, 389-436.

Gergely Pethő
University of Debrecen
Institute of German Studies
Department of German Linguistics
Pf. 47.
H-4010 Debrecen
pagstudium@gmail.com

Éva Kardos
University of Debrecen
Institute of English and American Studies
Department of English Linguistics
Pf. 73.
H-4010 Debrecen
evikardos@t-online.hu