Causatives of unergatives: A view from variable unaccusativity

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Abstract

In several languages, unergative verbs are able to undergo the causative alternation, contrary to common assumptions. Causatives of unergatives raise a vexing question concerning the status of the causee: given the unergative nature of the verb, the causee should be realized as an external argument; however, direct causatives are assumed to make only one external argument position available, which must already be occupied by the causer. This paper investigates direct causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic and shows that they have a regular transitive structure. The causee is merged as an internal argument and receives a patient-like interpretation clearly distinct from the agentive reading assigned to the subject of the intransitive unergative. To account for these findings, I link causatives of unergatives to variable unaccusativity, that is, the phenomenon that verbs can allow for both an unaccusative and an unergative use. Concretely, I propose that the structures which have been described as causatives of unergatives are not, strictly speaking, causatives of unergatives. Rather, the normally unergative root takes on an unaccusative behavior in such contexts and can thus causativize as usual. I address the issue of cross-linguistic variation in the availability of causatives of unergatives and I discuss further implications of the analysis for our understanding of θ-roles, causative morphology and the general architecture of the lexicon-syntax interface.

Keywords: Causatives, unergatives, lexicon-syntax interface, Hindi-Urdu, Turkish, Arabic

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1 Introduction

It is a widely assumed generalization that unaccusatives (1) but not unergatives (2) can undergo the causative alternation:[1]

(1) a. The glass broke.
b. Shama broke the glass.

(2) a. Rohan laughed.
b. *Shama laughed Rohan.

This generalization, however, does not hold up to scrutiny. In many languages, unergatives are able to form direct causatives, as demonstrated below for Hindi-Urdu (3), Turkish (4) and Sason Arabic (5):[2]

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1. Glossing conventions: <> = infix, ACC = accusative, ADJ = adjective, ADV = adverb, AOR = aorist, CAUS = causative, CAUS2 = indirect causative, DAT = dative, DOM = differential object marker, ERG = ergative, F = feminine, FUT = future, GEN = genitive, IMPERS = impersonal, INF = infinitive, INST = instrumental, INTR = intransitive, IPFV = imperfective, LOC = locative, M = masculine, NEG = negation, NMLZR = nominalizer, NOM = nominative, PART = participle, PASS = passive, PAST = past, PFV = perfective, PL = plural, PN = proper noun, PROG = progressive, PRS = present, PV = patient voice, SG = singular, SUBJ = subjunctive, VM = voice marker.

2. Sason Arabic is a peripheral variety of Arabic spoken in a small area in Southeastern Turkey (Akkuş 2021a).

(3) a. Rohan **naach** rahaa hai.
Rohan.M **dance** PROG.MSG be.PRS.3MSG
'Rohan is dancing.'
b. Shama Rohan-ko **nach-aa** rahii hai.
Shama.F Rohan-DOM **dance-CAUS** PROG.F be.PRS.3MSG
'Shama is making Rohan dance/twirling him around (the dance floor).'

(Bhatt and Embick 2017:124)

(4) a. Bebek **uyu**-du.
baby **sleep**-PAST
'The baby slept.'
b. (Ben) bebeğ-i **uyu-t**-tu-m.
I baby-ACC **sleep-CAUS**-PAST-1SG
'I put the baby to sleep.'

(5) a. i-**zak**.
3M-**laugh**
'He laughs.'
b. a-**zakkiy**-u.
1SG-**laugh.CAUS**-him
'I make him laugh.' (Akkuş 2021a:175)

For a long time neglected, direct causatives of unergatives are now the subject of a growing area of research, having been attested in Georgian (Harris 1981, Nash 2021), Eastern Armenian (Megerdoomian 2002), Niuean (Massam 2009; Tollan and Massam 2022), Acehnese (Legate 2014), Samoan (Tollan 2018; Tollan and Massam 2022), Algonquian (Tollan and Oxford 2018), Kipsigis (Kouneli 2021), Quechua (Myler 2022) and Malayalam (Krishnan and Sarma 2023).

The puzzle posed by direct causatives of unergatives concerns the syntactic and semantic status of the causee, such as *Rohan* in (3b). Given the unergative nature of the verb 'dance,' we would expect *Rohan* to be realized as an external argument receiving an agent θ-role. However, only one external argument position is available in direct causatives, and it must already be occupied by the causer *Shama*. Consequently, *Rohan* seems doomed to remain syntactically homeless, but the construction is grammatical nonetheless.

In this paper, I take a closer look at direct causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic. I argue that such causatives are perfectly regular transitives in which the causer is merged as an external argument receiving an agent θ-role and the causee as an internal argument with a patient θ-role. The obvious question this finding raises is how an unergative verb could license an internal, patient-type argument. My solution to this problem consists in linking causatives of unergatives to variable unaccusativity, that is, the phenomenon that a given verb can often behave both as an unaccusative and as an unergative depending on interpretative factors. Concretely, I propose that the structures which have been described as causatives of unergatives are not, strictly speaking, causatives of unergatives. Rather, in such contexts, the normally unergative root takes on an unaccusative behavior and can thus causativize as usual. I show that this interpretation of the data fits neatly into the broader phenomenon of variable unaccusativity cross-linguistically. The bottom line is that at least in Hindi-Urdu, Turkish and Sason Arabic, unergatives *qua* unergatives cannot causativize: normally unergative verbs can only undergo the alternation if they shift to an unaccusative use. As a result, the term 'causatives of unergatives,' while I will continue to use it as a convenient shorthand in the following, is actually a misnomer.

A broader theoretical consequence of this analysis is that it gives rise to a novel understanding of θ-roles. It is usually assumed that an event participant performing one and the same activity, such as dancing, must always be assigned the same θ-role. Under the present approach, this does not hold: in the intransitive (3a), the dancer *Rohan* is assigned an agent, in the transitive (3b) a patient θ-role. I will show that this seemingly incongruous state of affairs is solidly attested elsewhere as well. What this demonstrates, I argue, is that θ-roles are not intrinsic properties of participants but relative to event descriptions. That is, a given event participant can be mapped onto different θ-roles depending on how the event as a whole is construed and even depending on the properties of other participants. Moreover, it follows that θ-role are devoid of any substantial content: for instance, the agent role of the verb 'dance' is not defined as picking out the

person performing the dancing but is assigned to the most agentive participant in the event, regardless of the concrete activity performed.

Overall, my analysis of direct causatives of unergatives thus does not stipulate any novel syntactic or semantic operations but instead relies on a more fine-grained understanding of the mapping relation between lexical items and the structures in which the latter can be merged. The fact that causatives of unergatives are attested poses a puzzle only if we assume that verbal roots can be neatly and categorically classified as either unergative or unaccusative. Such a simplistic understanding of the lexicon-syntax interface has long been known to be untenable. Rather, we will see that whether a given root is compatible with a given structure is subject to gradient, flexible, context-sensitive and cross-linguistically variable constraints. The strategy this paper pursues is to situate causatives of unergatives in the context of these constraints and to demonstrate that they fall out naturally.

While the connection I draw between causatives of unergatives and variable unaccusativity is novel, my claim that the former are syntactically regular transitives has in various ways been anticipated in previous research. Most comprehensively, it has been argued for by Legate (2014) for Acehnese and, in the framework of Relational Grammar, by Harris (1981) for Georgian; however, neither of the two discuss the challenge these findings raise for our understanding of θ-role assignment. In ongoing work, Marantz (2022) also argues that causatives of unergatives are transitives but puts forward a very different perspective on their semantic interpretation than developed here. Finally, a transitive syntax is adopted by Ramchand (2008) for causatives of unergatives in Hindi-Urdu and by Biggs (2019) for the closely related phenomenon of English transitives of manner of motion verbs. The latter two proposals will be discussed in depth in Section 5 of this paper.

In contrast to this strand of research which regards causatives of unergatives as essentially transitives, an alternative approach has recently been gaining popularity, which I label the low subject proposal. According to this view, causatives of unergatives provide evidence that subjects of unergatives are merged low, in Spec$v$P, unlike subjects of transitives which occupy SpecVoiceP (Kouneli 2021; Kumaran 2021; Massam 2009; Myler 2022; Pineda and Berro 2020; Tollan 2018; Tollan and Massam 2022; Tollan and Oxford 2018). I discuss this proposal in Section 5 and show that it cannot account for causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic. While a general evaluation of the low subject proposal is beyond the scope of this paper, I contribute to the debate by providing an alternative account of the data against which the low subject approach will need to be measured.

The main theoretical premise I will rely on in the following is that word formation takes place in syntax, as assumed in the tradition of Distributed Morphology (Halle and Marantz 1993, 1994; Marantz 1997). More concretely, I will adopt the view that the verbal domain consists of an acategorical root as well as two functional layers, VoiceP and vP, such that Voice introduces the external argument and v serves as a verbalizer carrying eventive semantics, besides potentially other functions (Harley 2013, 2017; Legate 2014; Pylkkänen 2008). The gist of my proposal, however, is largely independent from this specific implementation.

As for causative constructions in particular, I adopt the widespread distinction between direct and indirect causatives. Direct causatives, I assume, are regular transitives which differ from unaccusatives in containing a VoiceP layer introducing the external argument, as proposed by Alexiadou, Anagnostopoulou, and Schäfer (2015). I sidestep the questions whether causatives and anticausatives additionally differ in their eventive semantics (Harley 2013, 2017; Pylkkänen 2008) as well as whether (some) unaccusatives contain an expletive, non-thematic Voice head (e.g., Schäfer 2009). Nothing hinges on these matters for our purposes except the discussion of causative morphology in Section 6, at which point we will briefly revisit them. Indirect causatives, on the other hand, are widely argued to have a recursive biclausal structure, containing a v which embeds a VoiceP or vP (Pylkkänen 2008). As a result, indirect but not direct causatives contain both a causing and a distinct caused event, each encoded on a separate v head,[3] and can therefore make two external argument positions available. Crucially, I will show that the causatives examined in this paper are direct, thus giving rise to the puzzle outlined above.

A number of terminological clarifications are in order. First of all, the term 'causative' should be understood to denote direct causatives unless otherwise noted. Secondly, I will argue extensively that verbs cannot be classified categorically as either unergative or unaccusative. Strictly speaking, the terms 'unergative' and 'unaccusative' thus describe structures in which a root can be merged, not lexical items themselves. However, I will continue to speak of unergative and unaccusative verbs to pick out the loosely defined classes

3. I sidestep the question whether causatives contain a semantically represented result state, which is not crucial for our purposes.

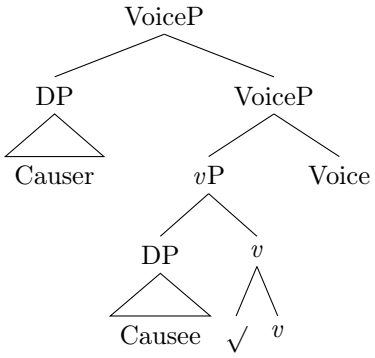
of verbs which under most circumstances tend to pass unergativity/unaccusativity diagnostics. Moreover, I will describe the two main θ-roles as agent and patient, without taking a stance on the question of whether there are relevant semantic and/or syntactic differences between agents and other kinds of external arguments such as inanimate causers, or between patients and themes.

I will proceed as follows. Section 2 provides evidence that causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic are regular transitives. In Section 3, I argue that causatives of unergatives form part of the broader phenomenon of variable unaccusativity, in that the normally unergative verb must take on an unaccusative behavior in order to causativize. Section 4 deals with cross-linguistic variation in the availability of causatives of unergatives, Section 5 reviews and refutes competing accounts and Section 6 highlights a challenge that causatives of unergatives pose for causative morphology. Section 7 concludes.

2 The syntactic structure of causatives of unergatives

The syntactic analysis I propose for causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic is a standard transitive structure, with the causer realized as an external, the causee as an internal argument. Concretely, I assume the structure in (6) (*modulo* headedness):

(6)



To defend this analysis, I proceed as follows. In a first, preliminary step, I confirm that the verbs in question pass unergativity diagnostics. Secondly, I show that the causatives are direct and thus only make one external argument position available. Finally, I provide evidence that the causee is realized as an internal argument.

2.1 The intransitive verb is unergative

For each language, I now present several diagnostics according to which some causativizing verbs should be classified as unergatives. For Hindi-Urdu, Bhatt and Embick (2017) provide three unergativity diagnostics. First, unergatives are not able to appear in reduced relative environments whereas unaccusatives are (7):

(7) a. *hãs-aa huaa laṛkaa
laugh-PFV be.PFV boy
Intended: 'the laughed boy'
b. khul-aa huaa darwaazaa
open-PFV be.PFV door
'the opened door' (Bhatt and Embick 2017:121)

Secondly, unergatives but not unaccusatives can form impersonal passives (8):

(8) a. calo, dauṛ-aa jaa-ye.
come run-PFV PASS-SUBJ
'Come, let it be run.' (i.e., come, let us run)
b. *calo, kaṭ-aa jaa-ye.
come cut.INTR-PFV PASS-SUBJ
Intended: 'Come, let us get cut.' (Bhatt and Embick 2017:123)

Finally, unergatives and unaccusatives differ concerning their behavior in the so-called inabilitative construction, which is used to express that the subject is unable to perform a certain activity. Unergatives, patterning with transitives in this respect, can only appear in the inabilitative with passive (9a) but not with active syntax (9b). Unaccusatives, on the other hand, do not allow passive (10a) but only active syntax (10b):

(9) a. Nina-se dauṛ-aa nahĩĩ ga-yaa.
Nina-INST run-PFV NEG PASS-PFV
'Nina couldn't run.'
b. *Nina-se Mona nahĩĩ dauṛ rahii hai.
Nina-INST Mona.F NEG run PROG.F be.PRS.SG
Intended: 'Nina is unable to make Mona run.'

(10) a. *dhabbõ-se miṭ-aa nahĩĩ ga-yaa.
stains-INST wipe.INTR-PFV NEG PASS-PFV
Intended: 'The stains weren't able to bring themselves to erase themselves.'
b. Nina-se dhabbe nahĩĩ miṭ-e.
Nina-INST stains.M NEG wipe.INTR-PFV.MPL
'Nina wasn't able to wipe away the stains.' (Bhatt and Embick 2017:122)

The vast majority of Hindi-Urdu verbs which qualify as unergatives according to these diagnostics can form direct causatives.[4]

Turning to Turkish, the following three diagnostics confirm the unergative status of some causativizing verbs. First, unaccusatives but not unergatives can combine with the adjectival participle *-ık* (Acartürk 2005; Acartürk and Zeyrek 2010), as shown in (11):[5]

(11) a. kır-ık bardak
break-ADJ glass
'broken glass'
b. *uyu-k bebek
sleep-ADJ baby
Intended: 'slept baby'

Secondly, (12) demonstrates that the agent nominalizer *-ucu* can only surface with unergatives or transitives:

(12) a. koş-ucu
run-NMLZR
'runner'
b. sat-ıcı
sell-NMLZR
'seller'
c. *düş-ücü
fall-NMLZR
Intended: 'faller' (i.e., someone who falls)

Finally, only unergatives can form impersonals in episodic contexts (13a) (Acartürk 2005; Acartürk and Zeyrek 2010; Akkuş 2021a; Legate et al. 2020). Impersonals of unaccusatives, while felicitous under a habitual reading, cannot receive an episodic interpretation (13b):

4. The only unergatives reported by Bhatt and Embick (2017) to not causativize are onomatopoeic denominatives such as *bilbilaa-naa*, 'cry in pain.' While I cannot discuss these cases in detail, it appears that such verbs already contain the morpheme *-aa*, suggesting that they are of a causative nature to begin with and thus cannot undergo further causativization.

5. Interestingly, the addition of a causative morpheme does not improve the acceptability of unergatives with *-ık*:

(i) *uyu-t-uk bebek
sleep-CAUS-ADJ baby
Intended: 'slept baby'

This unacceptability can be attributed to morphological ill-formedness: Gürer (2014) proposes that *-ık* attaches directly to the root, which suggests that the causative affix cannot intervene between the two.

(13) a. Dün burada uyu-**n**-du.
yesterday here sleep-**IMPERS**-PAST
'People/one slept here yesterday.'
b. *Dün burada öl-**ün**-dü.
yesterday here die-**IMPERS**-PAST
Intetnded: 'People/one died here yesterday.'

Several Turkish verbs which pass these three unergativity diagnostics causativize, including 'sleep,' 'sit,' 'walk' and 'fly.'

In Sason Arabic, we can equally establish that some verbs which form direct causatives show unergative behavior, based on the following three diagnostics. First, resultative secondary predicates require the presence of an internal arguments and are thus only licensed with unaccusatives (14a). With unergatives (14b), the adjective can only have a depictive reading:

(14) a. sabi sar / var raxu.
boy became / fell sick
'The boy became/fell sick.'
b. #sabi faqaz raxu.
boy ran sick
Intended: 'The boy ran himself sick, became sick as the result of running.'

Secondly, only unergatives are able to form impersonal passives. Unaccusatives in Sason Arabic can surface with the same affix but the resulting constructions do not qualify as true passives. First, impersonals of unaccusatives are restricted to human referents: (15b) is infelicitous in a situation in which, for example, animals fall. True impersonal passives in Sason Arabic, on the other hand, can take non-human referents, as seen in (15a). Secondly, impersonals of unaccusatives do not license a *by*-phrase:

(15) a. **in**-nam nihane (mı zɣar / ɣorif).
PASS.IPFV-sleep.IPFV.3M here (by children / sheep)
'It is slept here (by the children/sheep).'
b. **in**-vır nihane (*mı zɣar).
IMPERS-fall here (by children)
'People fall here/one falls here.'

The last diagnostic comes from path arguments and cognate objects. It has been shown that such objects, occupying the complement position of the verb, are only compatible with unergative verbs (Kuno and Takami 2004). While exceptions to the latter generalization have been observed, Nakajima (2006) has shown that in such cases, the apparent path argument or cognate object is in fact syntactically realized as an adjunct and is thereby able to co-occur with an internal argument.[6] Consequently, cognate objects that combine with unergatives can raise to subject under passivization (16), whereas this fails with unaccusatives (17):

(16) a. zake-ma kotti zak.
laugh-a bad laughed.3M
'He laughed a bad laugh.' (Akkuş and Öztürk 2017:2)
b. zake-ma kotti ın-zak (mı zɣar).
laugh-a bad PASS.PFV-laugh.PFV by children
'A bad laugh was laughed (by the children).'

(17) a. badıncanad pat-ma gıze kotti patto.
tomatoes rottening-a such bad rottened.3PL
'The tomatoes rottened such a bad rottening.' (Akkuş and Öztürk 2017:3)
b. *pat-ma gıze kotti ın-pat (mı badıncanad).
rottening-a such bad PASS.PFV-rot.PFV by tomatoes

6. Note that I do not claim that path arguments and cognate objects are assigned a θ-role in a fashion analogous to patient arguments, nor that they are necessarily base-generated in the complement position of the verb. The diagnostic merely relies on the observation that at some point in the derivation, such objects appear to occupy the same position as patient-type internal arguments, thereby leading to blocking effects.

Intended: 'Such a bad rottening was rottened (by the tomatoes).'

Like Hindi-Urdu and Turkish, Sason Arabic has several verbs which pass these unergativity diagnostics but also form direct causatives, including 'laugh,' 'sleep,' 'jump' and 'run.' In sum, we have seen that in all three languages, some causativizing verbs should be classified as unergatives based on standard diagnostics.

2.2 The causative is direct

To further confirm the existence of true direct causatives of unergatives, the aim of this section is to demonstrate that the causatives in question are direct, with a single verbal domain and hence only one external argument position.[7] To distinguish direct and indirect causatives, the main diagnostic I will draw on concerns adverbial modification. It has been shown that adverbials such as *grumpily* in (18) can only describe the subject's action, not the object's: example (18a) is false if John is not grumpy. Indirect causatives such as (18b), on the other hand, which contain a separate causing event, allow the adverbial to describe either the action of the causer or of the causee, given that the latter is the subject of the embedded event:

(18) a. John$_1$ awoke Bill$_2$ grumpily$_{1/*2}$.
b. John$_1$ made Bill$_2$ awake grumpily$_{1/2}$. (Martin and Schäfer 2014:219f.)

For each language, I will now first give a brief overview over the different causativization strategies available and then show that some causatives that can be formed from unergatives are direct causatives, based on the above diagnostic as well as supplementary morphological and interpretative evidence.

To begin, Hindi-Urdu has three morphologically distinct causatives, derived via changes in vowel length of the root,[8] the morpheme *-aa* and the morpheme *-vaa*, respectively (Bhatt and Embick 2017). Since the first strategy does not apply to unergatives, I will focus on the latter two. Causatives formed with *-aa* receive a direct, those formed with *-vaa* an indirect interpretation:[9] the former can only be used to describe a situation in which the causer directly and physically acts on the causee whereas the latter requires the relation between causer and causee to be mediated in some way. Accordingly, as seen in example (19), intermediate agents are only compatible with indirect *-vaa* causatives:

7. Nie (2020) has argued that some languages also allow causatives to be formed via recursion at the VoiceP level, resulting in a structure with a single v and thus without a separate causing event but with two external argument position. While I cannot assess the merits of this proposal in general, it does not account for our data. What motivates Nie's proposal is the fact that in Tagalog, some – but not all – direct causatives of unergatives allow the causee to be modified by agent-oriented adverbs (i):

(i) P<in>a-iyak-∅ [ako] si Kiko nang **sinasadya**.
<PFV>CAUS-cry-PV 1SG.GEN NOM.PN Kiko ADV **deliberately**
'I$_1$ made Kiko$_2$ cry deliberately$_{1/2}$.' (Nie 2020:4)

Nie takes this as evidence for the claim that both causer and causee are merged in a SpecVoiceP position. However, this observation does not replicate for causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic, which do not permit agentive adverbs modifying the causee and generally enforce a deagentivized reading of the latter (see Section 2.3). For those causatives of unergatives in Tagalog which equally only license non-agentive causees, Nie argues that such causees are merged as verbal complements, thus endorsing the very same analysis as proposed here. In sum, a structure with a single vP but two layered VoicePs, even if it were in principle available, wrongly predicts an agentive reading of the causee. For further evidence against this analysis, see the discussion of the low subject proposal in Section 5.1. In a similar vein, a stacked VoiceP analysis with a non-agentive lower VoiceP has been proposed by Nash (2021) for Georgian. However, since Nash's account is based on highly Georgian-specific data, I cannot discuss it here.

8. I remain agnostic as to whether morphologically, the intransitive is derived from the transitive via vowel shortening (Bhatt and Embick 2017) or the latter from the former via vowel lengthening.

9. A curious exception to this rule is the fact that *-aa* causatives formed from certain transitives receive an indirect reading, as demonstrated by their ability to combine with an intermediate agent:

(i) Anjum-ne (Saddaf-se) paoda kaṭ-aa-yaa.
Anjum-ERG Saddaf-INST plant cut-CAUS-PFV
'Anjum had Saddaf cut the/a plant.' (Ramchand 2008:160)

Example (i) has the same meaning as the corresponding *-vaa* causative. I must leave it open why the *-aa* morpheme can be used in indirect causatives under these circumstances; however, as (19) shows, this confound does not affect the status of *-aa* causatives of unergatives and can thus be neglected for our purposes. Note also that my native speaker informant rejects (i) but agrees with the broader point.

(19) a. Shama **Mina-se** Rohan-ko **nach-vaa**-egii.
Shama **Mina-INST** Rohan-DOM **dance-CAUS2**-FUT.F
'Shama lets Mina make Rohan dance.'
b. *Shama **Mina-se** Rohan-ko **nach-aa**-egii.
Shama **Mina-INST** Rohan-DOM **dance-CAUS**-FUT.F
Intended: 'Shama lets Mina make Rohan dance.'

Adverbial modification provides further evidence for the fact that *-aa* causatives of unergatives are direct causatives. In the *-aa* causative in (20a), the adverb 'in a strange way' can only target a single event, obligatorily giving rise to the interpretation that the way in which Shama is acting is strange. In *-vaa* causatives, on the other hand, the adverb can either modify the main clause event, as in (20b), or – with a different word order – the event in the embedded clause, as in (20c):

(20) a. Shama Rohan-ko **ajiib** **tarah-se** **nach-aa** rahii hai.
Shama Rohan-DOM **strange way-INST** **dance-CAUS** PROG.F be.PRS.3MSG
'Shama, in a strange way, is making Rohan dance.'
b. Shama-ne **ajiib** **tarah-se** Mina-se Rohan-ko **nach-vaa**-yaa.
Shama-ERG **strange way-INST** Mina-INST Rohan-DOM **dance-CAUS2**-PFV
'Shama, in a strange way, lets Mina make Rohan dance.'
c. Shama-ne Mina-se Rohan-ko **ajiib** **tarah-se** **nach-vaa**-yaa.
Shama-ERG Mina-INST Rohan-DOM **strange way-INST** **dance-CAUS2**-PFV
'Shama lets Mina, in a strange way, make Rohan dance.'

In (20b), Shama herself is acting strangely, while in (20c), she asks Mina to behave in a strange way. Moreover, *-vaa* causatives can surface with two distinct adverbs, one targeting each event (21a), such that Shama is acting in a strange way but asks Mina to proceed in a good way to make Rohan dance. This is not possible with *-aa* causatives (21b):

(21) a. Shama-ne **ajiib** **tarah-se** Mina-se Rohan-ko **acchii** **tarah-se** **nach-vaa**-yaa.
Shama-ERG **strange way-INST** Mina-INST Rohan-DOM **good** **way-INST** **dance-CAUS2**-PFV
'Shama, in a strange way, is making Mina, in a good way, make Rohan dance.'
b. *Shama-ne **ajiib** **tarah-se** Rohan-ko **acchii** **tarah-se** **nach-aa**-yaa.
Shama-ERG **strange way-INST** Rohan-DOM **good** **way-INST** **dance-CAUS**-PFV
Intended: 'Shama, in a strange way, is making Rohan dance in a good way.'

To summarize, *-vaa* causatives make two events available for modification but *-aa* causatives only one, confirming that the latter are direct and do not involve a separate causing event.

Turkish has a single causativization strategy, realized with various allomorphs: *–DIr*, *–t*, *–Ir*, *–Ar*, *–It* and *–Art* (Akkuş 2021a). The resulting causatives receive either a direct or an indirect reading depending on the verbal structure they combine with: causatives of transitives are interpreted as indirect, causatives of unaccusatives as direct, and causatives of unergatives are ambiguous between the two, clearly distinct readings, as demonstrated in (22):

(22) (Ben) çocuğ-u koltuğ-a otur-t-tu-m.
I child-ACC couch-DAT sit-CAUS-PAST-1SG
'I sat the child on the couch. / I made the child sit on the couch.'

If the causative is interpreted as direct, (22) must mean that the speaker physically lifts up the child and places them on the couch, whereas under an indirect reading, the speaker might, for instance, order or persuade the child to sit on the couch or bring about this state of affairs in some other unspecified way.

Again, adverbial modification confirms that one of the available interpretations is a direct causative (23):

(23) (Ben) sakince bebeğ-i koltuğ-a yavaşça otur-t-tu-m
I calmly baby-ACC couch-DAT slowly sit-CAUS-PAST-1SG
'Calmly and slowly, I sat the baby on the couch. / Calmly, I made the baby sit on the couch slowly.'

Under the indirect reading of the causative, the two adverbs can associate with two distinct events: 'calmly'

can describe the action of the causer, 'slowly,' of the causee. If, however, the causative is given a direct interpretation, both adverbs must modify the causer and none can associate with the causee, demonstrating the absence of a separate causing event.

Finally, Sason Arabic has four distinct causatives, of which two are morphological and two periphrastic (Akkuş 2021a). Since the latter are obligatorily indirect, I will only discuss analytic causatives, derived via ablaut and gemination, respectively. Ablaut causatives always receive a direct reading and are more restricted than geminates, applying only to a limited subset of unaccusatives and even fewer unergatives. Examples (24) and (25) shows an ablaut causative of an unaccusative, obligatorily interpreted as direct:

(24) a. lāke **tal**-e.
stain **came.out**-3F
'The stain came out.'
b. **tel**-tu lāke.
came.out.CAUS-1SG stain
'I got the stain out.'
Not: 'I caused someone to get out the stain.' (Akkuş 2021a:91)

(25) a. **nam**-e.
sleep-3FSG
'She slept.'
b. **nem**-tu-a.
sleep.CAUS-1SG-her
'I put her to sleep.'
Not: 'I caused someone to put her to sleep.'

Geminate causatives, on the other hand, which are formed by geminating the second consonant of the root, pattern with Turkish causatives. When formed from an unaccusative, they are obligatorily direct.[10] Geminate causatives formed from a transitive receive an indirect reading, with the causee being realized either as a bare DP or in a PP (Akkuş 2021a). Finally, geminate causatives of unergatives are ambiguous between the two readings, as shown in (26b):

(26) a. **patk**-e mı haydan.
jumped-3F over wall
'She jumped over the wall.'
b. **pattık**-tu-a mı haydan.
jumped.CAUS-1SG-her over wall
'I jumped her over the wall. / I made her jump over the wall.'

The direct reading of (26b) entails that the speaker lifts the causee over the wall, whereas under the indirect interpretation, the speaker causes them to jump in some way, be it via physical coercion, persuasion, or any other measure. Moreover, in the latter case, it is possible for the causing and the jumping event to take place at different times – for example, on two different days – which is not conceivable under the direct reading.

I demonstrate the adverbial diagnostic for ablaut causatives which, being obligatorily direct, lend themselves most easily to this diagnostic, but note that the facts replicate for geminate causatives. In example (27a), the subject-oriented adverb can only modify the first person singular speaker, not the sleeper. This contrasts with the periphrastic indirect causative in (27b) formed with the causativizing verb 'make' in which two events can be targeted by modification: while the action of sleeping is peaceful, the action of causing someone to sleep is slow.

(27) a. **sakin** nem-tu-a.
peacefully slept-1SG-her
'I slept her peacefully.'
b. **hedi hedi** si-te nom **sakin**.
slow slow made-2SG.F sleep.INF **peacefully**
'You.F slowly made someone sleep peacefully.'

10. Akkuş (2021b) argues that what rules out indirect causatives of unaccusatives in Sason Arabic is that the embedding v head obligatorily selects a VoiceP. The same might hold for Turkish.

As before, this hence confirms the direct nature of some causatives of unergatives in Sason Arabic.

To conclude, I have argued in this section that Hindi-Urdu, Turkish and Sason Arabic all can form direct causatives of unergatives which contain a single *v*P domain and thus only make one external argument position available. Given that the latter is occupied by the causer, this raises the question where the causee is realized syntactically. I will propose and defend an answer to this question in the next section.

2.3 The causee is an internal argument

I argue that the causee in causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic is base-generated as a standard internal argument in the complement position of the verb, hence in a different position from the subject of intransitive unergatives. In this section, I provide various pieces of evidence for this proposal.

While the following discussion centers on the syntactic realization of the causee, I would like to begin by pointing out a crucial fact about its interpretation. In all three languages, the causee in causatives of unergatives obligatorily receives a deagentivized reading, being depicted as not being in control of the situation or even performing the activity against their will. By way of example, in the previously discussed Hindi-Urdu causative 'Shama is dancing Rohan,' Rohan does not actively and volitionally initiate the dancing but is shoved and twirled around like a puppet on strings. Instead, it is Shama who is presented as agentive and responsible. This is in line with the view that the causer, merged in SpecVoiceP, is interpreted as the agent, while the causee, merged as the verbal complement, receives a patient-like reading. Much more will be said about the semantic interpretation of causatives of unergatives in Section 3. For now, the deagentivized reading of the causee provides some initial motivation for the claim that it is an internal argument, which I will now buttress with syntactic evidence.

To begin with, we have seen in (7) that reduced relatives in Hindi-Urdu require the presence of an internal argument, thus being licensed with unaccusatives but not with unergatives. Causativized unergatives, however, can form reduced relatives, indicating that the causee is realized as an internal argument (28):

(28) a. *__dauṛ__-aa laṛkaa
run-PFV.MSG boy
Intended: 'the run boy'
b. [Ravi-dwaaraa **dauṛ-aa**-yaa gayaa] laṛkaa
Ravi-by **run-CAUS**-PFV PASS.PFV boy
'the boy run by Ravi' (i.e., the boy chased by Ravi) (Bhatt and Embick 2017:124f.)

Secondly, resultatives in Sason Arabic have been shown above in (14) to require the presence of an internal argument. Crucially, the causee in causatives of unergatives licenses a resultative, as in (29):

(29) faqqız-tu-a **raxu-e**, yani cımd-e barra.
ran.CAUS-1SG-her **sick-F** that.is got.cold-3F outside
'I ran her sick, that is, she got a cold outside.'

Example (29) could be used in a situation in which the speaker made the causee run outside in the cold for several hours, as a result of which she fell sick. Again, this is strong evidence for the internal argument status of the causee.

Next, another characteristic property of internal arguments is that they can often confer a telic interpretation on the verb phrase (Tenny 1987). For instance, while the intransitive *Zeno ate* is atelic, *Zeno ate an apple* describes a telic event which comes to its natural endpoint when the apple is fully consumed. This is not to claim a one-to-one correspondence between internal arguments and telicity: not all internal arguments induce telic readings, and under certain circumstances, a telic reading can be generated in the absence of any internal argument (Ramchand 2008). However, we can nevertheless use telic interpretations to detect the presence of an internal argument if other factors are carefully controlled for, as I will do in the following.

In various languages, the distinction between telic and atelic interpretation is reflected in the type of temporal modifier licensed in the sentence. For instance, in English, *in X hours* requires a telic, *for X hours* an atelic verb phrase (Vendler 1957), shown in (30):

(30) a. Zeno ate an apple in an hour.
b. #Zeno ate an apple for an hour.

c. Zeno ran for an hour.
d. *Zeno ran in an hour.

Example (30d) is ungrammatical, supporting the claim that a telic reading requires an internal argument. On the other hand, as (30b) shows, an atelic interpretation which allows *for X hours* to surface can often be enforced even in the presence of an internal argument if the event is construed as having been interrupted. For instance, (30b) becomes more felicitous if the apple is not fully consumed. I will note this confound in the following where applicable but it will not be relevant for our purposes.

All these observations from English replicate in Turkish with the contrast between the postpositions *içinde* 'in' and *boyunca* 'for.' Unaccusatives, which have an internal argument and can receive a telic interpretation, preferably take *içinde* (31), whereas unergatives, being atelic, combine with *boyunca* (32):

(31) a. Yağ üç dakika **içinde eri**-di.
butter three minutes **in** **melt**-PAST
'Butter melted in three minutes.'
b. *Yağ üç dakika **boyunca eri**-di.
butter three minutes **for** **melt**-PAST
Intended: 'Butter melted for three minutes.'

(32) a. Kadın üç saat **boyunca çalış**-tı.
woman three hours **for** **work**-PAST
'The woman worked for three hours.'
b. *Kadın üç saat **içinde çalış**-tı.
woman three hours **in** **work**-PAST
Intended: 'The woman worked in three hours.'
(Nakipoğlu-Demiralp 2002, cited and translated in Acartürk 2005:45f.)

As in English, (31b) is acceptable if the melting process is interrupted after three minutes without the butter being fully melted yet. Note also that for my consultants, it is more natural to use a bare DP instead of a *boyunca* 'for' PP,[11] and the locative suffix *-te* instead of an *içinde* 'in' PP, as seen in (33) and (34):

(33) a. Yağ üç dakika-**da** **eri**-di.
butter three minutes-**LOC** **melt**-PAST
'Butter melted in three minutes.'
b. *Yağ üç dakika **eri**-di.
butter three minutes **melt**-PAST
Intended: 'Butter melted for three minutes.'

(34) a. Kadın üç saat **çalış**-tı.
woman three hours **work**-PAST
'The woman worked for three hours.'
b. *Kadın üç saat-**te** **çalış**-tı.
woman three hours-**LOC** **work**-PAST
Intended: 'The woman worked in three hours.'

We can now employ this telicity contrast to diagnose internal arguments in direct causatives of unergatives. As a baseline, (35) demonstrates that the intransitive unergative 'sleep' can combine with *boyunca* or the bare DP (35a), as expected:

(35) a. Bebek **iki saat (boyunca)** uyu-du.
baby **two hour (for)** sleep-PAST
'The baby slept for two hours.'

However, to complicate matters, 'sleep' can also be used with *içinde*/*-te* but then receives the markedly different interpretation 'fall asleep.' I argue that in this case, the normally unergative verb is used as an unaccusative when appearing telic environment, as a result of which its sole argument is realized in the internal position. Acartürk (2005) has attested this effect of telicity extensively for Turkish. I will discuss

11. Yet another possibility is the suffix *-lIğInA*.

such cases in much more detail under the label of variable unaccusativity in Section 3.1. What matters for our current purposes is that 'sleep' allows for both an atelic and a telic use with different interpretations.

In causative environments, 'sleep' can take both *boyunca*/DP (36a) or *içinde*/*-te* (36b). Crucially, this correlates with a difference in the interpretation of the causative:

(36) a. Bakıcı bebeğ-i sadece **iki saat (boyunca)** uyu-t-tu.
caretaker baby-ACC only **two hour (for)** sleep-CAUS-PAST
'The caretaker let the baby sleep for only two hours.'
b. Bakıcı bebeğ-i sadece {**iki saat-te** / **iki saat içinde**} uyu-t-tu.
caretaker baby-ACC only {**two hour-LOC** / **two hour in**} sleep-CAUS-PAST
'The caretaker (was able to) put the baby to sleep in only two hours.'

In (36a), 'sleep' is used as an atelic predicate, accordingly taking a *boyunca*/bare DP modifier: the example features a cruel caretaker who only allows the baby two hours of sleep. In contrast, in (36b), 'sleep' is used as a telic predicate in the sense of 'fall asleep' as seen earlier, giving rise to the interpretation that the caretaker manages to make the extremely unruly baby fall asleep in merely two hours. This contrast in telicity predicts that (36b) but not (36a) should contain an internal argument.

This prediction perfectly aligns with the fact that (36a) is interpreted as an indirect, (36b) as a direct causative. Thus, the former contains an embedded unergative structure which lacks an internal argument and thus receives an atelic reading. On the other hand, the direct causative in (36b) contains an internal argument which makes a telic reading available. The fact that we cannot enforce a telic reading in an indirect causative, unlike in the intransitive base case (35), confirms the claim made earlier that the availability of a telic interpretation in the latter is the result of an unaccusative use of the verb: since indirect causatives cannot embed unaccusatives in Turkish, they must always contain an unergative structure which only allows for an atelic interpretation. To summarize, the direct causative licenses temporal modifiers with *içinde*/*-te*, the latter only surface with telic events, those in turn are licensed by an internal argument, and thus, we can infer that the direct causative contains an internal argument.

Finally, the present approach predicts that direct causatives should never be licensed if the verbal complement position where the causee would have to be realized is already filled by another argument. Overall, this prediction is borne out: in all three languages, transitives are unable to causativize. There is, however, an apparent counterexample, namely a class of transitives, traditionally labelled 'ingesto-reflexives,' which both in Hindi-Urdu and in Sason Arabic can form direct causatives. I will show that ingesto-reflexives are in fact fully compatible with the proposal.[12] Additionally, we will see that unergatives which normally can causativize no longer do so when combining with a path argument or cognate object, which is as expected if the latter compete with the causee for the internal argument position.

In Hindi-Urdu, the class of ingesto-reflexives comprises verbs such as 'learn,' 'see,' 'taste,' 'read,' 'understand' and 'drink,' among others. As seen in (37), ingesto-reflexives can causativize:

(37) Tina-na **Mina-ko** angrezii **sikh-aa**-yii.
Tina-ERG **Mina-DAT** English.F **learn-CAUS**-PFV.F
'Tina taught Mina English.' (Bhatt and Embick 2017:128)

Bhatt and Embick (2017) provide extensive evidence, which I cannot review here, that causatives of ingesto-reflexives project a prototypical ditransitive structure identical to double-object verbs. Concretely, I assume that the causee is merged in an applicative argument position and receives a non-agentive θ-role, such as that of a goal, recipient, benefactor or experiencer. This is confirmed by its non-agentive interpretation in (37), where Mina is presented as the recipient of English lessons rather than as an independent learner. Crucially,

12. Another case only seemingly at odds with the analysis is example (i) from Sason Arabic:

(i) Qarri-tu-a fi meytaba.
read.CAUS-1SG-her.ACC in school
'I made her read at school.' (i.e., I sent her to school, I enabled her to go to school.)

The causative formed from the verb 'read' allows for a direct reading, as can be confirmed via adverbial modification. This can easily be explained: the normally transitive 'read' has an idiosyncratic unergative use with the meaning 'to go to school, to study' arguably due to an implicit argument, similar to the intransitive uses of 'smoke' and 'drink.' This unergative variant can causativize; see also footnote 24. Note also that as mentioned in footnote 9, certain transitives in Hindi-Urdu can combine with the *-aa* morpheme but nevertheless receive an indirect interpretation.

since the causee is an applicative argument, it does not compete with the direct object (in (37), *English*) for the same syntactic position: the ditransitive structure has room for all three arguments.

Further support for this analysis comes from the fact that some Hindi-Urdu ingesto-reflexives also allow dative-marked arguments in monotransitive structures (38a), besides regular ergative case (38b):

(38) a. **Ram-ko** Sita dikh-ii.
Ram-DAT Sita see-PFV.F
'Ram saw Sita.' (lit. Sita appeared to Ram)
b. **Ram-ne** Sita-ko dekh-aa.
Ram-ERG Sita-DOM see-PFV
'Ram saw Sita.' (Bhatt and Embick 2017:130f.)

I argue that analogous to *Mina* in (37), the argument *Ram* in (38a) is generated in SpecApplP and receives an experiencer-like θ-role, whereas in (38b), it is merged in SpecVoiceP and receives an agent θ-role.[13] This is again reflected in the interpretation of the argument: in (38a), Ram does not intentionally observe Sita but merely passively apprehends her in his field of vision. These data strengthen the claim that ingesto-reflexive verbs allow the causee to be merged in an applicative position and to be assigned a non-agentive θ-role.

Ditransitive causatives of ingesto-reflexives can equally be observed in Sason Arabic, as in (39), with the causee again receiving dative case:

(39) şarrıp-to-lla mayn **raxu-(*e)**.
drank.CAUS-1SG-her.DAT water **sick-F**
'I_1 gave her_2 water to drink $sick_{1/*2}$.' (lit. 'I drank her.DAT water sick.')

Notably, the causee in (39) cannot be modified by a depictive secondary predicate. Akkuş (2021a) has shown that while both indirect objects of ditransitives and causees of indirect causatives are marked with dative case in Sason Arabic, only the latter license depictives, as also noted by Pylkkänen (2008) for English. Hence, (39) is indeed a monoclausal ditransitive structure, analogous to Hindi-Urdu causatives of ingesto-reflexives, and not a biclausal indirect causative. In sum, transitives are only able to causativize if the causee can be realized in an applicative position, as in ingesto-reflexives. Otherwise, it must be merged as an internal argument, causing the derivation to crash if this position is already occupied. Thus, ingesto-reflexives offer further evidence that causees of causatives of unergatives are merged in the internal argument position.[14]

Furthermore, direct causativization is equally blocked for unergatives with true path arguments or cognate objects. This is shown in (40) for Hindi-Urdu:

(40) a. Rohan do tarah-ke tango naach-egaa.
Rohan two type-GEN tango dance-FUT.3MSG
'Rohan will dance two types of tango.'
b. *Shama Rohan-ko do tarah-ke tango nach-aa-egii.
Shama Rohan-DOM two type-GEN tango dance-CAUS-FUT.3FSG
Intended: 'Shama will make Rohan dance two types of tango.'

The relevant path argument can raise to subject under passivization, confirming that it is a true argument of the verb instead of an adjunct (41):

(41) kal yahaan do tarah-ke tango naach-e jaa-enge.
tomorrow here two kind-GEN tango dance-PFV.MPL Pass-FUT.MPL
'Tomorrow, two kinds of tango will be danced here.'

Given that in (40b), the internal argument position is thus already occupied by the path argument, the causee cannot be merged in this position, and causativization fails.

13. The alternation in (38) is in fact an instance of the flexible mapping from event participants to θ-roles which is discussed in Section 3 under the term variable unaccusativity: the same argument can receive different θ-roles.

14. Highly similar findings have been reported by Legate (2014) for Acehnese in which the transitives 'eat' and 'drink' can form ditransitive causatives. For Georgian, Harris (1981) has equally shown that transitives causativize to form ditransitives, but interestingly, this strategy appears to be more productive in this language and not limited to typical ingesto-reflexive verbs. I must leave it open why this cross-linguistic difference holds.

Sason Arabic equally does not allow unergatives with path arguments to causativize. This is shown below for the verb 'run': under the direct reading, the causer takes the causee, typically a child, by the hands and helps them run by providing balance, whereas under the indirect reading, the causer makes the causee run in some other unspecified way. However, the direct interpretation disappears once a path argument is added, as in (42):

(42) faqqız-tu-a 10m.
run.CAUS-1SG-her 10m
'I made her run 10m. / #I ran her 10m.'

The fact that the path argument construction in (43a) can passivize to form (43b), with the path argument raising to subject, confirms the complement as opposed to adjunct status of the argument:

(43) a. kemal i-fqez 10m.
Kemal 3M-run.IPFV 10m
'Kemal runs 10m.'
b. 10m in-fıqez.
10m PASS.IPFV-run.IPFV
'10m were run.'

Overall, direct causativization is thus blocked whenever the internal argument position which would need to host the causee is already occupied by another argument – be it a regular direct object or, in Hindi-Urdu and Sason Arabic, a path argument[15] –, unless the causee can be realized in an applicative position.

To summarize, I have presented several pieces of evidence supporting the view that the causee in direct causatives of unergatives is realized as a run-of-the-mill internal argument. However, as the reader will have noticed, this view also raises genuine questions I have eschewed so far: it is unclear how unergatives should take an internal argument, or how the resulting structure would be interpreted. I will tackle these questions in the next section, and instead of positing novel interpretative mechanisms I will rely on an established but neglected phenomenon: variable unaccusativity.

3 Unergatives *qua* unergatives cannot causativize

The analysis presented so far appears to face two major challenges. First, unergative verbs should by their very nature be unable to license an internal argument other than a path argument or cognate object. Secondly, while I have shown that the subject of the intransitive and the causee of the transitive are semantically and syntactically distinct, there is nevertheless a sense in which they are identical. For instance, in the Hindi-Urdu examples 'Rohan is dancing' and 'Shama is dancing Rohan,' Rohan arguably performs the same activity in both sentences. This might make the claim that the argument occupies different positions and is assigned different θ-roles in the two constructions seem dubious at first.

This section will make sense of this conundrum by situating causatives of unergatives in the context of variable unaccusativity. The main claim I will defend is that unergatives *qua* unergatives cannot causativize.

15. The Turkish data on path arguments are inconclusive. Generally, in Turkish, causatives of unergatives – both direct and indirect –, the causee receives accusative case, whereas in causatives of transitives, the causee is marked with dative, the embedded direct object with accusative case. Unergatives with path arguments can surface with two different case markings (i):

(i) a. Çocuğ-**a** 10m-**yi** yürü-t-tü-m.
child-**DAT** 10m-**ACC** walk-CAUS-PAST-1SG
'%I walked the child 10m. / I made the child walk the 10m.'
b. Çocuğ-**u** 10m yürü-t-tü-m.
child-**ACC** 10m walk-CAUS-PAST-1SG
'I walked the child 10m. / I made the child walk 10m.'

Example (ia) aligns with transitives in that the causee receives dative, the path argument accusative case. In (ib), on the other hand, the causee is assigned accusative case while the path argument does not receive any case marking. One of my consultants rejects a direct interpretation in (ia), indicating that in their grammar, the accusative-marked path argument is a true complement of the verb blocking direct causativization. Others, however, accept both readings in both cases, which might suggest that they allow for accusative case marking on adjuncts. I must leave this question open; see Tollan and Massam (2022) for cross-linguistic variation in the case marking of path arguments and cognate objects.

Rather, the normally unergative root takes on an unaccusative behavior – with the primary argument being deagentivized and realized as a patient instead – and can thus causativize as usual. I will first introduce the phenomenon of variable unaccusativity in general and then return to causatives of unergatives to show that they fall out as part of the same phenomenon.

3.1 Background on variable unaccusativity

It is a well-known fact that the distinction between unergative and unaccusative verbs, as introduced by Perlmutter (1978) and Burzio (1981, 1986), is far from being a clear-cut line. While different roots do prefer different structures – and sometimes strongly so –, many can behave both as unergatives and as unaccusatives, typically with certain interpretative changes. The general perspective I will adopt in the following is that the distinction between unaccusative and unergative verbs is a gradient spectrum, ranging from prototypical unergatives to prototypical unaccusatives, with a broad range of intermediate cases in between. Sorace (2000, 2004, 2011) has shown that while 'core' unergative and unaccusative verbs tend to show consistent behavior, verbs in the middle of the spectrum can vary more easily between an unergative and an unaccusative use, both within and between languages, and are more prone to diachronic change. Moreover, unaccusativity/unergativity diagnostics tend to elicit clear judgments with core verbs, but less determinate intuitions with intermediate verbs.

Where a given verb is located on the unergative/unaccusative spectrum is determined, Sorace has argued, by two semantic factors, telicity and agentivity. That is, telic verb phrases are more likely to be realized with an unaccusative structure, while strongly agentive participants tend to be realized in the external argument position and thus to give rise to an unergative structure. These semantic factors not only account for the difference in behavior between distinct lexical items but also trigger variable behavior: whether a root is merged in an unergative or unaccusative syntax can depend on whether the verb phrase it projects receives a telic interpretation, as well as on how agentive its argument is understood to be. Since telicity is not crucial for our purposes, the following discussion focuses on the effect of agentivity only, which I will now demonstrate with concrete examples from a number of different languages.

The first example comes from first conjunct agreement in Russian, licensed with unaccusative but not unergative verbs (Krejci 2020). In (44), the verb 'stand' agrees with the features of the first conjunct only, which leads to an ungrammaticality in (44a) but not in (44b):

(44) a. *Na lestničnoj ploščadke stojal sosed i ego brat.
on stairway landing stood.**MSG** neighbor.**MSG.NOM** and his brother.**MSG.NOM**
Intended: 'My neighbor and his brother were standing on the stairway landing.'
b. Na stole stojal stakan i kuvšin.
on table stood.**MSG** glass.**MSG.NOM** and jug.**MSG.NOM**
'On the table stood a glass and a jug.' (Krejci 2020:126f.)

Krejci argues that in (44a) , the event participant exerts energy to maintain its position, is therefore conceptualized as agentive and merged as the external argument in an unergative structure. Thus, first conjunct agreement is ruled out. On the other hand, the inanimate argument in (44b) does not qualify as agentive and is realized as a patient in the internal argument position, licensing first conjunct agreement. In short, the animacy status of the argument impacts whether the verb behaves as an unergative or as an unaccusative.

A similar effect can be observed for case marking in Tsova-Tush. In general, external arguments in Tsova-Tush are assigned ergative, internal arguments nominative case. Interestingly, some verbs allow for both case marking patterns, with the expected differences in interpretation (45):

(45) a. (as) vuiž-n-as.
1SG.**ERG** fell-AOR.1SG-**ERG**
'I fell down, on purpose.'
b. so vož-en-sO.
1SG.**NOM** fell-AOR.1SG-**NOM**
'I fell down, by accident.' (Holisky 1987:105)

In (45a), the sole argument is merged in the external position and hence receives an agentive reading, giving rise to the interpretation that the speaker fell down intentionally. This contrasts with (45b), in which the

participant is mapped onto the internal argument position and is therefore interpreted as a patient, that is, as someone who fell down against their will. What can trigger variable behavior of verbs is thus not only the animacy status of the argument, as seen in (44), but also the degree of agentivity more broadly that is ascribed to the event participant.

Next, impersonal passivization in German, generally restricted to unergatives, is subject to the same variation.[16] The verb 'fall asleep' in German normally passes unaccusativity diagnostics: it can appear as a pronominal participle (46) and selects the auxiliary 'be' (47). The latter is correlated in many Western Germanic languages with an unaccusative use, while unergatives select 'have' (Sorace 2000, 2004, 2011).

(46) das eingeschlafene Kind
the fall.asleep.PART child
'the child that has fallen asleep'

(47) Sie ist eingeschlafen.
she is fall.asleep.PART
'She fell asleep.'

Nevertheless, impersonal passives with 'fall asleep' are not fully unacceptable but rather enforce a pragmatically somewhat strange agentive reading (48):

(48) ?Die Gutenachgeschichte stellte die Kinder zufrieden, und danach wurde bereitwillig
the bed.time.story put.PAST the children satisfied and afterwards was willingly
eingeschlafen.
fall.asleep.PART
'The bed time story satisfied the children, and afterwards they willingly fell asleep.'

Example (48) must mean that the children, having first resisted going to bed, now actively and voluntarily set about falling asleep. This example thus demonstrates that coercing a verb with unaccusative tendencies into an unergative structure can result in intermediate acceptability, leading to an agentive reading that is to some extent at odds with the lexical semantics of the root and requires a salient context.[17]

Finally, for Hindi-Urdu, we saw that reduced relatives require the presence of an internal argument. Accordingly, they are grammatical with unaccusatives and causativized unergatives but not with intransitive unergatives. In fact, however, the latter do license reduced relatives if their argument is inanimate (49):

(49) a. *uṛ-ii (huu-ii) **ciṛyaa**
fly-PFV.FSG be-PFV **bird.FSG**
Intended: 'the flown bird'
b. uṛ-ii (huu-ii) **patang**
fly-PFV.FSG be-PFV.FSG **kite.FSG**
'the flown kite' (Ahmed 2010:8f.)

This aligns with previous examples: the inanimate argument 'kite' possesses reduced agentivity and thus has a strong tendency to be merged as an internal argument, giving rise to an unaccusative structure.

To summarize, I have presented evidence from a broad range of languages that verbs can vary in behavior depending on the degree of agentivity ascribed to their argument. We can gain a sense of the proportion of verbs which are affected by variable unaccusativity by looking at Tsova-Tush, already discussed above, for which Holisky (1987) provides the following count:

(50) a. 31 verbs behave exclusively as unaccusatives;
b. 27 verbs tend towards unaccusative behavior but can be coerced into an unergative use;
c. 61 verbs can behave either way, with a difference in meaning;
d. 36 verbs tend towards unergative behavior but can be coerced into an unaccusative use;
e. 78 verbs can only behave as unergatives.

In short, variable unaccusativity is not a fringe phenomenon which could be reduced to lexical idiosyncrasies but a persistent and widespread property of languages. Thus, the question arises how to account for this

16. See Keller and Sorace (2003) for more detailed findings on how agentivity affects German impersonal passives.
17. A similar effect has been attested by Sigurðsson (2017) for Icelandic impersonal passives.

phenomenon on a theoretical level. A fully-fledged theory of variable unaccusativity would presuppose an understanding of how the lexical semantics of roots interact with syntax, a problem whose solution is far outside the scope of this paper. Instead, I will now provide a simple framework, loosely based on Levin and Krejci (2019) and Krejci (2020), which does not attempt to have much explanatory power but is merely meant to provide us with a more concrete way of thinking about variable unaccusativity by making explicit some straightforward intuitions.

Adopting a distinction proposed by Levin and Rappaport Hovav (1995), I assume that events – in the sense of real-life happenings that speakers aim to represent in language – are generally construed as either internally or externally caused. In internally caused events, the participant undergoing the action denoted by the verb is regarded as also being primarily responsible for the event coming about, whereas in externally caused events, responsibility is instead attributed to a separate external causer which might or might not be expressed in the sentence. Levin and Rappaport Hovav (1995) argue that internally caused events are syntactically realized in an unergative frame, whereas externally caused events are represented with an unaccusative structure which can optionally be causativized by adding an external causer.

Against this background, what variable unaccusativity demonstrates is that one and the same event can sometimes lend itself to different kinds of construals. Arguably, this holds in two ways. First, a given *type* of event – for instance, the kind that can be described as standing – can be construed differently depending on the properties of the concrete event token, such as the animacy of the participant. As a consequence of these real-world factors, the primary event participant is sometimes more plausibly construed as an agent responsible for the event, sometimes as a patient merely undergoing it. What is more, a given *token* of an event can sometimes be construed in different ways not due to an objective change in the properties of the event but merely due to a shift in the speaker's perspective. For instance, a speaker might represent the participant in a specific falling event either as an agent or as a patient depending on which aspect of the situation they choose to highlight.[18] In short, events denoted by the same verb can nevertheless differ in their construal, due to both objective and subjective factors, and thus give rise to different syntactic structures.

To sum up, the idea of a neat categorical distinction between unergative and unaccusative verbs is – and has long been – disproven by how verbs actually behave in the wild. While the lexical semantics of the root do generally make one usage more felicitous than the other, factors such as telicity and agentivity can lead to the verb surfacing in the less preferred structure instead. To make this idea more concrete, I have adopted the notion that events are construed as either internally or externally caused and can sometimes be interpreted either way. On a terminological note, I will continue to speak of unergative and unaccusative verbs, but as already highlighted earlier, this is to be understood as 'verbs which under most circumstances tend to pass unergativity/unaccusativity diagnostics.' The claim that an unergative verb can be used as an unaccusative or vice versa thus does not mean that its intrinsic nature is magically transformed but simply that it appears in a syntax it is less often associated with.

3.2 Linking causatives of unergatives to variable unaccusativity

Having provided a general picture of variable unaccusativity, I will now argue that this phenomenon can be leveraged to account for causatives of unergatives. The key idea I will put forward is that what enables normally unergative verbs in Hindi-Urdu, Turkish and Sason Arabic to causativize is that in such cases, they are used as unaccusatives instead.[19] In the following, I first show how concretely causatives of unergatives

18. There are many ways in which these claims could be tested experimentally, an avenue this paper unfortunately cannot explore.

19. Interestingly, the reverse pattern appears to be attested in Eastern Armenian, in which normally unaccusative verbs must be used as unergatives in the context of indirect causatives. Example (i) shows the direct and indirect causative of the verb 'become sick.' In the latter, the argument must receive an agentivized interpretation:

(i) a. Ara-n Grikor-in hivand-ats-rets.
Ara-NOM Grikor-DAT sick-CAUS-AOR/3SG
'Ara made Grikor sick.' (i.e., Ara was contagious)
b. Ara-n Grikor-in hivand-anal t'vets.
Ara-NOM Grikor-DAT sick-become gave
'Ara made Grigor pretend to be sick.' (Megerdoomian 2002:95)

For the question of why some languages might disallow indirect causatives of unaccusatives, see footnote 10.

can be understood as an instance of variable unaccusativity, then discuss the consequences of this analysis for a theory of θ-roles and finally respond to a potential objection to the proposal.

To reiterate, the crucial insight variable unaccusativity provides us with is that verbal roots, while usually preferring either an unergative or an unaccusative use, can often also be used in the alternative structure. As we saw, this variation is typically associated with a certain semantic change; namely, the single argument is interpreted more or less agentively depending on the position in which it is merged. Crucially, the same can be observed for causatives of unergatives. Not only does the causee display the syntactic properties of internal arguments, as shown in Section 2.3, they also obligatorily receive a deagentivized interpretation. Hence, I propose that what allows Hindi-Urdu, Turkish and Sason Arabic to 'causativize unergatives' is the fact that what is causativized is not actually an unergative but an unaccusative structure, with an external rather than internal construal of the event.

To gain a more concrete understanding of this claim, consider the Turkish causative 'I walked the child,' which describes the speaker holding the child by both hands and helping them walk by providing balance. While walking is normally seen as an activity largely under the control of the walker, in the scenario described it is perfectly plausible to regard the speaker, not the child, as primarily responsible for the walking event. Thus, the event is construed as externally caused and mapped onto a transitive structure, with the speaker as the external, the child as the internal argument. Overall, events that are described by a normally unergative root allow a causative description if the primary event participant is sufficiently deagentivized to be realized as an internal argument instead, resulting in an unaccusative structure which can causativize as usual.

This analysis has a curious feature which was already pointed out earlier, namely the fact that the subject of the intransitive and the causee of the transitive are assigned different θ-roles. For instance, in the alternation 'The child walked'/'I walked the child,' the child is assigned an agent θ-role in the former alternant, but a patient θ-role in the latter. At the same time, the child nevertheless performs the same activity in both sentences, namely moving forwards by virtue of putting one foot in front of the other. Given that under a common view of θ-role assignment, participants performing the same activity must be assigned the same θ-role, this mismatch is unexpected and might be taken to show that the current analysis is on the wrong track. Instead, I argue that it is our common view of θ-role assignment which needs to be rethought.

To begin with, it ought to be highlighted that this state of affairs – namely, that a participant performing the same action can nevertheless be assigned different θ-roles – is not limited to my proposal for causatives of unergatives. Rather, it has already been demonstrated extensively in the above discussion of variable unaccusativity more broadly, where we saw several examples of arguments being realized either as agents or as patients depending on the construal of the event. Given the ubiquity of variable unaccusativity, the fact that θ-role assignment is more flexible than previously assumed can hardly be denied.

Let us look in detail at how this flexibility plays out in the case of variable unaccusativity, taking as an example the alternation of 'Rohan is dancing'/'Shama is dancing Rohan.' In many cases, the two alternants can felicitously apply to the same event token, in the same way that a single, concrete event could be described both by 'The vase broke' and by 'Shama broke the vase,' depending on whether or not the external causer is included in the description. The key difference between the two alternations is that in regular causatives of unaccusatives, the primary event participant (such as *the vase*) is assigned a patient θ-role in both alternants, whereas in causatives of unergatives, the primary participant is realized as an agent in one and as a patient in the other alternant – without any of the participant's objective properties necessarily having changed.

What this demonstrates, I argue, is that θ-role assignment is relative, being sensitive not only to the properties of the event participant themselves but also to how the latter compares to other participants. Considered by himself, Rohan passes as sufficiently agent-like to be realized as an external argument: that is, in light of the data about the event that are available to the speaker, he can plausibly be construed as an agent. However, once he is contrasted with Shama, his degree of volition, causal control and other agent-like properties pales in comparison and he must cede the external argument position to her. This is as expected if roles such as 'agent' are regarded as prototypes in the sense of Dowty (1991) to which participants can conform to a greater or lesser extent. The degree to which a participant possesses agent-like properties is determined partly by the lexical semantics of the root, partly by a plethora of contextual factors. When participants are mapped onto syntactic positions, what matters is not only how closely they conform to the agent prototype, but also how they compare in this respect to other event participants. The key message to take away from this is that θ-roles are not inherent properties of event participants but relational in nature, not applying to a participant in isolation but only to the participant in relation to other participants within

a given event description.[20]

Overall, we thus arrive at a very different understanding of θ-roles. Traditionally, it is assumed that labels such as 'agent,' 'patient,' etc. pick out concretely defined roles played by the participants in a certain event. For instance, the agent of a dancing event is taken to be a person moving their feet rhythmically to the music. Against the background of causatives of unergatives as well as variable unaccusativity more broadly, however, such a view is no longer tenable. Rather, being the agent of a dancing event simply means to participate in the dancing event, to be sufficiently agentive, and to be more agentive than any other event participant. In this way, θ-roles are stripped of any substantive content: they are perfectly abstract schemata that we use in a flexible and context-sensitive fashion to cognitively and linguistically structure events.

What is left now is to address a potential objection to this proposal. On a general level, it might be argued that the present approach to verbal behavior vastly overgenerates, predicting that speakers are at liberty to use each verb in whichever structure suits their communicative intentions best, be it as unaccusatives, unergatives or transitives. More specifically, nothing in this paper so far has explained why unergatives cannot causativize freely in other languages such as English by simply switching to an unaccusative use, or why even in Turkish and Sason Arabic, only a subset of unergative verbs can appear in causative structures. One might also raise the question why some unergatives which causativize nevertheless cannot surface as unaccusatives. In short, which normally unergative roots can be used in causative structures is restricted in ways that have so far remained mysterious.

In response to this, I contend that this problem is real and troubling, but that it is in no way limited to this paper but rather endemic to research on argument structure as a whole. While there are well-attested general tendencies as to which verbs tend to be used as unergatives, which as unaccusatives, which can causativize, and so forth, variation and exceptions always exist. How verbs can behave is often item-specific – for instance, 'fall' does not causativize – and is subject to cross-linguistic variation: for example, 'blush' is unergative in Dutch but unaccusative in Italian (Sorace 2004); a group of transitives such as 'cut' regularly fails to form anticausatives in English but can do so in Hindi-Urdu; besides many other such examples. The same holds for the question of which verbs can vary between an unergative and an unaccusative use: for instance, in Dutch, normally unergative manner of motion verbs regularly shift to an unaccusative use in telic environments, but in Italian, only a subset does, and in French, none (Sorace 2000). Overall, which roots can be used in which structures is always subject to complex restrictions.

How these restrictions on verbal behavior are encoded in the grammar is a vexed problem which syntactic theory arguably still has no handle on. We simply do not know how concretely the licit mappings between roots and structures are constrained, and solving this puzzle is far beyond what this paper can achieve. With the exception of the issue of cross-linguistic variation which I will briefly revisit in the following section, I must leave this general conundrum to further research. To summarize, it is correct that the current proposal has nothing to say about how the ability of normally unergative verbs to appear in causative structures is constrained. However, to the extent that it thus has explanatory gaps, so does all research on argument structure, and this paper will be forgiven for not attempting to fill them.

This concludes the main part of this paper. In a nutshell, I have proposed that unergatives *qua* unergatives cannot causativize. What enables normally unergative roots to be merged in causative structures in Hindi-Urdu, Turkish and Sason Arabic is the fact that in such contexts, they behave as unaccusatives instead. This analysis rests on the broader claim that θ-roles are not inherent properties of participants but relative to event descriptions, such that a participant can be associated with different roles depending on how the event is construed. I have argued that such a flexible mapping between events and θ-roles must be assumed not only for my particular account of causatives of unergatives but also for the broader phenomenon of variable unaccusativity, such that it comes at no extra cost.

As already highlighted earlier, a consequence of this analysis is that the term 'causative of unergative,' used in this paper as a convenient shorthand, actually turns out to be a misnomer: verbs, whatever their preferred behavior in intransitive structures, can only undergo the causative alternation if they are used as unaccusatives. Even regarding causatives of unergatives as a separate class of causatives is misleading since

20. An interesting observation, pointed out to me by a participant at the Agency and Intentions in Language 3 workshop, is that 'Shama is dancing Rohan' entails 'Rohan is dancing.' Thus, under the present analysis, it follows from the fact that Rohan is the patient of a dancing event that he is also the agent of such an event – which might seem a faulty inference. The conclusion to draw from this is that θ-roles do not actually play a role in this entailment: as argued here, θ-roles only apply to a participant in the context of a given event description and do not necessarily translate between different descriptions. This question would merit a longer discussion which, unfortunately, space does not permit.

the only way in which they differ from causatives of unaccusatives is in how their root tends to be used when transplanted into an intransitive syntax. Otherwise, they are perfectly identical.

4 Cross-linguistic perspectives

In this section, we will broaden our view beyond the three languages investigated so far and look at causatives of unergatives cross-linguistically. First, I show that whether causatives of unergatives are available in a language is subject to gradient cross-linguistic variation at the lexicon-syntax interface. I then provide further evidence for this claim by demonstrating that in English, causatives of unergatives are not categorically disallowed, as often assumed, but attested to a limited degree. I argue that this picture of gradient cross-linguistic variation offers further support for my analysis of causatives of unergatives.

4.1 Gradient cross-linguistic variation at the lexicon-syntax interface

A question already briefly touched upon in the previous section is that of cross-linguistic variation, namely why Hindi-Urdu, Turkish and Sason Arabic have causatives of unergatives whereas other languages such as English apparently do not. Since the analysis developed here does not rely on specialized syntactic heads or features whose presence could be restricted to certain languages, it is not obvious how it could be parameterized. My response, in broad strokes, is that the cross-linguistic variation in the availability of causatives of unergatives is located at the lexicon-syntax interface. This is corroborated by the fact that, as I will show, it is gradient in nature. I begin by giving a brief overview over variation at the lexicon-syntax interface in general.

As outlined above, which verbal roots can be merged in which structures varies to some extent from language to language. That is, two languages might have a root with virtually identical semantic content but nevertheless differ in whether this root tends to behave as an unaccusative or as an unergative, whether it can vary in its behavior, whether it can causativize, and in various other respects. What makes this variation peculiar is that its locus is neither the syntax nor the lexicon proper but their interface: being item-specific, it does not boil down to syntactic variation between languages, but it is also too systematic to be reducible to idiosyncratic differences in the lexicon.

This systematic aspect has been established most extensively by Sorace (2000, 2011, 2004) in her work on the unergative/unaccusative distinction in Romance and Western Germanic languages. Sorace proposes to group verbs into several semantically defined classes, ranging from strongly unaccusative (51a) to strongly unergative (51g):

(51) a. Change of location
b. Change of state
c. Continuation of a pre-existing state
d. Existence of state
e. Uncontrolled process
f. Controlled process (motional)
g. Controlled process (non-motional) (Sorace 2004:256)

Drawing on auxiliary selection as a diagnostic, Sorace shows that languages draw the line between predominantly unergative and predominantly unaccusative verbs at different points in (51), with intermediate classes such as existence of state verbs being treated differently in different languages. All languages, however, obey an implicational hierarchy: if a given verb class behaves as, for instance, unaccusatives, all verb classes closer to the unaccusative end of the spectrum do so as well. What this demonstrates is that the unergative/unaccusative distinction is governed by universal principles, while there is also gradient cross-linguistic variation as to how concretely these principles are realized in a given language. As Sorace highlights, current research is ill-equipped to deal with such variation. Since we arguably do not have a working theory of how the licit mappings between roots and structures are encoded in the grammatical knowledge of a speaker, *a fortiori* we do not know how this mapping is parameterized cross-linguistically. More in particular, we do not understand what causes a given language to behave in a certain way; for instance, what influences the way in which a specific language splits up the spectrum in (51).

I argue that cross-linguistic variation in the availability of causatives of unergatives needs to be understood along the same lines, namely as having its locus in the mapping relation between roots and structures. While arguably all languages have verbs which can vary in their behavior, which verbs do so and under which circumstances is different from one language to another. For instance, as discussed in the previous section, the effect of telicity on variable behavior differs cross-linguistically. Hence, we would expect that it depends on the language whether unergatives – and which ones – can behave as unaccusatives to form causatives, and this is indeed what we observe. None of this is of course a comprehensive, nor a fully satisfying account. For instance, we still would like to know what it is specifically about Hindi-Urdu, Turkish and Sason Arabic that makes causatives of unergatives felicitous in these but not in other languages. However, I have highlighted already that the very same questions remain for other cases of variation at the lexicon-syntax interface, independent of the present analysis. The point I wish to make here is simply that how roots are mapped onto structures differs across languages in ways that are poorly understood; therefore, it hardly comes as a surprise that whether or not normally unergative roots can appear in causative structures varies as well. These cross-linguistic differences are not a matter of syntax; they are a matter of what can go into which syntax.

Further evidence for this view comes from that fact that, as I will show now, cross-linguistic variation in the availability of causatives of unergatives is of a gradient nature, thus patterning with Sorace's description of the unaccusative/unergative distinction. Languages do not fall into two clearly distinct classes based on whether or not they allow their unergatives to causativize but are rather located on a spectrum, such that some tolerate causatives of unergatives more, others less easily. Of the languages investigated in this paper, Hindi-Urdu arguably occupies one end of this spectrum, forming causatives of unergatives highly productively and with ease. At the opposite end, we should find languages which rule out causatives of unergatives completely; one such language might be German. Turkish and Sason Arabic, however, appear to be located in the middle of the spectrum. While they do license causatives of unergatives, they do so to a more limited extent than Hindi-Urdu in the following three respects.

First, Turkish and Sason Arabic restrict the alternation to a subset of unergative verbs whereas in Hindi-Urdu, virtually all unergatives alternate (see footnote 4 for exceptions). Secondly, in the former languages, some – but not all – causatives of unergatives acquire a rather idiosyncratic interpretation. For instance, the direct causatives of 'walk' and 'run' in Turkish and Sason Arabic, respectively, both exclusively denote the action of taking a toddler by the hands and helping them take a few steps; they cannot describe any other act of causing someone to walk or run. Thirdly, Turkish and Sason Arabic causatives of unergatives tend to require a context in which it is highly salient that the causer is more agentive than the causee. This is exemplified by the fact that several causatives are only felicitous if the causee is a baby or child – a demographic which generally scores low on agentivity –, including the causatives of 'walk' and 'run' just discussed as well as of 'sleep.' Overall, Turkish and Sason Arabic can in principle causativize unergatives, but do so less productively than Hindi-Urdu.

In sum, I have argued that languages allow causatives of unergatives to different degrees. This offers further support for the analysis proposed in this paper. If causatives of unergatives indeed required a special piece of syntax available in a subset of languages, we would expect them to be fully licensed in some languages and completely ruled out in others; however, this is not what we observe. If, on the other hand, causatives of unergatives require that the root be used in an unaccusative syntax instead, as claimed here, the fact that they are licensed to different degrees in different languages is as expected. Variation at the lexicon-syntax interface has been shown to be of a gradient nature, and this is fully in line with what we observe for causatives of unergatives.

4.2 Causatives of unergatives in English

To further corroborate the claim that causatives of unergatives are subject to gradient cross-linguistic variation at the lexicon-syntax interface, this section will now look in detail at the case of English. English is often assumed to not allow unergatives to causativize, and it is correct that squeezing an unergative root into a causative structure is not per se felicitous (52):

(52) a. *The comedian laughed his audience.
b. *The professor slept the students.

In fact, however, the empirical picture is more complex. I argue that English does allow causatives of unergatives, albeit only to a limited degree. In the following, I first discuss English transitives of manner of motion verbs and propose that they can be analyzed as causatives of unergatives, although open questions persist. I then present various other examples which will demonstrate even more clearly that causatives of unergatives are far from being unattested in English.

Manner of motion verbs in English are known to be able to surface with a non-path and non-cognate object under certain circumstances (53):

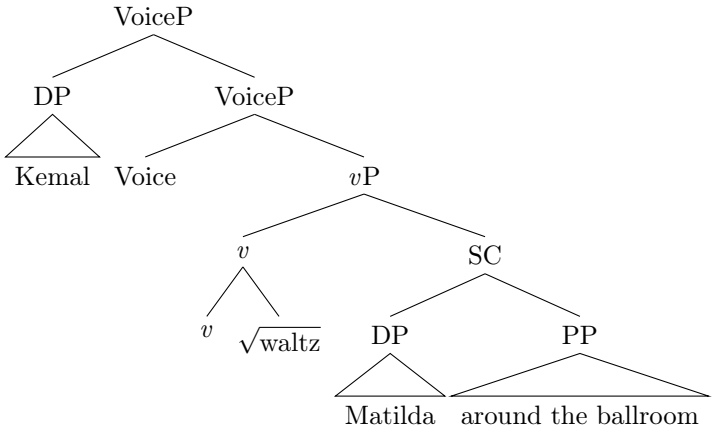
(53) a. Kemal waltzed Matilda *(around the ballroom).
b. The general marched the soldiers *(to the battlefield).

Such examples raise two questions, namely why unergatives should be able to take an internal argument and why the examples in (53) become unacceptable in the absence of the PPs. A popular analysis which provides an answer to both of these question has been to analyze transitives of manner of motion verbs as resultatives, analogous to examples such as (54) (Beavers 2012; Folli and Harley 2006; Ramchand 2008):

(54) a. Kemal danced his feet sore.
b. Ali ran himself tired.

Concretely, both the examples in (53) and those in (54) have been argued to contain a small clause structure. Under this view, the argument *Matilda* in (53a) is not selected by the verb *waltz* but by the resultative secondary predicate *around the ballroom*, as shown in (55):

(55)

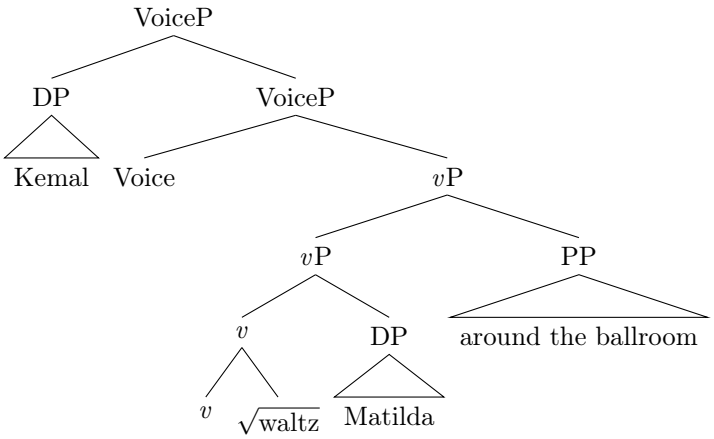


However, this small clause analysis has recently been dealt an arguably lethal blow by Biggs (2019), who showed that, contrary to what is predicted by the analysis in (55), the object and the PP do not form a syntactic constituent. Rather, it is the verb and the object at the exclusion of the PP which pass constituency diagnostics, namely *do so* anaphora (56a), *though* movement (56b), V-fronting (56c) and intervening adverbials (56d):

(56) a. Mary waltzed John around the ballroom, and Sarah did so around the garden.
b. Waltz John though Mary did around the ballroom, ...
c. (Mary thought she would waltz John around the ballroom – and) waltz him she did around the ballroom.
d. Mary waltzed John daintily/for hours around the room. (Biggs 2019:7)

From this, Biggs concludes that the object is a simple complement of the verb and that the PP has adjunct status (57):

(57)



Note that (57) is not the final analysis adopted by Biggs herself. I will discuss her proposal in detail in Section 5.3 below.

In sum, there is solid evidence that English allows unergative manner of motion verbs to appear in regular transitive structures. Moreover, it is clear that these constructions are interpreted as causatives: for instance, in (57), Kemal makes Matilda waltz around the ballroom. It might be objected that this does not exhaust the meaning of the sentence since the latter seems to entail that Kemal is waltzing as well. However, this inference is merely a pragmatic effect, resulting from the fact that the most plausible way in which Kemal could directly cause Matilda to waltz is if he himself is waltzing. In many of the examples we will see later, such as those in (58), a comitative reading is not required (and in fact pragmatically disfavored), showing that it is not part of the denotation of these constructions. Thus, transitives of manner of motion verbs can be characterized as simply receiving a causative reading. Finally, the causee is again obligatorily deagentivized. For instance, in (57), Matilda is the more passive dance partner and not in charge of the event.

All of this suggests that English transitives of manner of motion verbs can be analyzed along the same lines as causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic. That is, in (57), the normally unergative verb *waltz* is coerced into an unaccusative use, leading to a deagentivized construal of the argument *Matilda* and allowing the addition of the external causer *Kemal*. What makes this proposal attractive is that it captures the clear similarities between the English data on the one hand and those from Hindi-Urdu, Turkish and Sason Arabic on the other and allows us to regard them as a unified cross-linguistic phenomenon. However, it also raises a question that I need to leave unanswered, namely, why English transitives of manner of motion verbs are limited to specific contexts which I will outline now.

So far, we have seen that examples such as those in (53) require a PP in order to be grammatical. Biggs (2019) demonstrates that besides PPs, a broad range of other factors equally license causatives of unergatives. These include negation (58a), manner adverbs (58b), modals (58c) and temporal/frequency modifiers (58d):

(58) a. The teacher hasn't somersaulted the second team yet.
b. The choreographer diligently pirouetted the ballerinas.
c. Mary can cartwheel John.
d. Coach swims the first team more often than the second team. (Biggs 2019:14)

Additionally, Biggs observes that object weight also improves acceptability (59):

(59) a. Coach swam the team that had not performed well at the meet.
b. The teacher vaulted the gymnasts who had warmed up. (Biggs 2019:15)

This motley group of factors does not have an obvious common denominator. I am not aware of any analysis that explains why manner of motion verbs should be able to form transitives under precisely those circumstances, and I have none to offer either. One direction which future research might take is to explore the striking parallel, pointed out by Biggs, to the conditions under which English middles are acceptable. Like transitives of manner of motion verbs, middles are licensed by modifiers, modals and negation (Roberts 1987), as seen in (60):

(60) a. *Bureaucrats bribe.
b. Bureaucrats bribe easily.
c. The bureaucrats will bribe.
d. Bureaucrats don't bribe.

One factor that licenses transitives of manner of motion verbs but at first does not seem to have an equivalent in the realm of middles is object weight, as seen in (59). What is notable, however, is that the heavy objects in Biggs' examples both contain restrictive relative clauses, which might induce a contrastive focus interpretation. Contrastive focus, in turn, is known to make middles more acceptable (61):

(61) a. ?Bureaucrats BRIBE.
b. ?This bread DOES cut.
c. ?CHICKENS kill. (Roberts 1987:232)

Overall, while this analogy to middles is suggestive, it does not provide us with a simple solution to the puzzle either. Exploring it further is beyond the scope of this paper.

There is a final restriction on English transitives of manner of motion verbs, which they share with causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic. This is the fact that they are usually – although not always – infelicitous with inanimate causers (Levin and Rappaport Hovav 1995, Biggs 2019), as seen in (62):

(62) *'The Blue Danube' waltzed Matilda around the room.

What makes (62) unacceptable are arguably pragmatic factors. Concretely, the preference of the verb *dance* to be construed as internally caused can only be overridden if the external causer can plausibly be understood as more strongly agentive than the causee. The inanimate argument in (62) clearly does not meet this requirement. This view is supported by the fact that inanimate arguments do become acceptable once they can contextually be construed as having substantial agentive power (63):

(63) The vaulting machine vaulted the gymnasts who had warmed up.

Thus, these facts can be accounted for under the present analysis.

To give an intermediate summary, I have suggested that English transitives of manner of motion verbs are in general amenable to the same treatment as causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic. However, this is clearly not the full story. In particular, it is an open – and intriguing – question why transitives of manner of motion verbs are only acceptable under the very same set of circumstances that license middles. Additionally, we need to ask why the examples seen so far are limited to motion verbs.[21] In short, I do not claim to have provided a comprehensive analysis of transitives of manner of motion verbs but I do claim that considering them as part of the broader phenomenon of causatives of unergatives will help us understand them better in the future.

Moving on, causatives of unergatives are also attested elsewhere in English. First, causatives of unergatives which normally require a licensor such as a PP no longer do so if the causee is inanimate (64):

(64) a. Breanna danced her little sister *(around the nursery).
b. Breanna danced her teddy bear (around the nursery).

Under the present approach, this is as expected. As shown in Section 3.1, inanimate arguments have a strong tendency to be realized in the internal position and thereby enforce an unaccusative use of the verb which can thus causativize.

Levin and Rappaport Hovav (1995) discuss several other candidates for causatives of unergatives in English. One class involves verbs of emission, as seen in (65) and (66):

(65) a. The doorbell buzzed/rang.
b. The postman buzzed/rang the doorbell.

21. A potential exception to this generalization is (i):

(i) You shouldn't work your donkey too hard.

(66) a. The flashlight beamed/shone.
b. We beamed/shone the flashlight. (Levin and Rappaport Hovav 1995:115)

Levin and Rappaport Hovav's analysis of such examples very closely prefigures the present proposal for causatives of unergatives in general, although couched in a lexicalist framework: emission verbs, they argue, are compatible both with being construed as internally and as externally caused and can thus surface both with an unergative and a transitive syntax. Note that there are two reasons why verbs of emission should be able to take on an unaccusative guise more easily than other unergatives. First, they take inanimate causees which, as already seen above, make an unaccusative structure more felicitous. Secondly, verbs of emission are located in the middle of the unergative/unaccusative spectrum, being neither strongly agentive nor strongly telic. As a result, they are expected to be highly flexible in their behavior, which is exactly what we observe.

Another group of examples of English causatives of unergatives is given in (67) and (68):

(67) a. The nurse burped the baby.
b. The doctor bled the patient. (Levin and Rappaport Hovav 1995:115f.)

(68) Maayan walked her dog.

Levin and Rappaport Hovav argue that causatives such as (67) are idiosyncratic cases and not derived by a general rule, as evidenced by the fact that they are only felicitous with highly specific choices of objects and can only describe very particular events. The latter is certainly correct; for instance, (69) is infelicitous if the victim is stabbed and consequently bleeds to death:

(69) #The murderer bled his victim.

However, very similar restrictions hold for some causatives of unergatives in the languages discussed previously. For example, as pointed out above, the causatives of 'walk' in Turkish and 'run' in Sason Arabic are pragmatically odd if the object is not a baby or a toddler and can only have the fairly specific meaning of providing balance to a child who is learning to walk. Nevertheless, these are languages in which causatives of unergatives are certainly productive. There is no obvious clear line that could be drawn between lexically idiosyncratic causatives that are simply listed as such and regular, rule-derived causatives with predictable and transparent meaning.

Finally, as also noted by Levin and Rappaport Hovav, causatives of unergatives are often spontaneously coined in everyday speech (70):[22]

(70) a. We're gonna splash and we're gonna spin ya. We're gonna scream and we're gonna grin ya. [In promotional brochure for an amusement center]
b. What's fussing her? [A Grandpa worrying why baby is crying]
c. At the end of the week "Here little doggie, here is your bone, now last it until next week."
(Pinker 2013:179)

What these data indicate is that in practice, causatives of unergatives are more pervasive in English than commonly assumed. Large-scale corpus studies could help give us a clearer picture of their actual prevalence, which might considerably exceed what has been deemed grammatical in linguistic research in the past. While the examples in (70) might not be deemed fully grammatical, dismissing them as simple speech errors is hardly warranted either. Pragmatic factors might also considerably influence their acceptability.

To summarize, in this section I have examined whether English is indeed as uncontaminated by causatives of unergatives as commonly assumed. First, I have proposed that transitives of manner of motion verbs

22. In acquisition, causatives of unergatives are even more rampant (i):

(i) a. I come it closer so it won't fall. (Pulling bowl closer to her as she sits on counter)
b. Mommy, can you stay this open? (Having trouble with refrigerator door)
c. But I can't eat her! (Poking spoon at doll's closed mouth)
d. Don't giggle me. (While being tickled) (Bowerman 1982:108f.)

How children overcome this stage and eventually learn the correct mappings between roots and structures has long been an important topic in research on language acquisition (Bowerman (1982), Pinker (2013), among many others; see also Alishahi (2011) for a recent overview over computational approaches). Exploring the implications of the present proposal for acquisition is outside the scope of this paper but would be a highly interesting question for further research.

can be analyzed along the same lines as causatives of unergatives in Hindi-Urdu, Turkish and Sason Arabic, while acknowledging that this leaves it open why such causatives are limited to certain, oddly defined contexts as well as to, obviously, manner of motion verbs. Secondly, I have presented a wide variety of other examples, involving causatives with inanimate causees, verbs of sound emission, idiosyncratic phrases, and spontaneous productions on the borderline of acceptability. Overall, there is no doubt that English does not allow causatives of unergatives as easily as the languages investigated previously. However, declaring them to be categorically ungrammatical does not square with the empirical facts either.

Overall, the English data support the claim that whether or not a language can causativize unergatives is a matter of gradience. On one end of the spectrum, we find languages in which causatives of unergatives are highly productive, semantically transparent and felicitous in a broad range of contexts. The more we approach the other end, the more they become limited to a subset of verbs, take on an idiosyncratic meaning and require a highly salient context. This picture is hardly compatible with the idea that causatives of unergatives rely on a special piece of syntax available in some languages but not others. Rather, it suggests that syntactically, they are built with a simple transitive structure, but that which roots can be merged in this structure is subject to gradient, complex and largely unexplored cross-linguistic variation.

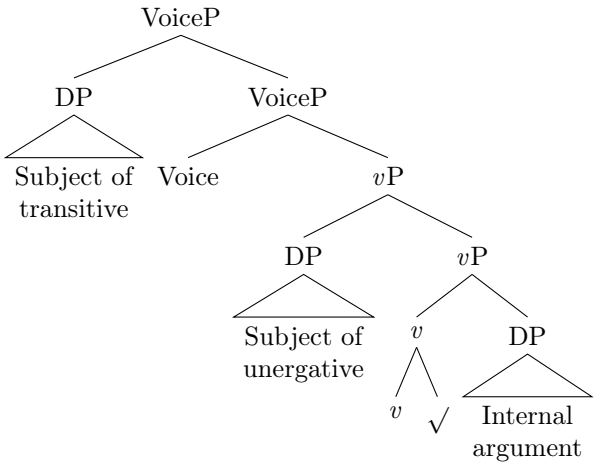
5 Against alternative approaches

Having outlined my own proposal for causatives of unergatives, I will now review three alternative approaches. I begin with what I label the low subject analysis of causatives of unergatives, originally developed by Massam (2009). I then turn to Ramchand's (2008) analysis of causatives of unergatives in Hindi-Urdu and finally discuss Biggs' (2019) work on transitives of manner of motion verbs in English.

5.1 The low subject analysis: Massam (2009) and beyond

The core idea of the low subject approach to causatives of unergatives is that subjects of unergatives differ syntactically from subjects of transitives, contrary to what is commonly assumed. Concretely, it has been argued that while subjects of transitives are generated in SpecVoiceP, subjects of unergatives are generated lower, in Spec$v$P, as seen in (71) (Kouneli 2021; Kumaran 2021; Massam 2009; Myler 2022; Pineda and Berro 2020; Tollan 2018; Tollan and Massam 2022; Tollan and Oxford 2018). Internal arguments of unaccusatives and transitives are, as usual, assumed to be merged as complements to the verb:[23]

(71)



The motivation of this structure is, in the most basic terms, to account for systematic differences between unergative and transitive subjects, such as differences in Case (Massam 2009), voice (Tollan and Oxford 2018) and plural (Kumaran 2021) marking, all of which I must sidestep in the following. What matters for our

23. Tollan (2018) and Tollan and Oxford (2018) argue that certain transitive subjects in Samoan and Algonquian, respectively, are also located in Spec$v$P. For Kipsigis, Kouneli (2021) claims that subjects of unaccusatives are equally generated in Spec$v$P, or rather, that the language lacks true unaccusatives altogether.

purposes is how the low subject approach is leveraged to account for yet another differences between unergatives and transitives: in Niuean (Massam 2009),[24], Samoan (Tollan 2018), Algonquian (Tollan and Oxford 2018), Kipsigis (Kouneli 2021) and Quechua (Myler 2022), unergatives but not transitives can causativize, as equally observed for Hindi-Urdu, Turkish and Sason Arabic. Under the low subject approach, this falls out from the fact that in unergatives, the SpecVoiceP position is vacant and can be filled by the causer, which is not possible with transitives. Hence, unlike under the view argued for in the present paper, the subject of the intransitive unergative and the causee of the causative are assumed to occupy the same position, Spec$v$P.

For reasons of space, I cannot engage with the data from the languages for which this analysis has been originally raised. However, we do need to consider whether it might not account for Hindi-Urdu, Turkish and Sason Arabic. To this end, I will now briefly revisit the various pieces of evidence for the internal argument status of the causee in causatives of unergatives given in Section 2.3 above and assess whether they are compatible with the low subject approach.

First, we have seen that the causee receives a deagentivized reading different from its interpretation in the intransitive. If the subject of the base unergative and the causee of the transitive are both merged in Spec$v$P, the fact that they differ in interpretation is unexpected, regardless of what θ-role is concretely assumed to be assigned to Spec$v$P.[25] Previous analyses of causatives of unergatives that champion the low subject approach make no mention of non-agentive causees. I must leave it open whether this is due to an oversight or reflects genuine cross-linguistic differences, but the fact remains that the low subject proposal cannot deal with languages in which the causee is obligatorily deagentivized.

Next, I have shown that the causee behaves as an internal argument in the three following respects: it allows for reduced relatives, can be modified by resultative predicates and can give rise to a telic interpretation of the verb phrase. Given that the properties of the novel Spec$v$P position are as of yet ill-defined, it is not clear whether an argument in this position is predicted to pass these diagnostics or not. However, what is predicted is that the subject of the intransitive and the causee of the transitive, assumed to be structurally identical, should behave in the same way. The low subject approach has no way of explaining the fact that, on the contrary, the two arguments differ in their ability to license reduced relatives, resultatives and telic interpretations.

Lastly, I have demonstrated that all three languages do not permit causativization of transitives, and that Hindi-Urdu and Sason Arabic also block causatives of unergatives with path arguments. While the low subject approach was in part designed to explain the former, it does not capture the latter: it is not clear why the presence or absence of a VoiceP layer hosting the causer should determine whether or not a path argument can be added as a complement of the verb. If the causee is located in Spec$v$P, it remains mysterious why its presence co-varies with that of path arguments. What is more, the low subject approach predicts transitives to be categorically unable to causativize given that they already have a SpecVoiceP subject. However, this is not compatible with our observation that transitives do causativize if the causee can be merged as an applicative argument instead. The most sensible response to this fact seems that we do not need to postulate different subject positions for transitives and unergatives to explain why only the latter causativize. Rather, this is simply and straightforwardly accounted for by the fact that unergatives have a vacant internal argument position to which the previously external argument can escape if it must make room for a new causer.

Overall, I conclude that the low subject approach demonstrably fails to account for the data presented above, which all easily fall out from the present proposal. To reiterate, I do not presume to cast a judgment on the success of the low subject proposal for the languages it was designed for, but it does fare poorly for Hindi-Urdu, Turkish and Sason Arabic. Admittedly, given that no attempts have been made so far to flesh out and adapt such a proposal for our three languages, one might argue that the verdict remains somewhat preliminary, and it is indeed not inconceivable that the analysis could be modified to comply with the data above. There is, however, yet one more argument to leverage: the low subject approach stipulates a new argument position not commonly assumed in syntax. In the interest of methodological integrity, additions to the theory should only be accepted if the theory is found wanting, that is, if it fails to generate the observed

24. In Niuean, transitives can only causativize if the original direct object remains unexpressed, is incorporated or surfaces with an instrumental applicative marker (Massam 2009); see the discussion of ingesto-reflexives in Section 2.3.

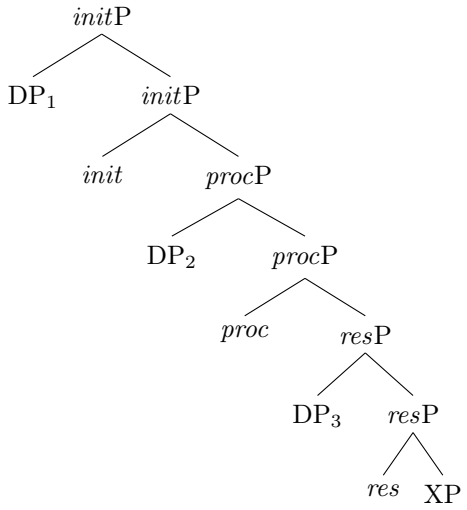
25. This question is often left unanswered. Exceptions are Massam (2009), who argues that Spec$v$P receives a 'doer' θ-role, as opposed to the 'agent' θ-role assigned to SpecVoiceP, and Tollan (2018), who describes unergative subjects as 'non-effortful and/or non-affecting agents or experiencers.'

facts. Given that my analysis does not require any novel structures or operations, it should be preferred if it can deliver the right results, and I hope to have shown that it can.

5.2 Covertly transitive unergatives: Ramchand (2008)

I now turn to Ramchand's (2008) analysis of causatives of unergatives in Hindi-Urdu, which forms only one puzzle piece in the comprehensive theory of verbal syntax that she develops. While I must introduce her overall system in broad strokes, I will not attempt to assess it as a whole but focus on her proposal for causatives of unergatives only. Ramchand proposes to split up the verbal domain into three projections, namely *init*P for the initiation, *proc*P for the process and *res*P for the result of the event denoted by the verb. Each of these heads takes an argument in its specifier: *init* introduces an initiator, *proc* an undergoer and *res* a result. This general structure is shown in (72):[26]

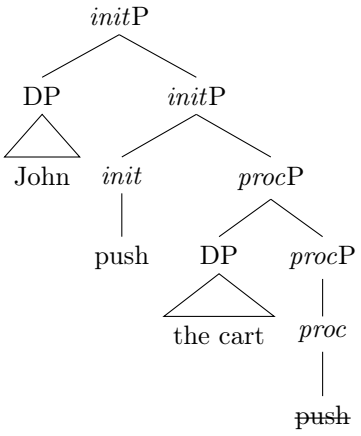
(72)



(Ramchand 2008:39)

A verbal root can be merged in one or several of these head positions but is only spelled out in the highest position that it occupies. Which heads a verb can associate with is specified in its lexical entry. For instance, the verb *push* is listed with the category features [*init*, *proc*] and thus projects the structure in (73):

(73)



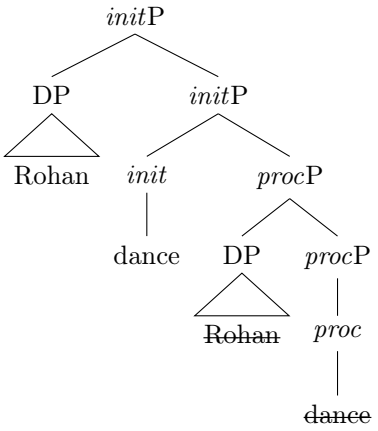
(Ramchand 2008:65)

While every verbal domain needs to contain a *proc*P, both *init*P and *res*P are not obligatory. For instance, (73) does not have a result state encoded by a *res*P, and unaccusatives lack an *init*P with an initiator.

26. The *res* complement position marked here as XP can host various material, most of which is irrelevant for our purposes. We will later see certain resultative secondary predicates surface here.

In the same way as heads, arguments can equally be merged in more than one position simultaneously while again only being spelled out in their highest position. This assumption is crucial to Ramchand's analysis of intransitive unergatives. The latter, she argues, project a transitive structure containing an *init*P and a *proc*P – just as seen for *push* above – but their lexical entry requires the two argument positions to be filled by the same argument. Thus, the derivation of *Rohan is dancing* is as in (74):

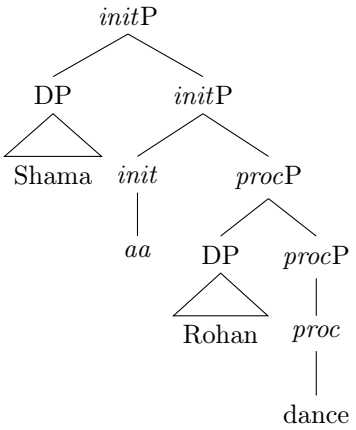
(74)



Hence, the argument *Rohan* is interpreted as both initiating and undergoing the event.

To causativize unergatives in languages such as Hindi-Urdu, Ramchand relies on a mechanism she labels underassociation. While, as outlined above, the lexical entry of a verb specifies in which head positions it can be merged, nothing requires it to merge in all of them. A subset of features may remain underassociated as long as the feature is exponed by an independent syntactic element. Building on this notion, Ramchand argues that in Hindi-Urdu causatives of unergatives, the *init* feature dissociates from the lexical root and instead associates with the causative morpheme -*aa*. Since *init* and *proc* are now filled by distinct morphemes, the requirement that their two arguments be identical is lifted and a distinct causer can be merged in Spec*init*P (75):

(75)



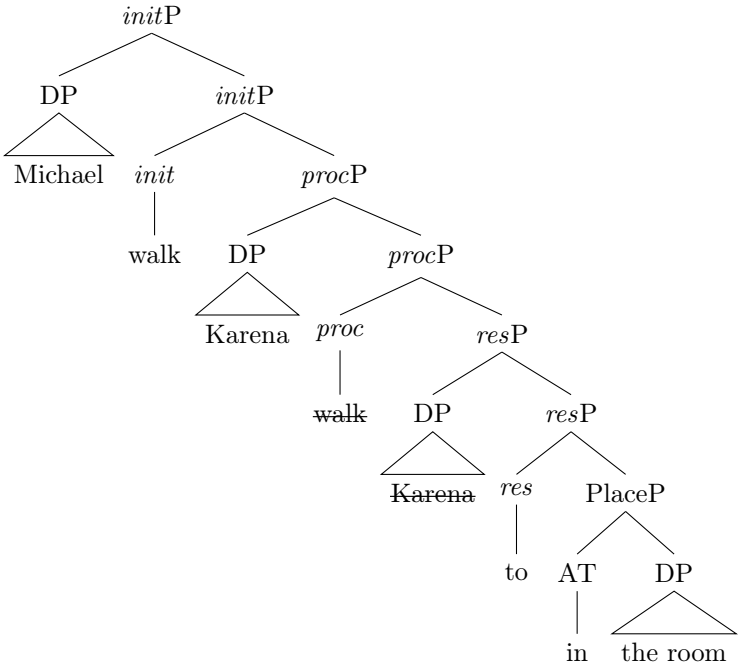
Hence, while in the intransitive, *Rohan* both initiates and undergoes the dancing, in the transitive, he only does the latter, while the initiator is now *Shama*. Overall, the goal of this analysis is to capture the sense that the entailments associated with *Rohan* in the transitive and the intransitive, respectively, are shared, but only partially so: in both, Rohan undergoes the dancing, but only in the intransitive can he also be said to agentively initiate it.

I argue that this intuition is misleading. To begin with, the observation that two arguments have some properties in common does not in and of itself warrant the claim that they must be sharing a θ-role: for instance, in *Shama pushed the cart to the store* and *Shama fell*, both instances of Shama move in space but the argument is nevertheless assigned a different θ-role in each structure. The claim Ramchand makes, of course,

is that the subject of the intransitive and the causee of the transitive do not merely share some spurious attribute such as moving in space but rather a fundamental property associated with a θ-role: namely, both in the transitive and the intransitive, Rohan undergoes the dancing. This notion, however, is vexingly vague. The most plausible interpretation of what it means to undergo a dancing is to simply do or perform the dancing. However, intuitions about whether or not a participant performs an activity are not due to any entailments associated with a θ-role but simply depend on whether an argument can serve as the subject of the predicate. For instance, in *Shama kicked the ball*, it would be incorrect to say that the ball does the kicking since *kick* is a non-alternating transitive (**The ball kicked*). On the other hand, in *Shama opened the door*, it is perfectly correct that the door does the opening since *open* has an unaccusative variant (*The door opened*). By the same token, the sense that in *Shama is dancing Rohan*, Rohan does the dancing merely reflects the fact that Rohan can serve as the subject of the intransitive (*Rohan is dancing*). In sum, there is no denying that the subject of the intransitive and the causee of the transitive have overlapping attributes, but it is not clear why the latter would need to be captured by a shared θ-role.

Moving beyond these theoretical considerations, Ramchand's proposal also faces a number of more tangible problems, all stemming from the claim that base unergatives contain a silent undergoer argument co-indexed with the initiator. The first problem this raises is what determines whether an argument co-indexed with a higher argument is realized as null or spelled out as an overt anaphor. A first stab at an answer might be that an argument must be silent if and only if it is the lower of two obligatorily co-indexed arguments introduced by a single head. However, Ramchand gives several examples in which a silent argument is co-indexed with a higher argument introduced by a *different* head, such as *Michael walked Karena into the room* in (76):

(76)



(Ramchand 2008:118)

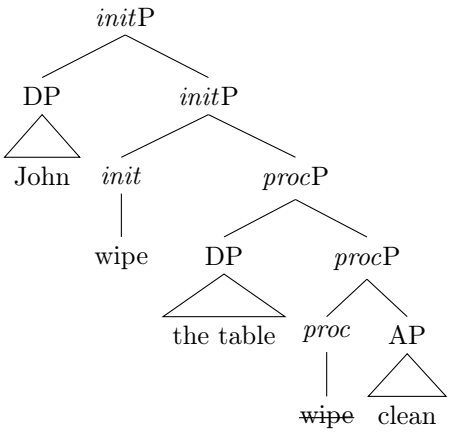
The details of this structure do not concern us here, but the crucial observation is that the two instances of *Karena* are introduced by distinct heads, *walk* in *proc* and *to* in *res*, respectively. Nevertheless, the Spec*res*P argument is realized as null.

As a way out, we might argue that an argument is realized as null if and only if it is obligatorily co-indexed with a higher argument regardless of whether the two are introduced by the same head, thus accounting for (76). However, whether the arguments of a single head must be co-indexed can easily be part of the lexical entry of the head itself, but it is unclear what would require the arguments of *walk* and *to* in (76) to be co-indexed, and where this information would be stored. What is more, this approach only begs the question: those arguments considered to be obligatorily co-indexed with a higher argument – such as the undergoer of an unergative – are precisely the kind of arguments whose existence is debatable, and claiming that they can

simply forego spell-out would be purely stipulative. In short, it remains unclear why the undergoer argument of an unergative, if it did exist, would not be realized as an overt anaphor.

Turning to the second problem, if unergatives had an undergoer argument – corresponding roughly to an internal argument –, another puzzle this poses is why they fail to pass standard diagnostics for internal arguments such as resultative predicates. Ramchand proposes two distinct resultative structures. First, certain adjectives can be merged directly as a complement of *proc*, as in *John wiped the table clean* (77):

(77)



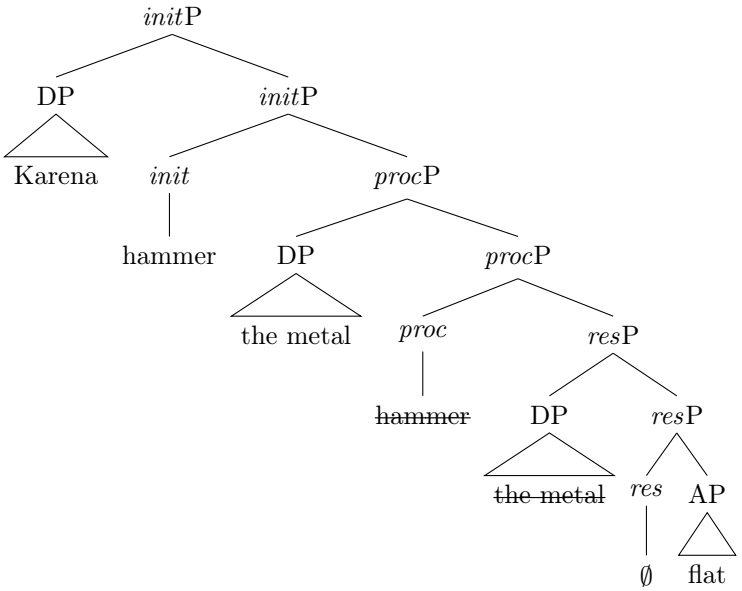
(Ramchand 2008:122)

Given that under Ramchand's view, unergatives equally have an *init-proc* structure – with the sole difference being that the arguments are co-indexed –, they are expected to equally license a resultative predicate in the complement position of *proc*. This prediction is not borne out, even if the adjective is kept constant. Example (78) can only have a depictive reading:

(78) John showered clean.

The second type of resultative structure Ramchand proposes is built by merging an AP in the complement position of *res*. This can be achieved in two ways. If the verb already has a *res* feature, the AP can be added without any further ado. If, on the other hand, the verb itself lacks *res*, languages such as English have a silent *res* head available that can project a *res*P licensing the resultative AP. The latter is demonstrated in (79) for *Karena hammered the metal flat*:

(79)



(Ramchand 2008:127)

As before, we would expect unergatives to be able to appear in the same structure. An *init-proc* verb such as 'run' should be able to form a resultative via the addition of a *res*P headed by a silent element; in fact, however, such structures are unavailable. Example (80) can only have a depictive reading:

(80) Karena ran tired.

Resultatives with unergatives are, of course, possible with unselected objects, including anaphoric ones (81):

(81) Karena ran herself tired.

However, this brings us back to the first problem discussed above, namely why one of the two lower *Karena* arguments in (81) is realized as an anaphor. In sum, the proposal that unergatives have a silent undergoer argument cannot explain why resultatives are either not licensed at all in such structures or require the presence of an anaphor.

The final problem for Ramchand's analysis of unergatives concerns path arguments. Ramchand assumes that path arguments are merged as complements of *proc*, thus in a position distinct from the undergoer argument.[27] As a result, she fails to account for the fact that in Hindi-Urdu, as well as in Sason Arabic, unergatives with path arguments are unable to causativize. One would need to argue that path arguments are only licensed if initiator and undergoer are co-indexed, but such a restriction lacks any motivation or basis. More in general, Bruening (2010) has noted that the distinction Ramchand makes between path and undergoer argument positions is not backed up by any kind of syntactic support: while there are clear semantic differences between the two kinds of arguments, there is no evidence that they occupy distinct positions in the structure. If, however, we give up on the idea that path and undergoer arguments are merged in different positions, the idea that unergatives take a silent undergoer argument collapses, as does Ramchand's analysis of causatives of unergatives as a whole.

To summarize, I have shown that Ramchand's proposal fails to account for the distribution of anaphors, the unavailability of resultatives with unergatives, and the inability of unergatives with path arguments to causativize. In consequence, her analysis of causatives of unergatives is ultimately untenable. A broader conclusion to draw from this concerns Ramchand's general view on the mapping between syntax and semantics: in her system, the semantic entailments associated with each argument are exhaustively represented in the syntax, sometimes resulting in a single argument being associated with more than one position. This is a genuinely interesting and not a priori implausible perspective. The fact that, however, I have shown unergatives to not have a silent undergoer argument indicates that in practice, language does not seem to conform with this view. Syntax is not responsible for reflecting every semantic entailment that could be attributed to an argument. Rather, it has the more modest task of simply assigning each argument the most suitable spot based on its semantic properties.

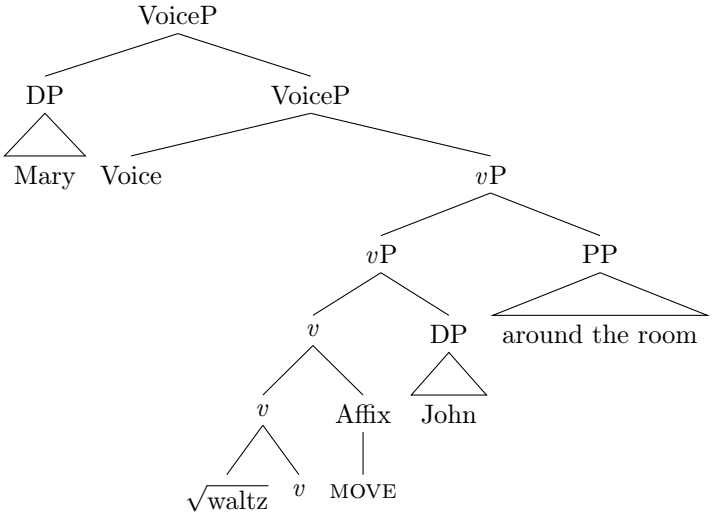
5.3 A novel θ-role for transitives of manner of motion verbs: Biggs (2019)

Biggs' (2019) analysis of transitives of manner of motion verbs in English has already featured prominently in Section 4.2. A key part of it is the claim, corroborated by evidence presented above, that the object in such structures is an ordinary complement of the verb and not part of a small clause. While Biggs thus assumes a syntactic structure broadly in line with the present analysis, she nevertheless develops a very different proposal which I present and discuss in the following.

What distinguishes Biggs' proposal from the view espoused here is that she does not assume the internal argument of transitives of manner of motion verbs to be interpreted as a regular patient. Instead, she argues that the argument receives a novel, 'in-motion' θ-role, understood as a particular kind of patient or theme θ-role assigned to objects which are in motion. This in-motion θ-role is not assigned by the root itself but by a silent affix, termed MOVE, which merges with the verb and introduces the internal argument. The structure assumed is thus as in (82):

27. Under Ramchand's view, the category of path arguments is broader than commonly assumed and also includes arguments that are more commonly regarded as patients or themes. Despite these terminological differences, there is no reason to believe that for Ramchand, the path arguments discussed in the present paper would not qualify as such; hence, the following argument is pertinent nonetheless.

(82)



(Biggs 2019:22)

Additionally, as equally discussed above, Biggs shows that transitives of manner of motion verbs are only licensed under special conditions such as modifiers, negation and modals. However, she too must leave it open why these restrictions hold.

Prima facie, a strength of Biggs' in-motion θ-role is that it seems to provide a clear-cut explanation for the fact that the English alternation is limited to motion verbs. In fact, however, Biggs' new θ-role does not account for this restriction since in principle, nothing prevents the θ-role-bearing affix from combining with any other root as well. Biggs cites the following example brought up by a reviewer which cannot be used to express that the passengers slept on the plane while also being in motion (83):

(83) *The pilot slept the passengers smoothly. (Biggs 2019:23)

To rule out examples such as (83), Biggs proposes that the affix can only combine with roots with a manner of motion denotation. She does not specify how concretely the root-selecting properties of the head are encoded, arguing that the mechanics of root distribution are generally an open question not limited to her analysis. The latter is certainly correct, but the fact remains that Biggs' analysis can merely stipulate why only a subset of verbs undergoes the alternation. The in-motion θ-role as such does not have any explanatory power in this respect.

What is more, the novel θ-role is not in fact required to account for the data. Biggs claims that the internal argument of transitives of manner of motion verbs cannot be a simple patient: while patient arguments are acted upon in the manner expressed by the verb, she argues, the arguments of MOVE *do* the activity in question. For instance, in *The general marched the soldiers to the battlefield*, the soldiers themselves do the marching. However, I have already shown in my discussion of Ramchand in Section 5.2 that the intuition whether or not a participant performs an activity is not a function of its θ-role but depends on whether the argument can surface as the subject of the sentence. Overall, the new, in-motion θ-role is thus arguably poorly motivated: it does not help in restricting the alternation to motion verbs, and whatever it might accomplish could equally be achieved by an old-fashioned patient θ-role. Finally, as controversial as the inventory of θ-roles may be, proposing a new role attested in a single construction in a single language is questionable.

This verdict raises the question whether Biggs' approach could be salvaged by removing from it the in-motion θ-role but otherwise retaining the spirit of her analysis, namely the idea that the internal argument is introduced not by the verb itself but by a functional head. Hence, in the remainder of this section, I will discuss such a generalized version of Biggs' proposal which could account not only for English transitives of manner of motion verbs but also for causatives of unergatives more broadly. My purpose here is to consider a view which, while to my knowledge not so far proposed in writing, the reader might very well entertain. Concretely, let us assume that a functional head, labelled here simply X, combines with the verbalized root – in the same way that Biggs' affix MOVE does – and introduces an internal argument, assigning it a patient θ-role. This head X would thus have the denotation in (84):

(84) $[\![\text{X}]\!] = \lambda f_{\langle s,t\rangle}.\ \lambda x_e.\ \lambda e_s.\ f(e) \wedge \textsc{Patient}(x)(e)$

While this version of Biggs' account still does not restrict the alternation to motion verbs, it does avoid the other criticism raised earlier. However, it also suffers from three major shortcomings.

First, the proposal fails to account for variable unaccusativity as a whole. Even if a specialized functional head could explain how normally unergative roots can license an internal argument, it could not explain how normally unaccusative roots lose this ability: heads can add, not subtract arguments. One might object that an analysis of causatives of unergatives is under no obligation to simultaneously deliver an all-encompassing account of variable unaccusativity. However, if we assume that roots are in principle able to merge both in an unergative and in an unaccusative structure, the need for a specialized head which provides normally unergative verbs with an internal argument vanishes: the same structure could equally be built by simply letting the root surface in an unaccusative structure, making the generalized version of Biggs' proposal redundant.

Another argument against the head X concerns its spell-out, or rather, the lack thereof. It appears that cross-linguistically, variable unaccusativity never has any overt morphological reflex: there are morphemes appearing only on unergatives, or only on unaccusatives, but there seem to be no morphemes marking specifically ex-unergative verbs which now lead an unaccusative existence, or vice versa. If there was indeed an argument-introducing head such as X which allowed unergatives to behave as unaccusatives, it would be surprising that it never receives any spell-out. A potential response to this argument is that in Hindi-Urdu, Turkish and Sason Arabic, X is in fact spelled out with the causative morpheme. This view raises two simple problems. On the one hand, when appearing on regular causatives of unaccusatives, the causative morpheme does not spell out X but is simply a causative morpheme. On the other, we saw that for example in Hindi-Urdu, inanimate arguments can equally trigger normally unergative verbs to take an internal argument. Arguably, the same head X would be required in this structure, but the causative morpheme does not surface. In sum, the idea that the head X might be realized by a causative morpheme in some languages fails on all sides, leaving X without any spell-out cross-linguistically.

Turning to the final problem, I would like to highlight for a moment what makes the generalized Biggs approach prima facie particularly attractive: it assimilates the analysis of causatives of unergatives to a popular treatment of the standard causative alternation, deriving the transitive from the intransitive by adding the missing argument in the syntax by means of an argument-introducing head. However, this tempting parallel quickly breaks down. Zooming out for a moment, let us consider the general question whether arguments are introduced by roots or by functional heads. Simply speaking, there are three possible answers to this question. First, both external and internal arguments might be specified on the root. Since this view does not rely on functional heads to introduce arguments and would thus not give rise to the Biggs-based proposal in the first place, I will not consider it any further here. Secondly, roots might bear no information at all about the arguments they can combine with. In this case, all internal arguments, including those of regular unaccusatives, are introduced by a functional head, say v, and what is more, the distinction between intrinsically unergative and unaccusative roots vanishes altogether. All of this eliminates the need for a specialized head to handle internal argument introduction in causatives of unergatives. Finally, under the view introduced by Kratzer (1996), roots carry information about internal arguments only while external arguments are introduced by the Voice head. This introduces a crucial asymmetry: transitives can easily be derived from unaccusatives in the syntax by adding an external argument encoded on Voice, but adding internal arguments in the same manner breaks the system. The idea that some internal arguments could be introduced by roots and others by a functional head, without any discernible syntactic, semantic or morphological difference, is theoretically bankrupt from the start. Thus, whichever view on the nature of roots one adopts, a head such as X which introduces exclusively patient-type internal arguments of normally unergative verbs does not add any value.

To summarize, the contribution Biggs has made to our understanding of transitives of manner of motion verbs is to have clarified their syntactic structure. However, I have pointed out several shortcomings of her ultimate analysis. Thus, I suggest that situating transitives of manner of motion verbs in the broader context of causatives of unergatives, although it equally leaves some questions open, holds more promise as the basis for future research. Additionally, I have been concerned with a modified version of Biggs' proposal adapted to account for causatives of unergatives in general, according to which the latter are built by means of a specialized functional head that merges with the verb and introduces a patient argument. Syntactic

approaches to argument structural alternations have arguably been successful in the past, and they continue to dominate the field. However, I contend that causatives of unergatives stubbornly resist such a treatment.

6 A note on causative morphology

A final outstanding issue I have steered away from throughout this paper concerns the morphology of causatives of unergatives, or more concretely, the question which part of their syntax is mapped onto a causative morpheme at PF. In a way, the answer to this question is simple. I have argued that causatives of unergatives are syntactically and semantically perfectly identical to causatives of unaccusatives, differing only in how their root tends to behave in intransitive structures. Furthermore, they surface with the same overt morphological marking. Hence, no special morphological analysis is needed for causatives of unergatives as such. The broader question this raises, namely how to analyze the causative morphemes of Hindi-Urdu, Turkish and Sason Arabic in general, is beyond the scope of this paper as well as orthogonal to its purpose, and I will not attempt to provide a conclusive answer to it. Instead, the goal of this very brief section is to point out a challenge which causatives of unergatives raise for our treatment of causative morphology in general.

To remind us of the data, Table 1 summarizes the morphological marking of direct and indirect causatives in our three languages. For brevity's sake, I refer to the various phonologically conditioned allomorphs of the Turkish causative affix (see Section 2.2) simply as *-DIr*. Note also that the indirect causative suffix in Hindi-Urdu is analyzed here as consisting of two components: the morpheme *-aa* equally present on direct causatives, and the additional morpheme *-v*.

(85)

Language	**Direct causative morphemes**	**Indirect causative morphemes**
Hindi-Urdu	***-aa*** vowel change	*-v* + ***-aa***
Turkish	***−DIr***	***−DIr***
Sason Arabic	**gemination** ablaut	**gemination** *make* *give*

Table 1: Causative morphology in Hindi-Urdu, Turkish and Sason Arabic

In the following, I sidestep the periphrastic *make* and *give* causatives of Sason Arabic as well as the indirect *-v* morpheme of Hindi-Urdu. I also will not deal with the vowel change and ablaut causativization strategies since the former is exclusively, the latter largely restricted to unaccusatives.[28] Thus, the only morphemes which are relevant for the following discussion are *-aa*, *-DIr* and gemination, which surface in both direct and indirect causatives and are able to combine with unaccusatives, unergatives and transitives alike.[29]

In the literature, causative morphology is commonly regarded either as the spell-out of a dedicated causative v_{CAUS} (Harley 2013, 2017; Pylkkänen 2008; among others) or of Voice (Alexiadou, Anagnostopoulou, and Schäfer 2015; among others). In the following, I discuss only the latter analysis. Note that, as mentioned previously, I assume that unaccusatives lack a VoiceP altogether, but the same argument holds if they are analyzed as containing an expletive Voice head instead. If causative morphemes, such as *-aa*, *-DIr* and gemination in our examples, did realize the Voice head, this raises an obvious question: since intransitive unergatives also contain a VoiceP, the analysis predicts them to equally surface with causative morphology, contrary to fact.

28. While I cannot provide a definite answer to the question why vowel change and ablaut causatives are limited to unaccusatives, a very plausible account is a diachronic one. Both vowel change and ablaut might be the older causativization strategies in their language, only later supplemented by *-aa* and geminate causatives, respectively. These older strata of Hindi-Urdu and Arabic might not have allowed causatives of unergatives as freely as the contemporary variants, thus restricting their direct causatives largely to unaccusatives. Independently, ablaut causativization in Sason Arabic is constrained by morphophonological template restrictions which might equally prevent some unergative roots from forming such causatives.

29. As shown extensively in Section 2.3, direct causatives of transitives are ruled out unless they can be realized as ditransitives. Additionally, Turkish and Sason Arabic disallow indirect causatives of unaccusatives, see footnote 10.

A possible way of dealing with this challenge is to argue that Voice is only spelled out as a causative morpheme if it is not already obligatorily included in the spell-out of the root. Concretely, we might assume that spell-out rules can make reference not only to individual heads but also to sequences of heads, and that the lexical entry for unergatives does not provide a spell-out for the root as such but only for the sequence of root, v and Voice. Since the latter is thus already realized at PF when in the presence of an unergative or obligatorily transitive root, it is not mapped onto the causative morpheme. This is illustrated in the toy example (86) below, using the Hindi-Urdu causative affix *-aa* for the sake of concreteness. If (86a)–(86c) are listed in the lexicon, (86d) follows:

(86) a. Voice $\leftrightarrow$ /aa/
b. $\sqrt{\text{fall}} + v \leftrightarrow$ /fall/
c. $\sqrt{\text{dance}} + v +$ Voice $\leftrightarrow$ /dance/
d. $\sqrt{\text{fall}} + v +$ Voice $\leftrightarrow$ /fall/ + /aa/

The key problem I wish to highlight in this section is that this strategy fails in the face of the data presented in this paper. Under my analysis, both intransitive and causativized unergatives contain a VoiceP layer. It is not clear why the Voice head should be spelled out as a causative morpheme in the transitive but not in the intransitive, given that in both cases, it is merged in the presence of the same root.

It should be noted that once more, the problem exists independently as long as variable unaccusativity is taken seriously. The rules in (86) rely on the idea that roots are specified in the lexicon either as unaccusative or as unergative, depending on whether or not they must be spelled out together with Voice. This does not square with the fact that, as demonstrated extensively above, many roots show variable behavior. Allowing for two spell-outs of a single root to be listed in the lexicon – one with and one without Voice – does not solve this problem either. Suppose that, for instance, the root 'dance' was associated with the following two spell-out rules:

(87) a. $\sqrt{\text{dance}} + v +$ Voice $\leftrightarrow$ /dance/
b. $\sqrt{\text{dance}} + v \leftrightarrow$ /dance/

The entry in (87a) could then be used for the intransitive and the one in (87b) for the transitive. However, nothing enforces this. In an intransitive such as 'Rohan is dancing,' for instance, it would be perfectly possible to let the rule in (87b) apply instead of (87a). As a result, since Voice is not spelled out yet, rule (86a) would apply and the intransitive unergative would surface with causative morphology. This only brings us back to the initial problem.

Prima facie, a solution would be to additionally make the spell-out of Voice dependent on the presence of an internal argument. For instance, we might argue that the causative morpheme spells out a particular flavor of Voice which selects a transitive v, or that it is a contextually conditioned allomorph of Voice which only surfaces in the presence of a transitive v. However, a simple counterargument to this idea is the fact that unergatives with path arguments do not surface with causative morphology. Hence, the causative morpheme is not correlated with transitive structures in general; rather, whether or not it surfaces depends on the interpretation of the internal argument.

Consequently, if we were to maintain the view that the causative morpheme spells out the Voice head, then the latter would arguably need to be sensitive to the θ-role assigned to the internal argument. It is not clear how this could be the case. Agreement doesn't seem to be of much help, given that which θ-role a head assigns is not usually considered part of its featural content that Agree could pick up on. More importantly, the very raison d'être of the Voice head is to introduce exclusively external arguments. Additionally providing it with information about the internal argument defeats the purpose of the system.

To summarize, the idea that causative morphology is associated with Voice leads to the problem of why causative morphemes are not found on intransitive unergatives. Conditioning the spell-out of Voice on the kind of root – unergative or unaccusative – with which it appears is not a working solution, given the existence of causatives of unergatives and variable unaccusativity in general. The problem, in short, is that causative morphology appears to be sensitive to the presence of two thematic arguments but that in the frameworks standardly used today, there is no single head which would simultaneously be aware of both and which could be mapped onto a causative morpheme at PF. Against this background, the alternative analysis that causatives require a specialized v_{CAUS}, or perhaps that causatives and unergatives contain different kinds of

Voice heads, might be worth revisiting. Investigating this question further is a task that I must, unfortunately, leave to future research.

7 Conclusion

To summarize, the main claim of this paper has been that causatives *qua* causatives cannot causativize, at least in the languages under discussion. To form causatives, the normally unergative verb must shift to an unaccusative use. The resulting structure is an ordinary transitive in which the causee is merged as an internal argument and receives a patient θ-role, reflected in a deagentivized interpretation. I have emphasized that it is perfectly common for verbs to vary between an unergative and an unaccusative use, depending on whether or not the argument is construed as agentive. Under the present analysis, then, causatives of unergatives are not some oddball data point which would require us to awkwardly tweak the theory but fall out naturally: given that normally unergative verbs are known to sometimes behave as unaccusatives, and given that unaccusatives are known to causativize, it would in fact be surprising if causatives of unergatives did not exist.

A broader theoretical insight that follows from this analysis concerns our understanding of θ-roles. Against the background of causatives of unergatives, as well as variable unaccusativity more broadly, θ-role assignment must be understood as relative, being sensitive not only to how closely a participant resembles a prototype such as 'agent' but also to how they compare to other participants in this respect. Furthermore, we have seen that a θ-role of a given verb does not come with any pre-determined substantial content but is perfectly abstract: the agent of a dancing event is not defined as someone who moves rhythmically to the music but simply as the most agentive participant of the dancing event, independent of the concrete activity performed.

Moreover, I have developed an outline of possible cross-linguistic variation with respect to causatives of unergatives. I have argued that the variation is located at the lexicon-syntax interface and that causatives of unergatives are licensed to varying degrees in different languages. On one end of the spectrum, in languages such as Hindi-Urdu, causatives of unergatives are formed highly productively, have a transparent denotation and adapt easily to various contexts. Closer to the other end, languages such as Turkish, Sason Arabic and especially English only allow a subset of unergatives to causativize, tend to assign them rather idiosyncratic interpretations and restrict them to highly salient contexts. Fleshing out this spectrum further would be a worthwhile project for future studies. More cross-linguistic data might also help us understand why a given language occupies a certain point on this spectrum; for instance, why Hindi-Urdu causativizes unergatives more easily than English. Concretely, it would be helpful to know if typologically, the extent to which a language allows for causatives of unergatives correlates with any other of its properties.

None of this is to say that all cases of causatives of unergatives are necessarily amenable to the analysis developed here. In my discussion of the low subject proposal, developed for languages such as Niuean, Samoan, Algonquian, Kipsigis and Quechua, I have emphasized that since I have not examined these data in detail, I cannot draw a firm conclusion as to whether they can be captured by the present approach. However, the fact that the present proposal accounts for three typologically unrelated languages strongly suggests that it has the potential to extend cross-linguistically. Further research could confirm whether it can also be adopted for those languages which have previously been taken as evidence for the low subject approach. The present paper has established a number of concrete diagnostics which could be employed for this purpose.

There are two other main questions which I must leave open. The first concerns English transitives of manner of motion verbs. While I have argued that they do form part of the class of causatives of unergatives, the specific conditions under which they are licensed are still in need of further research. In particular, the parallel to middles ought to be pursued further. Secondly, we have seen that causatives of unergatives and variable unaccusativity more in general pose a challenge for any treatment of causative morphology: if causative morphemes spell out Voice, as often assumed, then we need to account for the fact that they do not do so in intransitive unergatives. Addressing this problem is equally an outstanding task which this paper has not tackled.

I would like to end by briefly considering the broader theoretical question of the mapping relation between lexical roots and syntactic structures. In the syntactic literature, two main approaches to the lexicon-syntax interface have been proposed. On the one hand side, lexicalist frameworks such as Levin and Rappaport Hovav (1995) assume that the lexical entry of a verb specifies the syntax in which it can be merged. On

the other, constructionist approaches such as Borer (2005) argue that roots carry no syntactic information and can in principle be merged in every structure. To rule out ungrammatical sentences, well-formedness constraints are imposed on the construction as a whole. Various arguments have been levelled against both sides (e.g., Sorace (2004)), which I cannot discuss here. Instead, I will outline briefly two ways in which the present research might inform our thinking about these matters.

First, the phenomenon of variable unaccusativity clearly demonstrates that which structures a verb can merge in is too variable to be captured in a standard lexical entry. At the same time, the fact that semantically virtually identical roots can behave differently in different language makes it hard to see how the structural behavior of roots could fall out from general cognitive principles alone. Instead, it suggests that roots must carry some syntactic information listed in a language-specific lexicon. A possible solution to this dilemma might be to conceive of lexical entries as gradient and probabilistic, such that whether a given root is compatible with a given structure is not a categorical question but a matter of degrees. Secondly, we have seen ample evidence for the constructionist claim that argument-structural well-formedness is not merely a matter of matching roots and abstract structures but is evaluated at the level of the sentence as a whole. That is, whether a verb fits into a certain syntax also depends on contextual factors, such as the animacy status of the argument as we observed repeatedly. However, the question remains where in the grammar such well-formedness constraints are located and how they apply.

Overall, it is by integrating both probabilistic lexical information and fine-grained contextual factors that we might build a functioning theoretical framework of the lexicon-syntax interface. This might also involve drawing on insights from computational models of the acquisition of form-meaning mappings such as Alishahi and Stevenson (2008), a literature which so far has received little attention in syntactic approaches to argument structures. In the meantime, acknowledging the complexity and flexibility in the mapping between roots and structures is a crucial desideratum. As this paper has shown, the simplified assumptions with which we are currently operating are not only unsatisfactory in and of themselves; they also prevent our understanding of the most basic syntactic structures.

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