TURKISH CHANGE OF STATE VERBS

IN THE INCHOATIVE-CAUSATIVE ALTERNATION

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DECLARATION OF ORIGINALITY

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- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
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ABSTRACT

Turkish Change of State Verbs in the Inchoative-Causative Alternation

In this thesis, I study the principles that govern the inchoative-causative alternation in Turkish. I present the non-unified derivation of change of state (CoS) verbs in Turkish in light of a Distributed Morphology account by Alexiadou (2014). Based on her four-way classification, I first argue that i) unspecified causation is not a conceptual-semantic category in Turkish that has distinct semantic or syntactic properties and ii) externally caused verbs exhibit similar properties with those investigated in other languages. As for the ICCOS verbs, I argue for a two-way split characterized by the verbs' ability to alternate. Finally, I present novel data that exhibit a dual behavior in the alternation. Based on this, I claim that semantic classes such as internal or external causation are not root-level properties, as assumed in the literature. Instead, I argue that the semantics of a CoS event – which determines a verb's potential to alternate – cannot be determined until the theme argument enters syntax. Based on the frequency of occurrence of a verb with a given theme argument, I argue that verbs may be compatible with prototypical and non-prototypical CoS events and hence with more than one syntactic environment. I further argue that the different semantic properties of each CoS event type are reflected in syntax in terms of i) whether they project a Voice head and ii) the feature specifications that the given Voice heads make available.

ÖZET

Türkçe'de Durum Değişimi Bildiren Eylemlerin Ettirgen – Karşı Ettirgen Çatılar Arasında Nöbetleşimi

Bu tezde Türkçe'de durum değişimi bildiren eylemlerin ettirgen ve karşı ettirgen çatılar arasında nöbetleşimini belirleyen ilkeler çalışılmıştır. Türkçe'de durum değişimi bildiren eylemlerin çoklu türetme mekanizmalarını temsil edebilmek için Alexiadou (2014)'te önerilen Dağıtımsal Dilbilgisi modeli edinilmektedir. Yazarın dörtlü klasifikasyonu ışığında öncelikle i) kaynağı belirsiz durum değişimi bildiren eylem kategorisinin Türkçe'de özgün anlambilim ve sözdizim özellikleri bulunmadığını ve ii) dış kaynaklı durum değişimi bildiren eylemlerin çalışılmış diğer dünya dilleri ile benzer özellikler gösterdiğini öneriyorum. İç kaynaklı durum değişimi bildiren eylemler söz konusu olduğunda bunların ikiye ayrıldığını; bu ayrımı ilgili eylemlerin nöbetleşim potansiyellerinin karakterize ettiğini öneriyorum. Son olarak, ettirgen – karşı ettirgen nöbetleşiminde ikil davranış gösterebilen yeni veriler sunuyorum. Bu veriler temelinde iç kaynaklı ya da dış kaynaklı durum değişimi gibi anlambilimsel kategorilerin literatürde öngörülenin aksine kök düzeyinde kodlanmadığını öneriyorum. Bunun yerine, durum değişimi bildiren eylemlerin nöbetleşim potansiyelini belirleyen anlambilimsel özelliklerin [eylem+etkilenen üye] kompleksinden anlaşılabileceğini, eylemlerin gerek prototipik gerek prototipik olmayan durum değişimi olayları ile uyumlu olabileceğini, bu nedenle birden fazla sözdizimsel yapı ile üretilebileceğini öneriyorum. Buna ek olarak her durum değişimi bildiren olayın anlambilimsel özelliklerinin sözdizim düzeyine i) çatı başı içerip içermemeleri ve ii) ilgili çatı başının özellik spesifikasyonları şeklinde yansıdığını öneriyorum.

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LIST OF ABBREVIATIONS

A.DER	adjectival derivational suffix
ACC	accusative case
CAUS	causative morphology
CONV	converbial suffix
COP	copula marker
CoS	change of state
DAT	dative case
EV/PF	evidential/perfective marker
EXCOS	externally caused change of state
GEN	genitive suffix
ICCOS	internally caused change of state
LOC	locative case
NACT	nonactive morphology
NEG	negation
NMLZ	nominalizer
NOM	nominative case
POSS	possessive suffix
PSB	possibility
PST	past tense

CHAPTER 1

INTRODUCTION

In the MA thesis at hand, we explore the principles that govern the behavior of Turkish change of state (henceforth referred to as CoS) verbs in the inchoative-causative alternation. In the face of a non-unified morphological derivation of transitive and intransitive CoS verb pairs in this language, we choose to present the alternation phenomena based on a non-derivational account by Alexiadou (2014). To understand the principles at work behind the inchoative-causative alternation, we will use the semantic classification of CoS verbs as a window into the nature of their syntactic behavior. Based on evidence from syntax and semantics, we will conclude that only internally caused change of state verbs (henceforth referred to as ICCOS verbs) and externally caused change of state verbs (henceforth referred to as EXCOS verbs) are the alternating classes of verbs that exhibit distinct semantic and syntactic characteristics.

Another claim in this thesis is that the semantic class of ICCOS verbs forms a heterogeneous class in itself, as already pointed out by Alexiadou (2014) and Balakbabalar (2014). We will first explore the transitivization patterns of verbs that are analyzed as internally caused. To that end, we will carry out a corpus search and a small-scale grammaticality acceptability rating task. Based on the results, we will argue for a two-way split among ICCOS verbs, which is reflected in the verbs' ability to transitivize. We will link this syntactic contrast between the two types of ICCOS verbs to a semantic contrast, which is the ability to allow manipulation. Testing these findings against a new set of data that exhibits a dual and hence unpredicted behavior, we will arrive at the main claim of this study, which is that

unlike what Alexiadou, Anagnostopoulou, Schäfer (2006) or Alexiadou (2010, 2014) assume, semantic categories such as internal, external or agentive causation do not refer to the semantics of verbal roots. Rather, such semantic categories correspond to the semantics of [verb+theme] complexes. Based on evidence from metaphorization and causer modification, we will substantiate our claim that semantic categories can only be represented at a phrasal level in syntax. Finally, bearing in mind the empirical observation that verbs exhibit certain tendencies as to how frequently they may project a specific syntactic structure independently of their potential to exhibit dual behavior, we will propose four types of prototypical syntactic structures for change of state (henceforth referred to as CoS) events, which are Type I and Type II ICCOS events, EXCOS events and Agentively Caused CoS events. We will further argue that what differentiates them from one another is expressed in i) whether they project a Voice head and ii) the feature specifications of an available Voice head.

1.1 On what characterizes the inchoative-causative alternation and what characterizes the present thesis

This MA thesis investigates the principles that govern the participation of Turkish CoS verbs in the inchoative-causative alternation. As the label 'change of state' suggests, CoS verbs denote a change that a specific entity undergoes. In a sentence such as 'Mark's face turned red', we understand that Mark's face changed its color, probably due to some chemical changes in his body. What I refer to by the term *inchoative-causative alternation* is a well-known crosslinguistic phenomenon in which CoS verbs alternate between transitive and intransitive uses as the examples below show:

(1) a. Mary dissolved sugar in hot water.

b. Sugar dissolved in hot water.

As Schäfer (2009) points out, what is characteristic for this transitivity alternation is that the NP ‘sugar’, which occupies the object position in the transitive sentence in (1) a, now occupies the subject position in the intransitive sentence in (1) b. Crucially, although the surface direct object shifts to the position of the subject, from the point of view of the thematic role it bears, it relates to the verb in the same way, i.e. as its theme argument. It is for this reason that intransitive CoS verbs are typically treated as a subset of unaccusatives in the literature.

A broad range of theoretical traditions in the field of linguistics has dealt with the question of how the semantics of change of state is reflected in syntax. This question was raised because linguists made two interrelated discoveries: First, different languages show different levels of flexibility in terms of allowing the members of their CoS verb repertoire to participate in the inchoative-causative alternation. From this follows the second discovery, which is that within a given language, not all CoS verbs will alternate. Based on the assumption that the semantic building blocks of a verb determine its behavior in syntax (Levin & Rappaport Hovav, 1995), linguists started to look for classifications that would account for this intralingual and crosslinguistic asymmetry in verbs’ potential to participate in the alternation. With this aim in mind, many researchers, such as Levin and Rappaport Hovav (1995), Harley and Noyer (2000) and Alexiadou et al. (2006), amongst others, developed a semantic categorization of CoS verbs to predict their syntactic behavior. This being said, characterizing semantic subclasses of CoS verbs has not been without its problems. While at the beginning researchers developed semantic criteria to distinguish certain CoS verbs from others and claimed a syntactic division among them (Levin & Rappaport Hovav, 1995), ultimately the syntactic behavior of verbs

came to single-handedly determine their semantic classification (Alexiadou et al., 2006; Alexiadou 2010, 2014; Levin 2009). This caused a circular line of argumentation and a misclassification of verbs in the work that succeeded Levin and Rappaport Hovav (1995).

The MA thesis at hand recognizes the role of verbal semantics in understanding their syntactic behavior and adopts the classification under Alexiadou et al. (2006). What makes the approach in this study different from the preceding ones is the procedure by which verbs are assigned to a semantic class. Specifically, we will first determine a testable set of (syntactic) properties that characterize a CoS verb class and later link this set of behavior to semantic traits that apply across an entire group of verbs with common properties. Finally, we will test these data against a new and unpredicted set of data and illustrate what this says about the nature of the semantic classification we adopted.

The main claim of this study is that in Turkish, what determines a CoS verb's potential in participating in the inchoative-causative alternation is determined by the semantic class the verb is assigned to. This is in line with Levin and Rappaport Hovav (1995) and Alexiadou et al. (2006). However, this MA thesis diverts from other studies in so far as we argue following Balakbabalar (2015) that membership in semantic classes does not follow from verbal semantics. Specifically, we will argue that membership in a semantic class cannot be determined until the theme argument enters syntax. This means that the event semantics associated with a verb is computed in a compositional fashion including both the verb and its theme argument.

1.2 Methodology

The data collection in this thesis was conducted using three approaches: natural linguistic data using Turkish Corpus (TS Corpus), a grammaticality acceptability rating task conducted with 11 native speakers of Turkish, and my own examples. We gathered the entire data reported under corpus search from TS Corpus (Turkish Corpus), which is the largest compilation of written linguistic data in Turkish and contains around 491 million posttagged tokens. The most important motivation to choose this corpus over others, such as TNC (Turkish National Corpus) by Mersin University, is the large database TS Corpus makes available: It alone offers a sufficient number of tokens to be used as a sole source of reference, when compared the total number of tokens used in other studies such as the one by Wright (2001), which is 489 million words.

As we shall discuss in Chapter 4, when conducting the corpus search for the transitive uses of ICCOS verbs, we used two different search methods: For one part of ICCOS verbs (which we will call Type I ICCOS verbs), we were able to conduct an extensive search because the search yields a manageable number of tokens. As for the other part of ICCOS verbs (Type II ICCOS verbs), the number of tokens our search returned was too large for an extensive search. For this reason, to collect data for the second set of ICCOS verbs, we examined the first 1,000 examples for each verb from the corpus. As far as the grammaticality acceptability rating task is concerned, in this task, 11 native speakers of Turkish were presented with 96 sentences (24 of which were filler sentences), which included the two different types of ICCOS verbs and EXCOS verbs in different transitivity constellations. Test subjects were asked to rate the grammaticality of each sentence on a scale from *1* to *5 – 5* being perfectly grammatical and *1* indicating downright ungrammaticality.

Following the testing procedure, the grammaticality rating for each CoS verb type (ICCOS verbs or EXCOS verbs) was determined by calculating the mean rating average. Later, the results were compared against the behavior in the rest of the CoS verb types, which led us to our results.

1.3 Outline of the thesis

The structure of this study is as follows: In Chapter 2, we will briefly introduce different approaches to the inchoative-causative alternation. In Chapter 3, we will offer the first part of our analysis of Turkish CoS verbs in the alternation. Here, we will first discuss the classes of agentive causation and unspecified causation. This will be followed by an analysis of EXCOS verbs and their semantic and syntactic properties and a short introduction into ICCOS verbs. In Chapter 4, we will thoroughly discuss the semantic category of internal causation as well as the prototypical properties of verbs that are classified as such. In Chapter 5, we will introduce a series of data that are in conflict with the findings of Chapter 3 and 4. Based on these data, we will claim a compositional syntactic derivation of semantic classifications. Finally, in Chapter 6, we will try to accommodate the findings of the Chapters 3, 4, and 5 in the non-derivational syntactic model that was offered by Alexiadou (2014), which itself pursues the line of research under Alexiadou et al. (2006) and Alexiadou (2010).

CHAPTER 2

APPROACHES TO THE INCHOATIVE-CAUSATIVE ALTERNATION

As already known, unaccusatives are assumed to be single argument verbs whose subjects semantically map onto an internal argument (Perlmutter 1978; Burzio 1986) and inchoatives form a subset of unaccusative verbs. Hence, in the history of linguistic research, much what we know today about inchoatives was discovered within the scope of research on unaccusatives. Shibatani and Pardeshi (2002) note that the first discoveries of intransitives as a non-homogeneous class of verbs were made by the Japanese grammarian Motoori Haruniwa as early as in 1828. His semantic approach to intransitives advocated two separate classes of verbs, which roughly correspond to unaccusatives and unergatives under Perlmutter (1978). On the other hand, Levin and Rappaport Hovav (1995) note that the first unaccusative analyses of inchoatives go back to Hall (1965). Furthermore, with Fillmore (1970), inchoatives are first analyzed with a focus on their behavior in inchoative-causative alternation, noting that the hallmark of CoS verbs is their participation in the inchoative-causative alternation. Finally, with Perlmutter's (1978) work on the distinction between unergatives and unaccusatives, the most influential approach to intransitives emerged in the linguistic literature.

Research on the inchoative-causative alternation has been concerned with a number of questions, two of which are the following:

1. What determines the potentiality of a CoS verb to participate in the inchoative-causative alternation?
2. What does the nonactive morphology on anticausatives express?

Since in this study, we are mainly concerned with patterns of inchoative and causative formation among CoS verbs, we shall be focusing on question number one. However, it should be noted that the answer to the second question will follow from the discussion of the first one.

The question what enables verbs to alternate has been approached from a number of different perspectives. A large number of analyses assume a derivational relation between the intransitive and transitive variants. Four examples that we will briefly discuss in this chapter are the lexical approach by Levin and Rappaport Hovav (1995), the syntactic approach by Ramchand (2008), as well as the approaches by McCoon and MacFarland (2000) and Wright (2001), who combine psycholinguistic and corpus-linguistic methods with theories of lexical semantics. A typological approach is offered by Haspelmath, Calude, Spagnol, Narrog, Bamyacı (2014) amongst others. Lastly, we will provide a detailed introduction into the non-derivational approach by Alexiadou (2014) which pursues the same line of studies as those by Alexiadou and Anagnostopoulou (2004), Alexiadou and Anagnostopoulou (2007), Alexiadou, Anagnostopoulou and Schäfer (2006), Alexiadou and Schäfer (2006), and Alexiadou (2010).

2.1 Derivational approaches

In what follows, we will review the accounts by researchers who argue for a derivational relation between CoS verbs that alternate between intransitive and transitive usage.

2.1.1 Levin and Rappaport Hovav (1995)

Levin and Rappaport Hovav (1995) analyze the inchoative-causative alternation in order to gain further insight into unaccusativity phenomena. In this much-cited lexical semantic work, the authors analyze a large class of unaccusatives as underlyingly causative. Hence, they propose that the causative alternation is actually a process of detransitivization. The main claim of this work is that unaccusative verbs that take part in the causative alternation exemplify the so-called externally caused verbs. Externally caused CoS verbs denote CoS events that take place under the control of some external force. The most prototypical example for an EXCOS verb is *break*. Such verbs have an underlying causative lexical semantic representation, irrespective of whether the verb is used transitively or intransitively, as shown below:

(1) break: [[x DO SOMETHING] CAUSE [y BECOME BROKEN]]

(Levin & Rappaport Hovav, 1995, p. 83)

According to this representation, the predicate CAUSE takes two arguments, which are the causing subevent and the caused subevent. This means that all alternating unaccusative verbs are assumed to be bi-eventive or dyadic. On the other hand, the unaccusative CoS verbs that do not participate in the alternation are labeled as internally caused. ICCOS verbs denote CoS events that take place due to inherent characteristics of the theme argument. ICCOS verbs are assumed to be underlyingly intransitive, and therefore non-causative and monoeventive or monadic, as in (2).

(2) laugh: [x LAUGH][1] (Levin & Rappaport Hovav, 1995, p. 83)

One piece of evidence that Levin and Rappaport Hovav (1995) bring in favor of the detransitivization claim – one that is widely discussed in the literature – concerns the

[1] Please note that under Levin and Rappaport Hovav (1995), the non-alternating class of verbs crosscuts the unaccusative-unergative distinction. Therefore, the example in (2) is taken as an example for the structure of an unaccusative verb despite the fact that *laugh* exemplifies an unergative verb.

subject selectional restrictions in the intransitive vs. transitive versions. The idea of this argument is that verbs in their intransitive versions allow a much more restricted range of subject NPs than when they are used transitively.

(3) a. He broke his promise/the contract/the world record.

b. *His promise/the contract/the world record broke.

Under Levin and Rappaport Hovav (1995), this indicates that the transitive version of unaccusatives must be the basic form. What is not convincing is that the authors do not discuss in the relevant section any theoretical premises that stipulate why subject selectional restrictions should indicate the directionality of the derivation. Moreover, as also pointed out by Ramchand (2008), it turns out that transitive-intrantsitive CoS verb pairs may exhibit the opposite tendency as well. Consider the following data:

(4) a. The tent collapsed.

b. Mary collapsed.

c. Sue collapsed the tent.

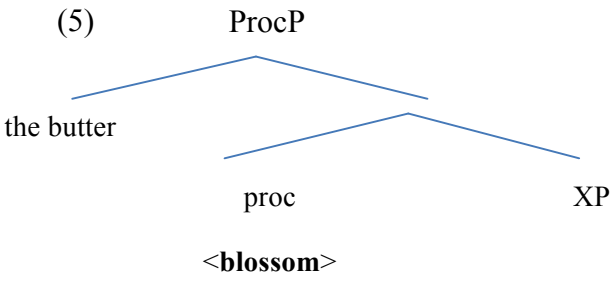
d. *Sue collapsed Mary. (Ramchand, 2008, p. 84)

The data in (4) from Ramchand (2008) illustrate that a more strict argument selectional behavior can also apply to the transitive variant, which speaks against the detransitivizing approach. In the following sections, we shall show that this observation can be regarded as evidence for a different idea, namely that the subject NP co-determines the type of causation that is associated with the verb. (For a detailed discussion, please see Chapter 5.)

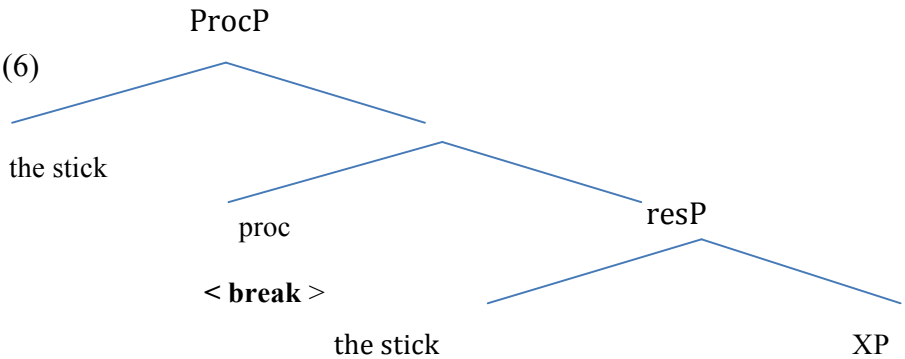
2.1.2 Ramchand (2008)

In her (2008) analysis, Ramchand questions the reliability of the transitive base approach in Levin and Rappaport Hovav (1995) based on evidence from typological studies, which illustrate that languages may tend to causativize or anticausativize CoS denoting verbs. In her syntactic approach to the causative-inchoative alternation, Ramchand (2008) identifies basic argument relations that can be associated with verbs' event structure, whereby each argument relation represents a verb class. The individual argument relation classes are then mapped onto syntax and each building block of the verbal event structure is represented with a functional head. One such argument relation is that of causation. Causation verbs are associated with two different argument relations, which are [process] as in (5) and [process, result] as in (6). In order to be eligible to participate in the alternation, verbs have to project [process] and [process, result] heads and necessarily lack an *init* (initiator) head. Within the syntactic derivation, these two types of English verbs combine with an *init* head – which is by default morphologically null – in order to yield a causative reading.

(5)



(6)



Such an intransitive base analysis of CoS verbs faces a very similar problem to that of the transitive base approach: It cannot account for forms that are morphologically basic in their transitive version and marked in their intransitive form. In fact, the general problem with derivational approaches is the assumption that they target very limited data from a very limited number of languages and yet claim to determine the crosslinguistic directionality of the derivation (Ramchand 2008; Levin & Rappaport Hovav, 1995; Chierchia 2004, amongst others).

2.1.3 McCoon and MacFarland (2000)

The authors build up on the concepts of internal and external causation introduced by Levin and Rappaport Hovav (1995). With respect to the semantics of internal causation, McCoon and MacFarland (2000) recognize the fact that the existing semantic characterizations for internal and external causation are merely intuitive concepts. In order to go beyond the intuitive definitions, the authors aim to provide empirical diagnostics for the CoS verb classes. To this end, they conduct extensive corpus research and examine naturally occurring English data to determine whether there are characterizable differences between sentences with verbs that are classified as internally caused and verbs that are externally caused. They conduct four different corpus studies looking at the following patterns: 1. Transitivization, 2. Subject distribution among intransitive sentences, 3. Object distribution among transitive sentences, 4. Subject distribution of transitive sentences. The authors conduct a corpus search on 21 ICCOS verbs listed as such by Levin and Rappaport Hovav (1995) and find out that ICCOS verbs show varying probability of occurrence in transitive constructions, i.e. some ICCOS verbs do appear frequently in transitive constructions, while for others the probability is rather low. This constitutes the most

crucial finding of this study, which is that "contrary to past suggestions, the inability to participate in the causative – inchoative alternation is not a diagnostic for ICCOS verbs" (2000: 838), although they do not regularly transitivize either.

The second finding of the study is related to the subjects of transitive sentences. Specifically, the authors claim that EXCOS verbs allow a wider range of external arguments than ICCOS verbs. Specifically, they conclude from the corpus findings that the subjects of sentences that have ICCOS verbs are natural causers, while for sentences that have EXCOS verbs, the data show that the entities that appear in the subject position cover a wide range including instruments, natural causers or agentive forces. According to the authors, these findings follow from the lexical semantic templates of ICCOS and EXCOS verbs under Levin and Rappaport Hovac (1995) and Rappaport and Levin (1998). For the two classes of CoS verbs, they adopt the same lexical semantic representations that were introduced in (1) and (2). Specifically, the idea here is that for the EXCOS verbs, in the lexical semantic template ((α) CAUSE (become x (state))), the causing event encodes a subevent that is separate from the change of state event. Because it represents a separate subevent, the subject is not tightly constrained by the CoS event. For example, any of a large variety of entities and events (people, instruments, natural forces, activities, etc.) can be conceptualized as the cause of a breaking event. For internal causation, in contrast, the lexical semantic template does not encode such a separate causing entity. Hence, the causing participant should be intrinsically involved in the CoS event, such as wind or water.

The question for the authors then becomes the following: How can a verb that projects only one argument be construed in such a way as to project two arguments? According to the authors, the transitive uses of ICCOS verbs are explained as a case

of so-called *content-related licensing*: Under the lexical semantic theory McCoon and MacFarland (2000) adopt, lexical semantic templates show participants in verbal events. For instance, an EXCOS verb shows the causer and the theme argument in a CoS event (causer and causee), while ICCOS verbs only show the theme argument. However, in some cases, not only lexical semantic templates, which represent the structural part of the meaning, but also the content meaning of the verb, i.e. the idiosyncratic part of meaning, also licenses participants. The expression of such participants is optional. With respect to the transitive uses of ICCOS verbs, this means that both the theme argument (the argument that undergoes the CoS) and the optional external argument – that is inherent to the change of state – are expressed. The optional participant has one proto-agent property, whereas the internal argument has no proto-agent properties and several proto-patient properties:[2] Thus, the optional participant is lexicalized as the transitive subject. This study is especially important because it is the first study that re-establishes ICCOS verbs as an alternating class of verbs. It is also important because the study establishes empirical grounds for the vaguely defined classes of EXCOS and ICCOS verbs. It should be noted at this point that despite their criticism of the vague characterization of internal causation, the authors continue to use the same semantic definition to semantically characterize the ICCOS verbs. More importantly, such an account falls short of explaining the dual behavior of some Turkish externally caused verbs, which under certain circumstances do not just optionally leave out their external arguments, but rather cannot appear in transitive constructions.

[2] Proto-agent/patient properties refer to how event participants which are shown in the lexical semantic representations are mapped onto syntax under Dowty (1991). McCoon and MacFarland (2000) follow Dowty (1991), who establishes five proto-agent properties and five proto-patient properties. Dowty's selection principle states that the argument with the greater number of proto-agent properties becomes the subject and the argument with the greater number of proto-patient properties becomes the direct object in a transitive construction. For a detailed discussion, please see McCoon and MacFarland (2000).

(7) a. Makine boz-ul-du.

Machine-NOM break-NACT-PST.3SG

"The machine broke down."

b. Talimatlara aykırı kullanım makine-yi boz-ar.

Inappropriate handling machine-ACC break-AOR.3SG

"Inappropriate handling breaks the machine."

(8) a. Hava-lar boz-ul-du.

The weather-PL break -NACT-PST.3sg

"The weather broke. (worsened)"

b. *Ali / Ekim ay-ı hava-lar-ı boz-du.

John / October-3SG.POSS weather-PL-ACC break-AOR.3sg

"John / The month of October broke (worsened) the weather."

2.1.4 Wright (2001)

The theoretical background of Wright's account of ICCOS verbs' in the inchoative-causative alternation is rooted within the lexical semantic framework developed in Rappaport Hovav and Levin (1998). In her PhD thesis, Wright (2001) focuses mainly on the transitivization patterns of ICCOS verbs, conducting an extensive corpus research and an acceptability judgment task. She tests 14 ICCOS verbs that are listed as such under Levin and Rappaport Hovav (1995). In line with McCoon and MacFarland (2000), she concludes that ICCOS verbs exhibit a gradient nature in terms of their transitivization behavior. The author points out, for instance, that six of the verbs under investigation, namely *bloom*, *blossom, decay, rust, stagnate* and *wilt*, seem to transitivize in very limited contexts.

(9) *John blossomed the new flowers.

The other eight verbs on the other hand, i.e. *germinate, wither, rot, molt, sprout, corrode, ferment* and *erode*, tend to occur more frequently in transitive constructions at varying degrees.

(10) a. Spider venom decays flesh. (Wright, 2001, 37 a)

b. Heavy rain rotted the crops. (Wright, 2001, 37 b)

c. Germinate them [the seeds] in a heated propagator. (Wright, 2001, 18 a)

d. Salt air rusts the chain-link fences. (Wright, 2001, 27 a)

Especially one aspect of Wright's (2001) work is interesting in so far as it sheds light on our upcoming discussions of causation as a configurational syntactic construct. She makes a difference between CoS verbs in their literal and metaphorical meanings. Crucially, she demonstrates for the first time that whether a verb is used in a concrete sense or in a metaphorical sense correlates with their potential to causativize to a remarkable extent. Indeed, according to the author, a large number of ICCOS verbs can be transitivized only when they involve metaphorical extensions of the given verbs (Wright, 2001, p.116), as in (11).

(11) a. *John blossomed the new flowers.

b. An artist would come to Paris and blossom these new movements.

This finding is important because it shows that depending on the semantics of the verbal meaning, a given verb may exhibit unexpected syntactic properties. We shall discuss this thoroughly in Chapters 5 and 6, which is why this brief remark should suffice here. As for the abstract representation of CoS verbs and their behavior in the alternation, Wright (2001) adopts and extends the view in Levin and Rappaport Hovav (1995) and Rappaport Hovav and Levin (1998). She recognizes the fact that crosslinguistically, the direction of the derivation can go either way. Some languages morphologically derive causative forms from inchoative forms and others do it the

other way around. In languages such as English, the derivation is non-directed in the sense that we find no morphological clues as to the basic and derived members of the alternating verb pairs. So in her account, both the transitive and intransitive forms may constitute the basic form. The basic representations for ICCOS and EXCOS verbs involve the same structures in Levin and Rappaport Hovav (1995) and McCoon and MacFarland (2000) repeated below in (12a) and (12b) for internal and external causation respectively:

(12) a. [BECOME [metal <CORRODED>]]

'The metal corroded.'

b. [[John ACT <MANNER>] CAUSE [BECOME [vase <BROKEN>]]]

'John broke the vase.' (adapted from Wright, 2001, 55 a & b)

The derived representations, on the other hand, involve what she calls *detransitivization* and *template augmentation*. Detransitivization refers to cases where EXCOS verbs are used in intransitive constructions. The idea is that EXCOS verbs can leave their causer arguments unexpressed in situations where the nature of the causing event is left unspecified. Wright (2001) postulates that intransitive uses of EXCOS verbs appear when the external (causer) argument is not projected onto the argument structure (see also Levin and Rappaport Hovav, 1995, p. 108).

Template augmentation, on the other hand, refers to cases where ICCOS verbs are used in transitive constructions. Following the lexical semantic approach by Levin and Rappaport Hovav (1998), Wright (2001) postulates that verb meaning is represented by *predicate decomposition*. There are two aspects of predicate decomposition: One of them is the so-called *core verb meaning*, also called the *constant*, which contains the idiosyncratic meaning of verbs. Crucially, according to this view, the constant not only determines the idiosyncratic meaning of a given

verb, but it also determines the number of event participants. The other aspect of the verb meaning is represented by *primitive predicates,* which are the part of verb meaning that is accessible for syntax. A specific constellation of primitive predicates gives us the lexical semantic structure of a verb and determines whether a given verb is to be classified as ICCOS or EXCOS. The participants associated with the core verb meaning are later matched up with argument positions in the lexical semantic structure (or lexical semantic template) of a verb and are later overtly realized as syntactic arguments. From this assumption follows, then, that the number of participants as dictated by the core verb meaning has to match the number of argument positions that is made available by the lexical semantic structure of a verb. Rappaport Hovav and Levin (1998) argue, however, that sometimes the number of participants associated with the core verb meaning exceeds the number of argument positions that is made available by the lexical semantic template of the verb. In such cases, the authors argue that the "excessive" participant is not licensed by syntax, but by the core verb meaning. Wright (2001) extends this hypothesis to the causative uses of ICCOS verbs and argues that in those cases where ICCOS verbs transitivize, the external argument or the causer argument is licensed by the core verb meaning and the argument structure of an ICCOS verb is adjusted to mimic the event structure of an EXCOS verb, as illustrated below with the verb *corrode*:

(13) a. [BECOME [metal <CORRODED>]]

'The metal corroded.'

b. [[acid ACT <MANNER>] CAUSE [BECOME [metal <CORRODED>]]]

'Acid corroded the metal.' (Wright, 2001, 55 a and b)

In Chapter 5, we shall discuss in detail what the problem is with Wright's (2001) account. Therefore, we shall make do with the following brief remark for the time being: The problem with Wright's account (2001) is related to how the author goes about assigning verbs to semantic classes: Specifically, those transitive uses of ICCOS verbs that Wright (2001) refers to within the context of verbs in metaphorical extensions share more semantic and syntactic characteristics with EXCOS verbs. We shall come back to this issue in Chapter 5.

2.2 Typological approaches: Haspelmath et al. (2014)

The most basic challenge to unidirectional derivational approaches is posed by languages that make available multiple morphological mechanisms to mark the transitive-intransitive CoS verb pairs. As pointed out in typological studies (Shibatani 2002; Haspelmath et al., 2014), languages of the world may mark the members of the transitive-intransitive CoS verb pairs in several different ways. Haspelmath et al. (2014) illustrate this crosslinguistic variety with the example of the verb *wake up* and its translation equivalents in Lithuanian, French, German and Greek, as we can observe in Table 1:

Table 1. Coding Variability of the Verb *Wake Up*.

Language	Coding type	Description of coding type	wake up (intr.)	wake up (tr.)
Lithuanian	Simple/causative Coding	Causal is overtly marked	pabus-ti	pabud-*in*-ti
French	Anticausative/ simple coding	Noncausal is overtly marked	*se* révellier	révellier
German	Equipollent coding	Symmetrically different	aufw*ach*en	aufw*eck*en
Greek	Labile (or ambitransitive) coding	Causal and noncausal are identical	ksipnó	ksipnó

(Haspelmath et al. 2014: 591)

According to Table 1, languages can overtly mark the transitive member of the transitive pair, as in the case of Lithuanian. Other languages, such as French, may mark the intransitive version. Alternatively, both versions may have different forms, as in German, or both versions may exhibit the same form, as in the case of Greek. Please note that the term *causal* refers to lexical causative (transitive) forms under Haspelmath et al. (2014). *Anticausatives* refer to detransitivized usage of lexical causative verbs. Correspondingly, the term *noncausal* refers to lexical inchoatives (intransitive) under the same approach. Nevertheless, the picture above should not be taken to indicate that languages employ only one coding type across the entire class of inchoatives. Table 2 below provides further insights into the range of morphological coding tendencies among CoS verbs that specific languages may employ. Basically, the authors identify a fixed set of 20 CoS verbs and investigate which mechanism different languages use to mark them, as seen below:

Table 2. Formation Patterns of Inchoatives / Causatives.

	Causatives	Anticausatives	Equipollents	Labiles	% of causatives
Turkish	12	7	1	0	63
Japanese	8	7	4	1	53
Maltese	9	9	1	1	50
Swahili	6	8	7	0	43
Russian	1	13	6	0	7
Romanian	0	20	0	0	0
English	0	0	2	18	0

(Haspelmath et al. 2014: 599)

Swahili, Russian and Turkish[3] are similar in that they employ three out of four available morphological marking strategies, while Japanese and Maltese even go further and make available all four kinds of morphological marking to indicate the participation of a CoS verb in the inchoative-causative alternation. In the face of such

[3] We shall discuss the case of Turkish in more detail in the following chapter.

crosslinguistic variety in coding tendencies, derivational approaches that assume a universal uniformity in the derivation of inchoatives/causatives at best fall short of explaining how the word formation works in typologically dissimilar languages. In an earlier work on anticausatives, Haspelmath (1993) claims that grammatical coding tendencies in CoS verb pairs are sensitive to conceptual asymmetries as opposed to semantic derivation patterns: Referring to Croft (1990), he notes that if a CoS event is conceptually associated with an outside force that brings about a change of state, the event is likely to be coded as a transitive verb (causative in the bare form) (Haspelmath, 1993, p. 107). On the other hand, if a CoS event tends to happen on its own without any outside help, such as those denoted by verbs like *melt, dry* or *sink*, the event tends to be coded as an intransitive verb (Haspelmath, 1993, p. 105). Building up on Haspelmath (1993), Haspelmath et al. (2014) conduct a crosslinguistic study on 20 languages in an attempt to lay out the crosslinguistic coding patterns of CoS verbs. The results support the predictions in Haspelmath (1993) about the conceptual asymmetries playing a role in the coding of CoS verbs because they indicate that from the intransitive-transitive verb pairs, the more frequently used one tends to be the unmarked member, while the less frequent member of the pair tends to carry overt morphology. As far as the objectives of this study are concerned, Haspelmath et al.'s (2014) research does not serve our purposes directly, since it does not offer a formal account of the alternation. However, the discussions in this study are important for us in two different respects: Firstly, by illustrating the different morphological mechanisms to mark the transitive and/or the intransitive members of CoS verb pairs in several languages of the world, it brings solid evidence against the models of the inchoative-causative alternation that describe it as a unidirectional derivation process – or a derivational process for that

matter. Most importantly, however, Haspelmath et al. (2014) claim that it is the causation type (usually labeled as internal and external causation after Levin and Rappaport Hovav [1995]) that crucially determines the code prominence, i.e. the likelihood of morphological marking on one of the members of CoS verb pairs. However, as we shall see in the following chapters, when we extend the coverage of the empirical data in such a way that we include the abundant metaphorical extensions of prototypical CoS verbs, many CoS events associated with a verbal root undergo a shift in causation type. In a theory that intends to do justice to all valid forms of spoken language, in the long run, these type shifts may override the isomorphic form-frequency-relation effects that Haspelmath et al. (2014) claim.

2.3 Non-derivational approaches: Alexiadou (2014)

In line with the basic tenets of Distributed Morphology, within which Alexiadou's approach is rooted, the researcher recognizes that verbal meaning consists of two parts: 1. An idiosyncratic lexical meaning, which is void of any grammatical categorization (called root) and 2. A set of functional layers that represent the event semantics and the argument structural relations associated with a given CoS event. In contrast to the derivational approaches we have reviewed so far, this theoretical tenet of DM stipulates a common base for the transitive and intransitive members of an alternating CoS verb pair. Verbs may or may not participate in the alternation depending on the formal properties of the functional heads they combine with in syntax.

There are two crucial claims that characterize this line of research: The first characterizing claim is that all CoS verbs (both inchoatives and causatives) involve a functional component, CAUSE, in their syntactic make-up. This claim goes back to

the observation in Alexiadou and Anagnostopoulou (2006) that separates inchoative structures from both causative and passive structures. Specifically, the authors observe that both causatives and passives license all external arguments irrespective of their theta roles (agents, causers, instruments).

(14) a. John / the earthquake broke the vase.

b. Will's banging / a large stone shattered the window. (Adapted from Alexiadou, 2014, Example 25)

(15) a. The window was broken by John / by the storm / with a stone / by Will's banging. (Adapted from Alexiadou, 2014, Example 26)

In contrast, anticausatives exclusively license causers, disallowing agents and true instruments. Furthermore, they observe that causers are licensed in anticausatives only when these are introduced by a *from* phrase as opposed to a *by* phrase or a *with* phrase. Consider the following data from (Alexiadou, 2014, Examples 27, 28, 29):

(16) *The window broke by John / with a stone.

(17) *The window broke by the storm/by Will's banging.

(18) a. The window cracked/broke from the pressure

b. *The door opened by/from Mary/with the key.

The author takes the inability of anticausatives to license agents and instruments in (16) and (17) as an indication that unlike passives, anticausatives completely lack an implicit subject, which she notes is also the wide consensus in the literature. However, Alexiadou et al. (2006) argue that this is not the only difference between the two transitivity alternation phenomena. The fact that anticausatives license causer phrases only when these are introduced by a *from* PP (18) b and not by a *by* PP – as in the case of passives – should be taken as evidence that inchoatives indeed have CAUSE as a functional head in their syntactic structure. Another idea that follows

from this proposal is that if inchoatives were void of a CAUSE component as assumed in Levin and Rappaport Hovav (1995), they would not be compatible with any linguistic units that denote a causing entity as shown in (18) a.[4]

The other characterizing claim of this line of research under Alexiadou et al. (2006) and Alexiadou (2010) comes from the complementary distribution of instrument subjects that bear the theta role of causers vs. agents among passives and anticausatives (Alexiadou & Schäfer, 2006)). Following Kamp and Rossdeutscher (1994), Alexiadou and Schäfer (2006) distinguish between two types of instruments: those that are interpreted as causers and those that are interpreted as true instruments and hence are interpreted as agents. The following examples are adapted from this paper. The example in (19) represents a so-called true instrument that receives an agentive interpretation, while the example in (20) illustrates a causer instrument that receives a causer interpretation.

(19) a. Der Arzt heilte den Patienten mit dem Skalpell.

The doctor cured the patient with his scalpel.

b. *Das Skalpell heilte den Patienten.

The scalpel cured the patient. (Alexiadou & Schäfer, 2006, Example 11)

(20) a. Der Arzt heilte den Patienten mit Kamille.

The doctor cured the patient with camomile.

b. Die Kamille heilte den Patienten.

The camomile cured the patient.

(Alexiadou & Schäfer, 2006, Example 11)

[4] An alternative analysis of this evidence would posit that inchoatives are still void of a CAUSE head in syntax and that the causative semantics is contributed by the propositions themselves as opposed to the syntactic structure of inchoatives. We shall discuss and eliminate this proposal in Chapter 4 during the discussion on causer phrase distribution in Turkish.

They illustrate that if an instrument is interpreted agentively, it will not be licensed in inchoatives as in (19) b or (21). Conversely, if an instrument is interpreted as a causer, it will not be licensed in passives as in (22) b and (22) c.

(21) a. *The door opened from this key

b. *Die Tür öffnet sich durch diesen Schlüssel

c.*I porta anikse apo afto to klidi (Alexiadou & Schäfer, 2006, Example 43)

(22) a. I porta anihtike apo ti thiela

The door opened-Nact by the storm

b. *O asthenis giatreftike apo to hamomili

The patient cured-Nact by the chamomile

c.*To parathiro anihtike apo tin ptosi tu tsekuriu

the window opened-Nact by the fall the axe-gen[5]

(Alexiadou & Schäfer, 2006, Example 44)

They take this complementary distribution between the two different types of instruments to indicate that agents and causers are projected from two different functional heads.[6] To capture the two structural differences between passives and anticausatives we have discussed so far, Alexiadou et al. (2006) propose the following as a common structure for all Voice structures (passives, inchoatives, reflexives). Following Kratzer (1996), they assume that Voice introduces an external argument and bears features related to agentivity. In addition to projecting the external argument, Voice also hosts passive or inchoative morphology (called nonactive morphology in Alexiadou's terms) in a language such as Greek. It is argued that both in passives (Embick 1998) and inchoatives, nonactive morphology

[5] The reason why (21) illustrates causer instrument licencing only in Greek and not in German or English is related to the properties of Voice as [+agentive] or [+/- agentive] under Alexiadou et al. (2006) and Alexiadou (2010). For a brief discussion, please see these papers.

[6] Please note that this goes against the idea in Ramchand (2008) that agents and causers are projected from the same head as initiators.

is always present whenever Voice lacks an implicit external argument. Little v or vCAUSE, on the other hand, establishes a causal relation between a causing event and the resultant state denoted by the complement of v, called *root* in DM terms. Any prepositions that introduce agents (agents and true instruments) are projected and licensed by Voice, while any prepositions related to causers and causer instruments are licensed by v or vCAUSE.

With respect to the specific type of Voice alternation under investigation, namely the inchoative-causative alternation, Alexiadou et al. (2006), Alexiadou (2010, 2014) argue that one crucial determiner of a verb's potential to participate in the alternation is related to the semantics of the verb. Building up on Levin and Rappaport Hovav (1995) and Harley and Noyer (2000), the authors propose a four-way semantic classification of verbal roots.

(23) √agentive verbs: murder, assassinate.

√internally caused verbs: blossom, wilt.

√externally caused verbs: destroy, kill.

√cause unspecified verbs: open, break. (Alexiadou et al., 2006, p. 190)

According to this classification, such properties as internal or external causation are associated with the root. This means that each verb is matched with one, and only one, conceptual semantic type of causation at the root level, and this information is stored in the encyclopedia component of the grammar. In what follows, I will outline the predicted behavior of each conceptual semantic class of causation based on the findings in Alexiadou (2014).[7]

[7] Due to the crosslinguistic status of agentive CoS verbs as nonalternating verbs, this class will not be dealt with here. However, in Chapter 3, we shall discuss their semantics and behavior in a bit more detail.

2.3.1 The syntax of ICCOS verbs

Under Alexiadou (2014), the semantic characterization of ICCOS verbs goes back to Levin and Rappaport Hovav (1995). It is described as a CoS event that comes about due to the internal characteristics of the entity in question. Some typical examples of internally caused change of state (ICCOS) verbs are *blossom*, *wilt* and *corrode.*[8] With respect to their syntax, Alexiadou (2014) offers a non-unified syntactic analysis. The author observes that ICCOS verbs exhibit two different patterns in the anticausative alternation and hence proposes a two-way distinction between them. The first class of verbs which she calls *blossom-type* are characterized by the fact that they rather infrequently transitivize.

(24) *O kipuros anthise to luludi.
The gardener-NOM blossomed the flower-ACC
(Alexiadou, 2014, Example 5)

Importantly, when they do transitivize, they restrict the theta role of their causer subjects to natural causers as in (25) a and b, disallowing other potential theta roles like agents or instruments as in (25) c (for similar results please see Wright [2001], McCoon and MacFarland [2000]).

(25) a. Salt air rusted the metal pipes (Alexiadou, 2014, Example 6 a)
b. Early summer heat wilted the petunias (Alexiadou, 2014, Example 6 b)
c. *John wilted the petunias

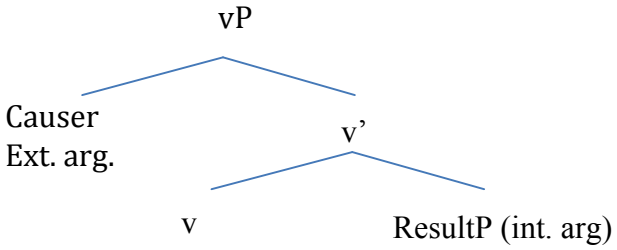
In addition, she observes that this class of verbs does not make passivization available.

(26) *The flower was bloomed by the spring.

[8] A detailed discussion of this semantic description will be provided in Chapter 3. Hence, a short description and examples shall suffice at this point.

To capture the above observations, Alexiadou proposes the following structure for the *blossom-type* of CoS verbs:

(27)



According to this structure, the external argument whose theta role is restricted to that of a natural causer is projected from the Spec vP. Following Alexiadou and Schäfer (2009), the internal argument is introduced in the ResultP.[9] The inability to transitivize is represented in the lack of a Voice layer in (27).[10] The second class of ICCOS verbs, which Alexiadou (2014) calls *ferment-type*, differs from the first one in so far as verbs of this type are more likely to transitivize. In their transitive version, they also allow their subjects to bear the theta role of agents.

(28) I don't think I would ferment tomatoes nearly as long as I fermented cabbage for sour kraut.

(29) You eroded our old values, secularized our society, made small families and whiskey chic. (Alexiadou, 2014, Examples 14 a and 14 b)

In contrast with the *blossom-type* ICCOS verbs, the *ferment-type* ICCOS verbs are also able to undergo passivization.

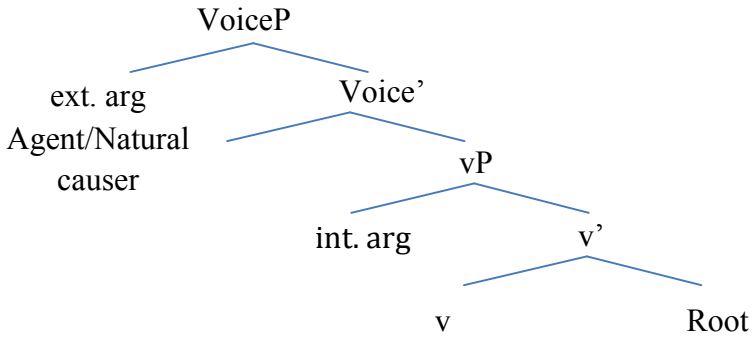
(30) Low fat ice cream mic was fermented with probiotic-supplemented and traditional starter culture systems. (Journal of Dairy Science 83) (Alexiadou, 2014, Example, 35)

[9] This claim about the locus of the internal argument goes back to the observed asymmetry concerning there-insertion which is in with change of location verbs but out with CoS verbs (Levin 1993). For details, please see Alexiadou (2014).

[10] Alexiadou (2014) does not completely exclude the possibility to transitivize in the *blossom-type* ICCOS verbs. It is however unclear how in such instances the external argument gets introduced if the Voice layer is completely absent from their structure.

To reflect the ability to transitivize, to undergo passivization and to co-occur with subject NPs bearing an agent theta role, Alexiadou proposes the Voice structure in (31).

(31)



In this structure, the external argument is projected from the Spec VoiceP. From the *blossom-type* ICCOS verbs, we already know that causers can project from vP or CauseP. Therefore, it appears a bit confusing to assume that within the *ferment-type* ICCOS verbs, causers are now supposed to be projected from VoiceP. However, under Alexiadou (2014), this seems to be justified on structural grounds: After all, a Voice layer is necessary for the licensing of passivization. It also seems to be justified because for all verbs whose external arguments are projected from Voice (including EXCOS verbs as we shall discuss below), their internal arguments seem to be introduced in Spec vP (Spec CauseP). Considering this, she argues, we are left with the Spec VoiceP position as the only available spot to accommodate external arguments.[11]

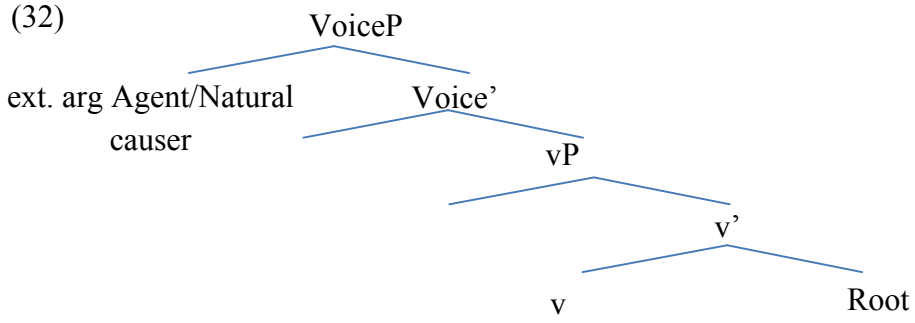
2.3.2 The syntax of cause unspecified verbs

Having reviewed the structure of the *ferment-type* ICCOS verbs, the structure of cause unspecified verbs is rather predictable. Alexiadou (2014) does not explicitly discuss the structure of this type of inchoatives. However, she notes that the syntactic

[11] She also notes that a Voice layer is necessary for the licencing of the accusative case. This is, however, confusing since the licencing of the accusative is also necessary for the transitivization cases among the *blossom-type* ICCOS verbs where the Voice layer is obviously absent. She does not address this issue.

behavior of the *ferment-type* ICCOS verbs is identical to that of cause unspecified verbs. This being said, she seems to draw a rather semantic distinction between the two types of verbs. Specifically, for ICCOS verbs, the CoS event comes about due to internal characteristics of the entity in question (Levin & Rappaport Hovav,1995; Alexiadou et al., 2006; Alexiadou, 2010), while for cause unspecified verbs, following Harley and Noyer (2000), she assumes that "the action may causally originate either with the object of the action or with another argument; this is the case with open" (Alexiadou, 2014, p. 881). Some typical examples for cause unspecified verbs are *close*, *open* and *break*. Within the entire line of research under Alexiadou et al. (2006), Alexiadou (2010) and Schäfer (2009), cause unspecified verbs are understood as the universally most frequent ones. They argue that cause unspecified verbs constitute the class that is able to enter the alternation in all languages. Structurally, the verbs in this class are assumed to have the same structure as the *ferment-type* ICCOS verbs repeated below in (32) and consequently behave the same way in the alternation.

(32)



2.3.3 The syntax of EXCOS verbs

In Levin and Rappaport Hovav (1995) and Alexiadou and Anagnostopoulou (2007), EXCOS verbs are characterized as CoS events that come about and are under the control of an external force. The most prototypical example for an EXCOS verb is *destroy*. Under Alexiadou and Anagnostopoulou (2007) and Alexiadou (2010, 2014),

they only alternate in languages such as Greek, as in (33), that have a more flexible morphological system than English, while in English they do not enter the alternation as in (34).

(33) a. O Janis katestrepse to hirografo

The John-NOM destroyed-ACT the manuscript-ACC

'John destroyed the manuscript'

b. to hirografo katastrafike me ti dinati fotia

the manuscript-NOM destroyed-NACT with the strong fire.

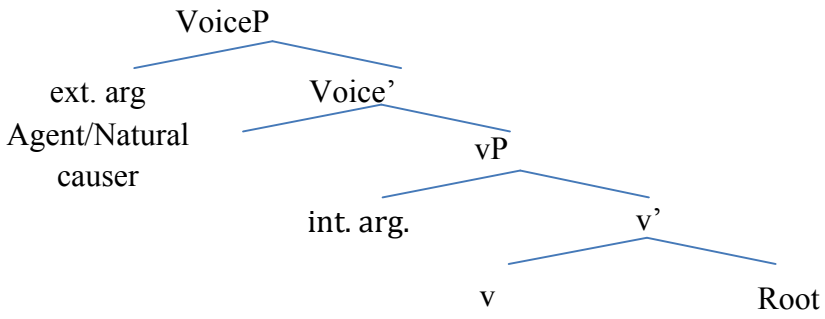
"The manuscript got destroyed with the strong fire" (Alexiadou, 2010, Examples 13a and 13 b)

(34) a. The strong fire destroyed the manuscript

b. *The manuscript destroyed with the strong fire

EXCOS verbs freely alternate in Greek and allow their subject NPs to bear all kinds of theta roles. Correspondingly, the following Voice structure, which is identical with cause unspecified verbs and *ferment-type* ICCOS verbs, represents this class of verbs:

(35)



Crucially, the difference between *ferment-type* ICCOS verbs, cause unspecified verbs and EXCOS verbs is reflected morphologically: Intransitive versions of EXCOS verbs are predicted to necessarily surface with overt morphology in Greek. According to the author, this is the lexical semantic reflex of the verb, i.e., the

absence of the external argument (which brings about the CoS in the theme argument) is signaled by overt morphology.

This line of syntactic analysis within which Alexiadou (2014) is rooted is informed by a wide range of studies and hence answers very important questions that were raised in the literature. However, it is not without its problems: As we shall discuss in great detail in the following chapters, the main problems of this account reside in i) the representation of ICCOS events, ii) the strict locus of the semantic class information at the root level and iii) the locus of nonactive morphology at the Voice head. I shall not say anything further about this at this point since all these points will be discussed in great detail in the following chapters.

2.4 Conclusion

So far, we have discussed a wide range of approaches to the inchoative-causative alternation. We first reviewed the lexical semantic approach by LRH (1995), the syntactic analysis by Ramchand (2008), the analyses under McCoon and MacFarland (2000) and Wright (2001) that combine psycholinguistics with lexical semantics, the typological approach under Haspelmath et al. (2014). Finally, we discussed the DM approach under Alexiadou (2014) in detail. In the following chapter, I aim to discuss the reasons why we will adopt the non-derivational approach under Alexiadou and move on to discuss the Turkish CoS verbs in the inchoative-causative alternation.

CHAPTER 3

TURKISH CoS VERBS IN THE INCHOATIVE-CAUSATIVE ALTERNATION

This chapter introduces the first part of the analysis of Turkish CoS verbs in the inchoative-causative alternation. Following Levin and Rappaport Hovav (1995) and much subsequent work, we will use the semantic subtypes of CoS verbs in order to gain insights into the verbal behavior. The organization of the chapter is as follows: In 3.1, we will lay out the derivation patterns of transitive and intransitive CoS verbs in Turkish and point out why derivational accounts that we reviewed in the previous chapter are not suitable models to tackle the Turkish data. In 3.2, we will introduce the conceptual semantic classification of CoS verbs under Alexiadou (2014), because this classification has proven to predict verbal behavior in the alternation to a certain extent. In 3.3, we will start to discuss in great detail to what extent this classification is valid for Turkish. Specifically, we will discuss why agentive causation and unspecified causation will not be particularly interesting for us in the subsections 3.3.1 and 3.3.2 respectively. We will continue with EXCOS verbs in 3.3.3 and finish with a brief discussion of ICCOS verbs in 3.3.4. Since parts of the main claim of this study are related to ICCOS verbs, we shall save the detailed discussion of ICCOS verbs in Turkish for Chapter 4.

3.1 Morphological coding types of CoS verbs in Turkish

Earlier in Chapter 2, we briefly discussed the wide range of morphological systems that typologically different languages can employ to systematically mark the intransitive and transitive members of verb pairs that denote CoS events. Turkish provides an almost ideal sample of languages that allows observing the multiple

coding tendencies that are available crosslinguistically. The language makes use of all coding types except for labile coding as Table 3 illustrates:[12]

Table 3. (Anti-)causative Coding Types in Turkish.

Coding type	Transitive form	Intransitive form
Coding on the transitive v.	sön-DIr deflate-CAUS	sön- deflate
Coding on the intransitive v.	dök- spill-	dök-ül spill-NON-ACTIVE
Equipollent coding[13]	alabora et- capsize MAKE	alabora ol- capsize BECOME

Some roots, such as *olgunlaş*- 'ripen', *sol*- 'wilt', *kızar*- 'redden', are lexical inchoatives, i.e. unmarked in their intransitive version. In order to transitivize, they need to combine with the causative marker *–DIr*.

(1) a. Ateş sön-dü.

Fire-NOM die.out-PST.3sg

"The fire died out."

b. Ayşe ateş-i sön-dür-dü.

Ayşe-NOM fire-ACC die.out-CAUS-PST.3sg

"Ayşe extinguished the fire."

In others, such as *dök*- 'spill', *ger*- 'stretch' or *aç*- 'open', the derivation goes into the opposite direction: It is the transitive causative form that is unmarked. These verbs combine with the nonactive morphology –IL/-IN to form an anticausative.[14]

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[12] Please see Appendix A for a full list of Turkish transitive–intransitive CoS verb pairs according to their coding type.

[13] Another possible CoS verb pair that exhibits equipollent coding is illustrated by the verbs *gir*- "enter" and *sok*- "insert" where both members have completely different forms. Since such forms are very rare, we deliberately leave them out of discussion.

[14] Please note that for the purposes of this study, we will call the anticausativizing morphology associated with CoS verbs nonactive morphology following Alexiadou et al. (2006). The term *nonactive morphology* under Alexiadou et al. (2006) is intended to express the syncretism between passive, anticausative and reflexive morphology. Although in this study, we will not be discussing this

(2) a. Ayşe kapı-yı aç-tı.

Ayşe door-ACC open-PST.3sg

"Ayşe opened the door."

b. Kapı aç-ıl-dı.

The door-NOM open-NACT-PST.3sg

"The door opened."

Finally, in the rest of the cases, both roots have a unique form as in *yok et-/yok ol-* 'cause to disappear/ disappear', *sarhoş et-/sarhoş ol-* 'intoxicate/become intoxicated'.

(3) a. Şarap Ayşe-yi sarhoş et-ti.

Wine-NOM Ayşe-ACC drunk.make-PST.3sg

"The wine got Ayşe drunk."

b. Ayşe sarhoş ol-du.

Ayşe-NOM drunk.become-PST.3sg

"Ayşe got drunk."

With the above table in mind, it becomes obvious that any approach that derives inchoatives uniformly, i.e. any syntactic approach that assumes one CoS verb variant to be derived from the other will fall short of accounting for the Turkish data. It is this simple empirical fact that raises the motivation to adopt a non-derivational account for the syntactic analysis of Turkish inchoative-causative alternation. To understand the laws regulating the Turkish inchoative-causative transitivity alternations, we shall adopt the non-derivational syntactic approach by Alexiadou (2014) that we discussed earlier in Chapter 2. Other aspects of anticausative alternation that we intend to discuss in the thesis at hand also make a syntactic

type of syncretism, I deliberately choose to adopt this technical term in order to facilitate the readers' understanding when the empirical findings in both studies are compared and contrasted.

approach fare better, which are the syntactic feature make-up of functional heads such as vCAUSE and VOICE involved in the inchoative-causative alternation, the locus of nonactive morphology (Alexiadou, 2014) as well as the locus of the causation type (labeled as internal vs. external causation following Levin and Rappaport Hovav 1995).

3.2 Semantic classification of CoS verbs as a window into their syntactic behavior

As already pointed out by Wright (2001), in the linguistic literature, CoS verbs have been investigated in many different contexts, especially in the discussions on lexical aspect and argument structure alternations. Ever since Fillmore (1970) established the causative-inchoative alternation as the hallmark of CoS verbs, the focus of research on CoS verbs has shifted to transitivity alternations. Researchers who focus on a CoS verb's potential to have both transitive and intransitive variants made use of semantic classifications to probe into their syntactic behavior. Below, I shall very briefly discuss the available classifications and the origins thereof before moving on to singling out those classes that are relevant for our investigation of the Turkish causative-inchoative alternation and eliminating those that are irrelevant.

Fillmore (1970), Levin (1993), and Haspelmath (1993) amongst others have established that the most characteristic property of CoS verbs is their potential to occur in the causative-inchoative alternation. As it turns out, however, this claim is not entirely accurate: Not all CoS verbs are eligible to enter the alternation. Specifically, researchers such as Farsi (1974), Labelle (1988), Levin and Rappaport Hovav (1994, 1995) and Alexiadou et al. (2006) show that some CoS verbs may indeed fail to participate in the causative/inchoative alternation as illustrated by the following examples:

(4) a. The cactus bloomed/blossomed/flowered early.

b. *The gardener bloomed/blossomed/flowered the cactus early.

c. *The warm weather bloomed/blossomed/flowered the cactus early.

(Levin and Rappaport Hovav 1995, Example 33)

(5) a. Patrick Jane murdered Red John.

b. *Red John murdered.

Example (4) illustrates a so-called ICCOS verb, while (5) provides an example of a so-called agentive CoS verb. What these examples show is that although both the verbs *bloom* and *murder* denote CoS events, they do not enter the alternation. It is this observed syntactic asymmetry among different types of inchoatives that motivated many researchers to further investigate what components of syntax and semantics determined a verb's potential to enter the causative-inchoative alternation.

As indicated, many researchers who seek to understand the principles that govern the causative-inchoative alternation saw a connection between the semantic building blocks of inchoative verbs and their potential to participate in the causative-inchoative alternation. This correlation between semantic classification and syntactic behavior of CoS verbs led them to offer different classifications. The first of such classifications was offered by Levin and Rappaport Hovav (1995). Building up on Smith's (1970) notion of control, Levin and Rappaport Hovav (1995) introduced the semantic distinction between ICCOS and EXCOS eventualities. In fact, the aim of the research in Levin and Rappaport Hovav (1995) is to draw a semantic distinction between the alternating class of unaccusatives and the non-alternating class of unergatives in order to account for their opposite syntactic behavior.[15] The authors

[15]In contrast to Alexiadou and Anagnostopoulou (2007), who only consider unaccusatives to be CoS verbs, Levin and Rappaport Hovav (1995) discuss ICCOS eventualities within the context of several semantic verb classes including motion verbs, verbs of substance emission and CoS verbs which encompass both unaccusatives and unergatives. However, this does not change the fact that ICCOS

describe the concept of internal causation as follows: “The change of state that they describe are inherent to the natural course of development of the entities that they are predicated of and do not need to be brought about by an external cause” (Levin and Rappaport Hovav,1995, p.97). Some examples that they give are *bloom, blossom, decay, speak, play* and *laugh*.

(6) a. The cactus bloomed/blossomed/flowered early.

b. *The gardener bloomed/blossomed/flowered the cactus early.

On the other hand, “externally caused verbs by their very nature imply the existence of an external cause with immediate control over bringing about the eventuality described by the verb: an agent, an instrument, a natural force, or a circumstance” (Levin and Rappaport Hovav, 1995, p. 92). Some examples that fall under EXCOS eventualities under this view include *dry, solidify,* and *break*.

(7) a. The window cracked / broke (from the pressure).

b. Pressure cracked / broke the window.

This classification was revised and extended in the work of Harley and Noyer (2000). In this paper, we understand that the discussion on the semantic classification of roots denoting CoS originated from the discussions of nominalization and argument structure in Chomsky (1970). Building up on Marantz (1997), Harley and Noyer (2000) argue that in addition to internal and external causation, English roots may exhibit a third kind of behavior, which they name *underspecified causation*. The idea is that with respect to the so-called transitive nominalizations as shown below, roots of internal causation freely occur in intransitive nominalized constructions as in (8) b. Yet they are disallowed in transitive nominalized constructions like (8) d.

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verbs roughly correspond to unergatives and EXCOS verbs roughly correspond to unaccusatives under this analysis. According to the authors, the non-alternating unaccusatives receive the same lexical semantic representation as the unergtives.

(8) a. Tomatoes grow.

b. The tomatoes' growth

c. John grows tomatoes.

d. #John's growth of tomatoes[16]

Roots of external causation, in contrast, behave in the opposite fashion: They cannot be used intransitively as shown in (9) a, while they are perfectly licit in transitive nominalizations as in (9) d. Roots of underspecified causation are interesting, because they behave like externally caused roots when they occur in transitive nominalizations, as can be seen in (10) d. On the other hand, with respect to their potential to form an inchoative, the very same roots exhibit the properties of roots as we can see in (10) a. The set of data below is taken and adapted from Harley and Noyer (2000), where (8), (9), and (10) represent roots of internal causation, external causation and underspecified causation respectively.

(9) a. # The crop destroyed.

b. The crop's destruction

c. The insects destroyed the crop

d. The insects' destruction of the crop

(10) a. Wealth accumulated.

b. The wealth's accumulation

c. John accumulated wealth

d. John's accumulation of wealth

Alexiadou et al. (2006) build upon the work by Levin and Rappaport Hovav (1995) as well as Harley and Noyer (2000) and revise the classification adding what they call *agentive verbs*. Such verbs are characterized by the fact that they express a

[16] Following Harley and Noyer (2000), # is used to signal pragmatic anomaly. * is intended to express downright ungrammaticality.

CoS event in an entity and yet never participate in the causative-inchoative alternation as shown in (11) b because they necessarily require an agentive force to bring about the change of state.

(11) a. Jane murdered Red John.

b. *Red John murdered.

Together with the agentive verbs, the four-way distinction among CoS verbs that also includes internal causation, external causation and unspecified causation constitutes the most elaborate classification and therefore accounts for the crosslinguistic asymmetry in syntactic behavior in the most comprehensive fashion. For this reason, we shall adopt the semantic classification under Alexiadou et al. (2006) in this study.

3.3 Singling out the relevant semantic classes of CoS verbs

As we remember from a previous discussion, Alexiadou et al.'s (2006) classification of CoS verbs includes the following types, as repeated below:

(12) √agentive verbs: murder, assassinate.

√internally caused verbs: blossom, wilt.

√externally caused verbs: destroy, kill.

√cause unspecified verbs: open, break. (Alexiadou et al., 2006, p. 190)

In what follows, let us take a closer look at each subclass of CoS verbs in order to see whether they play a role in determining Turkish verbs' potential to participate in the alternation, as suggested in the literature.

3.3.1 Agentive CoS verbs

Agentive CoS verbs are characterized by a necessary inclusion of agentivity involved in the act of causation (Schäfer, 2009). Hence, agentive CoS verbs are crosslinguistically expected to lack inchoative variants. This is also reflected in the following Turkish examples of agentive verbs, where the nonactive morphology renders the structure ungrammatical under an inchoative reading:

(13) a. Ayşe kahve-yi öğüttü.
Ayşe-NOM coffee-ACC grind-PST.3sg
'Ayşe ground the coffee.'

b. *Kahve Ayşe-den öğütüldü.
Coffee-NOM Ayşe-FROM grind-NACT-PST.3sg
'*The coffee ground from Ayşe.'

(14) a. Ahmet gömleğ-i katladı.
Ahmet shirt-ACC fold-PST.3sg.
'Ahmet folded the shirt.'

b. *Gömlek Ahmet-ten katlandı.
Shirt-NOM Ahmet-FROM fold-NACT-PST.3sg.
'*The shirt folded from Ahmet.'

Agentive causation will not be of any concern for us at this point, since the examples show that they are not expected to alternate. However, it is important to bear it in mind, in so far as they will play a role in understanding the dual behavior of certain CoS verbs in Chapter 5 as well as in modelling the syntax of the alternation in Chapter 6.

3.3.2 Cause unspecified CoS verbs

As far as Turkish is concerned, unspecified causation will not be of particular interest either, since unspecified causation does not find any grammatical reflex in Turkish. The next section shall be devoted to account for this issue. I would like to discuss two types of evidence to support my claim that Turkish grammar does not encode unspecified causation. The first type of evidence comes from nominalizations. As the following examples – the Turkish equivalents of the data in (8), (9) and (10) – illustrate, the contrast that can be observed in Harley and Noyer's (2000) data is non-existent in Turkish. Specifically, if Turkish behaved like English, we would only expect (15) to be grammatical both in an intransitive nominalization such as (15) b and a transitive nominalization such as (15) d because this verb receives a cause unspecified interpretation under Harley and Noyer (2000). However, unlike in English, in Turkish, verbs of all three types are equally compatible with both intransitives as in (15) b, (16) b and (17) b and transitive nominalizations as in (15) d, (16) d and (17) d.

(15) a. Para birik-ti.

'Money-NOM accumulate-PST.3sg.'

'Money accumulated.'

b. Para-nın birik-me-si

Money-GEN accumulate-NMLZ-POSS

'Money's accumulation'

c. Ali para-yı birik-tir-di.

Ali-NOM money-ACC accumulate-CAUS-PST.3sg

'Ali accumulated the money.'

d. Ali-nin para-yı birik-tir-me-si

Ali-GEN money-ACC accumulate-CAUS-NMLZ-POSS

'Ali's accumulation of the money'

(16) a. Hasat mahvol-du

Crop-NOM ruin-PST.3SG

'The crop ruined.'

b. Hasad-ın mahvol-ma-sı

Crop-GEN ruin-NMLZ-POSS

'The crop's ruining'

c. Böcek-ler hasad-ı mahvet-ti.

Insect-PL-NOM crop-ACC ruin-PST.3SG.

'Insects ruined the crop.'

d. Böcek-ler-in hasad-ı mahvet-me-si

Insect-PL-GEN crop-ACC ruin-NMLZ-POSS

'Insects' ruining of the crop'

(17) a. Domates-ler büyü-dü.

Tomato-PL-NOM grow-PST.3SG

'Tomatoes have grown.'

b. Domates-ler-in büyü-me-si

Tomato-PL-GEN grow-NMLZ-POSS

'Tomatoes' growth'

c. *Ali domates-ler-i büyü-t-tü.

Ali-NOM tomato-PL-ACC grow-CAUS-PST.3SG.

'*Ali has grown the tomatoes'[17]

d. Ali-nin domates-ler-i büyü-t-me-si

[17] Please note that the unavailability of this construction in either language is not related to nominalization patterns but to the inability of the verb *büyü-* 'grow' to transitivize in this sense.

Ali-GEN tomato-PL-ACC grow-CAUS-NMLZ-POSS

'Ali's growth of tomatoes'

Thus, I conclude that nominalizations cannot provide any evidence for the existence of unspecified causation as a grammatically relevant class of anticausatives.

The second type of evidence I will discuss comes from morphosyntax. What differentiates roots of underspecified causation from verbs of external causation under Alexiadou et al. (2006) is the morphosyntax associated with both types of verbs. Specifically, as we noted in Chapter 2, under this analysis, EXCOS verbs such as 'destroy' are expected to bear nonactive morphology while cause unspecified roots are expected to bear active morphology. The problem with this prediction is that Turkish verbs, which receive a cause unspecified interpretation under Alexiadou (2010), may surface with either active or nonactive morphology as already noted by Balakbabalar (2015).

(18) a. Çadır çök-tü.

Tent-NOM collapse-PST.3SG

'The tent collapsed.'

b. Bardak dol-du.

Glass-NOM fill.up-PST.3SG

'The glass filled up.'

c. Kapı aç-ıl-dı.

Door-NOM open-NACT-PST.3SG

'The door opened.'

d. Yüzey ger-il-di.

Surface-NOM stretch-NACT-PST.3SG

'The surface stretched.'

e. Pencere kapa-n-dı.

Window-NOM close-NACT-PST.3SG

'The window closed.'

f. Kalem kır-ıl-dı.

Pencil-NOM break-NACT-PST.3SG

'The pencil broke.'

Under Alexiadou (2010), we would certainly not expect cause unspecified inchoatives like those in (18) c, d, e or f to carry nonactive morphology. This variability in the surface form of Turkish roots that receive a cause unspecified reading under Alexiadou et al. (2006) discredits Alexiadou's hypothesis that only EXCOS verbs surface with non-active morphology (see also Balakbabalar, 2015).

Up until now, we reviewed a syntactic and a morphosyntactic approach to unspecified causation. However, neither of them seems to exhibit any grammatical correlates in Turkish. I take this evidence to indicate that the only conceptual semantic types of causation that have distinct grammatical properties in Turkish are internal causation, external causation and agentive causation. Since we do not expect agentive verbs to participate in the alternation due to their semantics as discussed 3.3.1, we will not be discussing agentive verbs any further at this stage. In the following section, we shall discuss Turkish EXCOS verbs and their grammatical properties in order to gain insights into their syntactic make-up.

3.3.3 EXCOS verbs

Building up on Balakbabalar (2015), I argue that two morphologically distinct types of verbal roots can be involved in the formation of EXCOS verbs.[18] The first type is

[18] Please see Appendix A for a full list of ICCOS and EXCOS verbs that are investigated in this study.

made up of verbs that are transitive in their base form. Such verbs need to combine with nonactive morphology to form anticausatives.

(19) a. Politikacı-lar ülke halk-ın-ı böl-dü.
Politician-PL-NOM country people-POSS-ACC divide-PST.3sg.
'The politicians divided the people of the country.'

b. Ülke halk-ı böl-ün-dü.
Country people-POSS divide-NACT-PST.3sg.
'The people of the country divided.'

The second type is made up of verbs, which are intransitive (inchoative) in their base form and hence bear no morphology when they are used intransitively. When transitivized, the same verbs have to combine with causative morphology.

(20) a. Bina-nın çatı-sı-NOM çök-tü.
Building-GEN roof-POSS-NOM collapse-PST.3SG
'The building roof collapsed.'

b. Fırtına bina-nın çatı-sın-ı çök-ert-ti.
Storm building-GEN roof-POSS-ACC collapse-CAUS.PST.3sg.
'Storm collapsed the building roof.'

In Chapter 2, we briefly noted that external causation is correlated with overt morphology under Alexiadou (2014). Please note that the latter type of inchoatives is not expected under Alexiadou (2014). If the assumed correlation between morphology and semantics under Alexiadou (2014) held for Turkish, we would expect all EXCOS verbs to behave like the verb in the example (19), which is clearly not the case. Hence, I take the data in (20) as evidence that nonactive morphology is not an absolute indicator of external causation.

As far as the syntactic properties of EXCOS verbs are concerned, we observe three characteristics:[19] The first syntactic property that all EXCOS verbs share is that they are free to alternate between intransitive and transitive usages.

(21) a. Deprem eski bina-yı sars-tı.

Earthquake-NOM old building-ACC shake-PST.3SG

'The earthquake shook the old building.

b. Bina (deprem-den) sars-ıl-dı.

Building-NOM (earthquake-FROM) shake-NACT-PST.3SG.

'The building shook (from the earthquake).'

(22) a. Sert rüzgar pankart-ı yırt-tı.

Strong wind-NOM banner-ACC rip.apart-PST.3sg.

'The strong wind ripped (apart) the banner.'

b. Pankart-NOM (sert rüzgar-dan) yırt-ıl-dı.

Banner-NOM (strong wind-FROM) rip.apart-PST.3SG.

'*The banner ripped apart from the strong wind.'

(23) a. Gerilim ip-i kop-ar-dı.

Tension-NOM thread-ACC tear.apart-CAUS-PST.3SG

'The tension tore apart the thread.'

b. İp (gerilim-den) kop-tu.

Thread-NOM (tension-FROM) tore apart-PST.3SG

'The thread tore apart (from the tension).'

(24) a. Basınç cam-ı çatla-t-tı.

Pressure-NOM glass-ACC crack-CAUS.PST.3SG

[19] The grammaticality acceptability rating task which I will discuss in the next chapter also includes the following four EXCOS verbs: *patla-* 'explode', *kop-* 'rip apart', *parçala-* 'tear into pieces', *kır-* 'break'. Since test results on EXCOS verbs are in line with the findings in the current literature, I will not discuss them. However, the test sentences with EXCOS verbs as well as their grammaticality acceptability ratings can be found in the Appendix B.

‘Pressure cracked the glass.’

b. Cam (basınç-tan) çatla-dı.

Glass-NOM (pressure-FROM) crack-PST.3SG

‘Glass cracked (from the pressure).’

The second property that is shared by EXCOS verbs is related to the observation (McCoon & MacFarland, 2000; Wright, 2001; Alexiadou 2014) that in their transitive version, they license all kinds of causer subjects, irrespectively of the theta role that they bear.

(25) a. Fırtına / Ormancı ağac-ı devir-di.

Storm-NOM / forester-NOM tree-ACC knocked.over-PST.3sg

‘The storm / the forester knocked over the tree.’

b. Ağaç devr-il-di.

Tree-NOM knock.over-NACT.PST.3SG

‘The tree knocked over.’

The third and the last property that they share is specific to Turkish: Namely, when an EXCOS verb is construed in a transitive construction, the causer subject may or may not instigate the event intentionally. This means that the syntactic position that projects the causer subject would be endowed with an underspecified [intentionality] feature.[20]

(26) a. Cam kır-ıl-dı.

Glass-NOM break-NACT-PST.3SG

‘The glass broke.’

b. Ali cam-ı kazayla kır-dı.

Ali-NOM glass-ACC accidentally break-PST.3SG

[20] We will go back to this point during the syntactic analysis in Chapter 6.

'Ali broke the glass accidentally.'

c. Ali cam-ı kasten kır-dı (ve acil durum düğmesine bastı).
Ali-NOM glass-ACC intentionally break-PST.3SG
'Ali intentionally broke the glass (and pressed the emergency button).'

(27) a. Yaprak kop-tu.
Leaf-NOM fall.off-PST.3SG
'The leaf fell off.'

b. Ali yaprağ-ı kazayla kop-ar-dı.
Ali leaf-ACC accidentally fall.off-CAUS-PST.3SG
'Ali accidentally pulled off the leaf.'

c. Ali yaprağ-ı kasten kop-ar-dı (ki diğer yaprakları da çürütmesin).
Ali leaf-ACC intentionally fall.off-CAUS.PST.3SG
'Ali intentionally pulled off the leaf (in order to save the other healthy leaves).'

Please note that the evidence above in (21) through (27) shows that all EXCOS verbs – irrespective of their morphological marking of the inchoative form – exhibit the same set of properties in terms of the ability to transitivize, the theta role licensing of external arguments in transitive constructions as well as the intentionality properties of the same.[21]

[21] It follows from our earlier discussions on EXCOS verbs under Levin and Rappaport Hovav (1995) and Alexiadou (2014) in Chapter 2 that different authors set the boundaries of this class differently. For two reasons, which I will elaborate on shortly, the class of EXCOS verbs under the present analysis exhibit large overlaps with the set of EXCOS verbs under Levin and Rappaport Hovav (1995), McCoon and MacFarland (2000) and Wright (2001) and differ from that of Alexiadou et al. (2014) to a remarkable extent.
As already discussed, Alexiadou (2014) building up on Alexiadou et al. (2006) and Alexiadou (2010) argues that EXCOS verbs necessarily surface with nonactive morphology.

3.3.4 ICCOS verbs

ICCOS verbs form another class of CoS verbs with coherent semantic and syntactic properties that distinguish them from other CoS verbs. As briefly discussed in Chapter 2, such verbs are often found to be less likely to participate in the inchoative-causative alternation.

(28) a. The flowers blossomed.

b. *The gardener blossomed the flowers.

This being said, a much more accurate description of ICCOS verbs has to admit that syntactically speaking, they actually exhibit a rather heterogeneous nature, because members of this class show a variable flexibility in finding transitive counterparts. Compare the behavior of *blossom* in (28) with *corrode* in (29).

(29) a. The metal corroded.

b. Excessive humidity corroded the metal.

The aim of the following chapter is to thoroughly discuss what this variable flexibility to participate in the alternation implies in terms of semantics and syntax of ICCOS verbs. It is for this reason that we do not discuss them at this point any further.

"Assuming, following Embick (1997, 1998) that passive Voice morphology is the realization of a structure without an external argument, irrespectively of the interpretation this receives, this leads to the proposal that class II verbs, the ones with special morphology, have the structure in (10).
(10) [Voice (-ext. arg –AG) [v [Root]]]" (2010: 12, Example 10)."

This is illustrated in the following example:

(1) To spiti katastrafike me tin fotia
The house-NOM destroyed–NACT with the fire.
'The house got destroyed from the fire' (Adapted from Alexiadou, 2010, Example16 b)

According to Alexiadou (2010), nonactive morphology in EXCOS verbs is the syntactic reflex of semantic information that is encoded by the verb, which is the lack of an external argument. However, Balakbabalar (2015) brings counterexamples to this from Turkish arguing that nonactive morphology cannot be taken as a reliable indicator of external causation in Turkish.

(2) Küçük kız serp-il-di, güzel bir kadın oldu.
Little girl bloom-**NACT**–PST.3sg, beautiful one woman become-PST.3sg
'The little girl grew into a beautiful young woman.' (Balakbabalar, 2015, Example 6)

Therefore, verbs that receive a cause unspecified interpretation under Alexiadou (2014) probably form a part of EXCOS events under the present analysis. Please note that given their syntactic behavior in the alternation, they cannot be classified together with ICCOS verbs.

3.4 Conclusion

In this chapter, we introduced the first part of the analysis of Turkish CoS verbs in the causative-inchoative alternation. We first eliminated the derivational accounts as feasible models to account for the phenomena in Turkish on the grounds that in this language inchoatives are not derived uniformly. We then moved on to singling out the relevant semantic subclasses of CoS verbs as agentive CoS verbs, ICCOS verbs and EXCOS verbs. We argued that agentive CoS verbs and CoS verbs of unspecified causation form irrelevant semantic subclasses of verbs, as far as Turkish is concerned. We supported this claim with evidence from nominalization and morphosyntax. Furthermore, we discussed EXCOS verbs: We illustrated that morphosyntactically speaking, there are two different types of EXCOS verbs: Those that are (intransitive) inchoatives in their base form and those that are (transitive) causatives in their base form and need nonactive morphology to form anticausatives.[22] We showed the three distinct syntactic properties of EXCOS verbs: ability to transitivize, the range of subject NP theta roles that a causativized EXCOS verb licenses, and intentionality as an underspecified feature. Finally, we also briefly introduced the subclass of ICCOS verbs. Having singled out the relevant semantic subclasses of CoS verbs in Turkish, we will discuss the transitivization patterns of ICCOS verbs and how these patterns are linked to the available semantic characterizations of internal causation in the next chapter.

[22] Recall from Chapter 2 that anticausatives refer to lexical causative CoS verbs that become intransitive by means of nonactive morphology as opposed to inchoative CoS verbs which are intransitive in their base form.

CHAPTER 4

INTERNALLY CAUSED VERBS

This chapter is devoted to understanding how Turkish ICCOS verbs behave syntactically and whether we can link this behavior with the existing semantic characterization in the literature. I hope to show in the following pages that the tasks of understanding the behavior of ICCOS verbs and those of coupling this behavior with certain semantic characteristics are complicated, because this class is a heterogeneous one itself, as already indicated in the works of McCoon and MacFarland (2000), Wright (2001), Levin (2009) amongst others. Here is how this chapter is organized: First, in 4.1, we will look at how internal causation as a syntactically relevant verb class emerged under Levin and Rappaport Hovav (1995) and Alexiadou et al. (2006) and how the initial analysis changed under McCoon and MacFarland (2000) and Wright (2001). Later in section 4.2, I will discuss the two-way division among ICCOS verbs in Turkish in detail. In Section 4.3, I will bring further evidence for ICCOS verbs as a heterogeneous class from causer PPs. In Chapter 4.4, I will try to come up with a revised semantic characterization of what ICCOS verbs may denote in this language. Finally, in Chapter 4.5 I will summarize the findings of this chapter.

4.1 How to account for the semantics and syntax of Turkish ICCOS verbs – The proposed methodology

When it comes to semantically and syntactically characterizing ICCOS verbs, recent analyses in the literature – despite the vast insights that they provide – end up with circular arguments: As briefly noted in Chapter 2, it appears the aim of Levin and

Rappaport (1995) was to account for the difference between the behavior of unaccusatives and unergatives such as *blossom* vs. *smile*. However, when the semantics that was associated with *blossom* was used to predict the behavior of *erode* – because the verbs in question share some semantic characteristics – this led to a misprediction of the behavior of ICCOS verbs. Specifically, transitivizing ICCOS verbs such as *erode* were falsely classified together with non-transitivizing verbs such as *blossom*. This empirical problem motivates me to adopt a new approach to understand the concept of internal causation. Following McCoon and MacFarland (2000), I recognize that we need to take the criteria that are used to determine internal causation to a more concrete level and to reorient ourselves by empirical facts. Specifically, I propose an approach where we proceed as follows:

1. Widen the coverage of the data using corpus data and a grammaticality acceptability rating test.
2. Categorize verbs based on the most salient syntactic property that characterizes them – which is their varying ability to transitivize.
3. Try to see whether there are common semantic properties of verbs that pattern together based on the observations on the syntactic behavior.
4. Test the proposed syntax and semantics against new data that challenge the existing observations.[23]

The most basic consensus in the literature is that EXCOS verbs can easily be used in both intransitive and transitive constructions, while ICCOS verbs are less likely to do so. Furthermore, we know from McCoon and MacFarland (2000), Wright (2001) and Alexiadou (2014) that those verbs that are less likely to transitivize exhibit a scalar nature: Some of them may never alternate, while others are more likely to do so,

[23] Please note that the fourth step of the proposed approach shall be the subject of Chapter 5.

even if they do not "happily" transitivize as EXCOS verbs do, as Alexiadou (2014) notes. Based on the transitivization patterns of such verbs, we shall try to come up with a revised definition of internal causation that does justice to the empirical facts as discussed in sections 4.2.1 and 4.2.2.

4.2 The two-way split

In what follows, I will bring further evidence to the idea advocated under McCoon and MacFarland (2000), Wright (2001) and Alexiadou (2014) that ICCOS verbs constitute a heterogeneous class in terms of their potential to transitivize.

Following Balakbabalar (2014),[24] I will argue that Turkish ICCOS verbs exhibit a two-way split and back this claim up by means of evidence from distinct causativization patterns and causer PP selectional restrictions among ICCOS verbs. Specifically, I will argue that the patterns characterizing one of the two subclasses is the strong dispreference to transitivize and an enhanced ability to transitivize in metaphorical sense. On the other hand, the patterns that characterize the second type is the generally higher ability to transitivize as well as the constraint of transitive subjects to bear thematic roles of nature-related causers and unintentional human causers. I will also argue in the following subsections that this syntactic partition is the reflection of the semantic notion of *manipulability*, which is in line with Haspelmath's (1993) and Haspelmath et al.'s (2014) notion of *spontaneity*.

Two distinct techniques of data elicitation were adopted to understand the transitivization patterns of Turkish ICCOS verbs. First, a corpus search was carried out. To support the results from the corpus search, an acceptability rating task was conducted. In this task, 11 native speakers of Turkish were presented with 96

[24] The claims in Balakbabalar (2014) will be explained in more detail on the following pages when causer PP distribution among Turkish inchoatives is discussed.

sentences, which included four Type I ICCOS verbs, four Type II ICCOS verbs and four EXCOS verbs as well as 24 filler sentences in different transitivity constellations. The results from both the corpus study and the acceptability rating task indicate that Turkish ICCOS verbs exhibit a two-way division. This finding is in line with the findings in Alexiadou's (2014) study, according to which Greek ICCOS verbs also exhibit two distinct types of behavior with respect to causativization. In the following section, each type of Turkish verbs will be discussed in detail.

4.2.1 Type I ICCOS verbs in Turkish

The entire data of the corpus search comes from TS Corpus (Turkish Corpus) (http://tscorpus.com/tr), which is the largest compilation of written linguistic data in Turkish and contains around 491 million posttagged tokens. This corpus was chosen for the large database it provides as well as the rich variety of search techniques it makes available. The only alternative to TS Corpus is TNC (Turkish National Corpus) by Mersin University, which is made up of 50 million words consisting of 98% written and 2% spoken data. I eliminated TNC from my corpus search on the grounds that there is a remarkable contrast between the database sizes of both corpora. Also, TS Corpus alone offers a sufficient number of tokens to be used as the sole source of reference, when compared with the total number of tokens used in studies by Wright (2001), which is 489 million words.[25] Please note that following Wright (2000), I make an explicit distinction between the literal usage and figurative

[25]When conducting the search, I excluded inchoatives in the form of light verb constructions in Turkish as illustrated below.

(1) a. Bakımsızlık bina-yı zamanla yok et-ti.
Dilapitation-NOM building-ACC in.time non-existent.make-PST.3sg
'In time, dilapitation wiped the building off.'

b. Bina bakımsızlık-tan zamanla yok ol-du.
Building-NOM dilapitation-FROM in.time non-existent.become-PST.3sg
'In time, the building perished from dilapitation.'

The reason for this elimination is that I want to limit the scope of syntactic investigation for the purposes of this study.

or metaphorical usage of CoS verbs in such a way that I will report on verbal behavior for both types of usage in order to highlight the contrast in transitivization patterns of CoS verbs in literal vs. metaphorical contexts.[26] Following Wright (2001), when I discuss a verb's literal usage, I will be referring to its sense in which it describes a physical CoS event, as in (20) a. When I refer to a verb as being used metaphorically, I will be referring to its usage where the verb does not denote a physical but rather an abstract CoS event, as in (20) b.

(1) a. Too much sugar rots the teeth.

b. Social media have rotted the minds of men.

The corpus searches on TS Corpus reveal that the first type of ICCOS verbs (henceforth called Type I ICCOS Verbs) seems to strongly disprefer transitivization. For instance, the search for the causative use of *aç-* 'blossom' as in *aç-DIr* 'blossom-CAUS' in its literal sense returned no tokens at all. In its metaphorical sense, however, a number of examples were found:

(2) Piriştina, TCDD'ye yaptığı çağrıda şöyle dedi: Meles'te bataklıkta çiçek aç-tır-dı-k. Liman İşletmesi'nin olanakları el vermiyorsa, orayı da düzenleriz.[27]

'Piriştina in his appeal to Turkish State Railways: We blossomed (blossom-CAUS-PST.3sg) flowers in the swamps of Meles. We may also reclaim further land, if maritime administration does not have the necessary financial resources.'

[26] In numerous studies, no specific distinction was drawn between the two types of verbal usage in alternation contexts (Levin & Rappaport Hovav, 1995; McCoon & MacFarland, 2000 or Alexiadou et al., 2010, Alexiadou, 2014). However, as already noted in Chapter 2, Wright's work (2001) has clearly shown that the usage of CoS verbs in metaphorical extensions correlate with their potential to causativize to a remarkable extent. Also, as we shall see in the following chapter, the wide and valid usage of verbs in metaphorical extensions will help make a case for approaching the grammatical encoding of causation in a novel way as far as Turkish data are concerned.

[27] Please note that as far as naturally occuring linguistic data from TS Corpus are concerned, such examples will be translated to ensure the ease of readability throughout the study. The same holds for several of my own examples in Chapter 5 that are longer than the average data. Nevertheless, we will continue to provide interlinear morpheme-by-morpheme glosses for verbal forms.

The transitivized version of *büyü-* 'grow',[28] on the other hand, appears in two examples in literal transitive usage, both of which include infinitival forms.

(3) a. Daha sabırlı biri iseniz seçtiğiniz ağac-ı bulduğunuz ortamdan çıkarmadan önce düşündüğünüz şekle girecek şekilde büyü-t-mek daha güzel bir sonuç verecektir.

'If you are more patient, growing (grow-CAUS-NMLZ) your choice of a tree-ACC in such a way that allows you to form it whichever way you want before you remove it from its place would yield better results.'

b. Kapı gibi duran dağın adı ise Kapıdağ. İşte kiraz-ı o kadar büyü-t en sebeplerinin başında o dağ geliyor.

'The great mountain over there is called Kapıdağ. And it is the number one reason that grows (grow-CAUS-REL) cherries that big.'

Similar observations hold for the rest of the verbs in this class: For the verb *serpil-* 'grow into an adult person' in transitive form, only one entry was found, which involved metaphorical usage.

(4) Başkent Bağdat'ın yakınındaki Bakuba'nın güneydoğusundaki bir yolda , işgal güçlerinin serp-il-t-meye çalıştığı yeni Irak ordusuna yeni yazılan 49 acemi askerin cesetleri bulundu.

'At a road in the Southeast of Bakuba, a city near the capital Baghdad, the bodies of 49 trainee soldiers were found, who were newcomers to the new army of Iraq which the occupying forces have been trying to grow (scatter-NACT-CAUS) into a professional army.'

The search for the rest of the verbs *olgunlaş-* 'ripen', *filizlen-* 'germinate' or *fosilleş-* 'fossilize' has returned no results in transitive constructions. Overall, these examples lead me to the conclusion that Type I ICCOS verbs are very limited in their potential

[28] Please note that *grow* both in Turkish and English can be used in a very large number of sense extensions. Here, we only refer to growth in biological sense, i.e. in the sense of developing toward ripeness. In the next chapter, it will become clear why we focus on this meaning.

to causativize. In those limited cases that they do, the verbs are used in their metaphorical extension, which supports the findings in Wright (2001).

To substantiate the findings from the corpus search, I also conducted an acceptability rating task, the results of which reinforce the conclusions from the corpus search. Within the scope of this task, 11 native speakers of Turkish were presented with the following four Type I ICCOS verbs in the following three constellations: *aç-* 'blossom', *filizlen-* 'germinate', *fosilleş-* 'fossilize', *büyü-* 'grow'.[29]

1. Verb in an intransitive construction (left column of the Table 4):

   Fidanlar büyü-dü

   The seedlings grow-PST.3sg

   "The seedlings have grown"

2. Verb in a transitive form with a natural causer in the subject position (middle column of the Table 4):

   Yağmur fidanlar-ı büyü-t-tü.

   Rain seedlings-ACC grow-CAUS-PST.3sg.

   "Rain has grown the seedlings"

3. Verb in a transitive form with an agentive causer in the subject position (right column of the Table 4):

   Bahçevan fidanlar-ı büyü-t-tü.

   The gardener seedlings-ACC grow-CAUS-PST.3sg.

   "The gardener has grown the seedlings"

The participants were asked to read the sentences and rate them on an acceptability scale from *1* to *5*, where *5* indicated perfect acceptability and *1* – downright

[29] For reasons that shall become clear in the following section, the results for the verb büyü- 'grow' will not be reported here. However, a full list of tested verbs in the reported constellations together with their rating can be found in Appendix B.

ungrammaticality. The responses for each sentence were summed up and the mean average for each sentence was calculated. The results for Type I ICCOS verbs are illustrated in Table 4:

Table 4. Results from the Acceptability Rating Task for Type I ICCOS Verbs.

Sentence type	V-INTR	V-CAUS + Natural Causer Subject NP	V-CAUS + Agentive Causer Subject NP
Example: büyü- (grow)	Fidanlar büyüdü (The seedlings have grown)	Yağmur fidanları büyüttü (Rain has grown seedlings)	Ayşe fidanları büyüttü (Ayşe has grown seedlings)
blossom	4.64	2.36	2.00
germinate	4.91	2.73	3.64
fossilize	4.45	3.64	3.45
mean av.	4.66	2.91	3.03

What strikes one in this part of the survey is that Type I ICCOS verbs are rated as much more felicitous in the intransitive version as can be seen in the column on the left when compared to their transitive versions in the other two columns. Specifically, the average acceptability rate in the intransitive version is 4.66. In their transitive versions, Type I ICCOS verbs seem to exhibit equally low levels of acceptability with agentive or nature-related subjects, with an average acceptability rate of 2.91 and 3.03 respectively.

Consolidating the results from both the corpus study and the acceptability-rating task, the most important observation that emerges from this study seems to be that – as far as their usage in literal meaning is concerned – Type I ICCOS verbs seem to surface regularly in intransitive constructions, while they disprefer transitivization. In addition, the corpus study shows that in those cases that Type I ICCOS verbs do transitivize, they are more likely to be used in a metaphorical sense. The following examples are intended to summarize the observed tendencies:

(5) a. Gardenya-lar aç-tı.

Gardenia-PL-NOM blossom-PST.3sg

'The gardenias blossomed.'

b. ? Bahar (mevsimi) gardenya-lar-ı aç-tır-dı.

Spring-NOM gardenia-PL-ACC blossom-CAUS-PST.3sg

'*The spring blossomed the gardenias.'

c. ? Zeliha gardenya-lar-ı aç-tır-dı.

Zeliha-NOM gardenia-PL-ACC blossom-CAUS-PST.3sg

'*Zeliha blossomed the gardenias.'

(6) a. Fasülye tohumu filizlen-di.

Bean sprout-NOM germinate-PST.3sg.

'The bean sprout germinated.'

b. ? Toprak fasülye tohumun-u filizlen-dir-di.

Soil-NOM bean sprout-ACC germinate-CAUS-PST.3sg

'*The soil germinated the bean sprout.'

b. ? Çiftçi fasülye tohumun-u filizlen-dir-di.

Farmer bean sprout-ACC germinate-CAUS-PST.3sg

'The farmer germinated the bean sprout.'

These findings are in line with the findings in the literature (Alexiadou, 2014; Wright, 2001; McCoon & McFarland, 2000; Levin, 2009). Let us now turn to the second type of ICCOS verbs that are more likely to transitivize.

4.2.2 Type II ICCOS verbs in Turkish

All examples of Type II ICCOS verbs under investigation find use in metaphorical extensions very often alongside with the usage in literal meaning. This is also the reason why an individual corpus research returns around 10,000 tokens for each item. Therefore, data collection for the second set of ICCOS verbs was carried out by

examining the first thousand examples from the corpus. The set of examples below is intended to illustrate two observations: The first one is that this class of verbs transitivizes more frequently than Type I ICCOS verbs. And secondly, they are intended to illustrate that in their transitive version, Type II ICCOS verbs typically co-occur with nature-related causers (for a similar discussion, please see McCoon and MacFarland 2000).

The search for the transitive version of the verb *çürü-* 'spoil/go bad' has returned a remarkable number of sentences with nature-related causers:

(7) Aşırı sulama (bitkileri) çürü-t-ür, onun yerine püskürtme yapmak faydalıdır.
'Excessive watering rots (rot-CAUS-AOR.3sg) plants. It is more advisable to spray them.'

(8) Bebekler uyku sırasında biberon emdiklerinde ağızda biriken sütteki mikrop dişleri çürü-t-üyor.
'When babies suck their bottles during sleep, the bacteria in the milk that accumulates in the mouth rots (rot-CAUS-PROG.3sg) their teeth.'

(9) Okulun yanındaki otelin atık suyu spor salonunun temellerini çürü-t-müş.
'The waste waters of the hotel next to the school rotted (rot-CAUS-EV/PF.3sg) the foundation of the (school's) sports facility.'

It should also be noted at this point that a great majority of examples in which *ekşi-* surfaces in transitive form involves the verb in its non-finite form.

(10) Ülkemizde maalesef mercimek kabuğu boyanarak ve limon tuzu ile ekşi-t-il-erek sahte sumak yapılmaktadır.
'Unfortunately, in our country, fake sumac is produced by colouring the shells of lentils and by souring (sour-CAUS-NACT-CONV) the taste using citric acid.'

The same observation holds of the transitive uses of the verb *paslan-* 'corrode' in its transitive use. A great majority of tokens involve the verb in non-finite forms including participles or derived adjectival forms.

(11) Ayrıca arabanızın motorunun … su buharının paslan-dır-ıcı etkilerine … uygun olarak elden geçirilmesi gerekir.
'Furthermore, the engine of your car needs to be checked out against corrosive (corrode-CAUS-A.DER) effects of water vapor.'

(12) … Bunun sebebi, 1991 yılında yaşanan bombalamadan sonra çatıdan sızan suların eski demir kamaları paslan-DIR-MA-SI-DIR.
'The reason is the leaking water's corroding (corrode-CAUS-NMLZ-POSS-COP) the old iron wedges.'

In a few cases, it may also co-occur in finite form with nature-related causer subjects.

(13) … Örneğin oksijen demiri paslan-dır-ır.
'For instance, oxygen corrodes (corrode-CAUS-AOR.3SG) iron.'

The root *ekşi-* 'sour/spoil' can also be classified as primarily occurring in non-finite forms in the corpus database. What is interesting in the specific case of *ekşi-t* 'spoil-CAUS' is that the examples illustrate cases of external causation, since the causers of CoS events they describe involve intentional agentive forces, which is not compatible with how we characterized the semantics and syntactic behavior of ICCOS verbs.[30] Indeed, in many examples, the verbs describe technical production techniques or cooking methods. The examples below are intended to illustrate this.

(14) At sütünün (bekletilip) ekşi-t-il-erek sarhoş edici hale getirileni içilmez.

[30] Such type shifting phenomena will be discussed in Chapter 5 extensively.

‘The kind of horse milk that is made intoxicant by means of souring (sour-CAUS-NACT-CONV) (through resting) is undrinkable.’

(15) Ülkemizde maalesef mercimek kabuğu boyanarak ve limon tuzu ile ekşitilerek sahte sumak yapılmaktadır.

‘Unfortunately, in our country, fake sumac is produced by coloring the shells of lentils and by souring (sour-CAUS-NACT-CONV) the taste using citric acid.’

However, I also found some examples in which the CoS is brought about by an instrument causer, where the instrument causer receives a natural causer interpretation.

(16) Özgün firmasından görüştüğüm Emin Özengen ile fizik mühendisi Erol İlhan’dan bu işlemin sıcak su verilerek çabuklaştırılabileceğini öğreniyorum ancak bu yöntem zeytini bozup ekşi-t-ebil-ir.

‘In my conversation with Emin Özengen from the Company Özgün and with the physics engineering physicist Erol İlhan, I learned that this procedure can be accelerated by adding water but this may spoil the olives and sour (sour-CAUS-PSB-AOR.3SG) them.’

Unlike the first two examples, the verb *sol-* ‘wilt’ in its transitive form occurs primarily in finite forms with natural causers:

(17) Çünkü güneş içkinin rengini sol-dur-ur.

‘Because sun wilts (wilt-CAUS-AOR) the colour of the alcohol.’

(18) Bu aynı zamanda, deri kayışların renklerini de sol-dur-ur.

‘This also wilts (wilt-CAUS-AOR) the colour of leather bands.

Similar observations also hold for verbs such as *yıpran-* ‘wear off/away’ in their transitive version.

(19) Yerçekimi cildimizi yıpra-t-ır.

‘Gravity wears away (wear.away-CAUS-AOR) our skin.’

(20) Güneş perdeleri yıpratır.

'Sunlight wears away (wear.away-CAUS-AOR) curtains.'

As far as the acceptability rating task results are concerned, the following four Type II ICCOS verbs were tested in the same transitivity constellations as Type I ICCOS verbs: *sarar-* 'grow pale', *kabar-* 'swell', *sol-* 'wilt', *çürü-* 'decay'. Like Type I verbs, Type II ICCOS verbs are most felicitous in their intransitive use. Unlike Type I verbs, however, transitivized Type II verbs that co-occur with natural causers are judged as rather felicitous. As shown in Table 5, this is reflected in the acceptability rate of 3.78, which you can find in the middle column of the Table 2. With agentive causers, however, speakers seem to find transitivized Type II ICCOS verbs less felicitous, as the rating 3.18 reflects.[31]

Table 5. Results from the Acceptability Rating Task for Type II ICCOS Verbs.

Sentence type	V-INTR	V-CAUS + Natural Causer Subject NP	V-CAUS + Agentive Causer Subject NP
Example: sol- (wilt)	Çiçekler soldu (The flowers wilted)	Susuzluk çiçekleri soldurdu (Dehydration wilted the flowers)	Ayşe çiçekleri soldurdu. (Ayşe wilted the flowers)
çürü-	4.18	3	3.45
paslan-	4.91	4.55	2.91
Mean av.:	4.55	3.78	3.18

[31] For the following reason, only the results for *sol-* 'wilt' and *çürü-* 'decay' will be reported. At the time of conducting the study, I assumed inherent involvement in the CoS event was the determining semantic criterion that indicates internal causation. This means that the choice of four verbs from each of the semantic subclasses of Type I internal causation, Type II internal causation and external causation reflects this assumption. Hence the list for Type II ICCOS verbs includes *sarar-* 'grow pale', *kabar-* 'swell', *sol-* 'wilt', *çürü-* 'decay'. However, the test results indicate a remarkable difference between the syntactic behavior of *sarar-* 'grow pale' and *kabar-* 'swell' vs. *sol-* 'wilt', *çürü-* 'decay'. This motivated me to rethink the semantic characterization of internal causation and led me to the ideas put forward in this study. For this reason, only the results for *sol-* 'wilt' and *çürü-* 'decay' will be reported here. To make sure that the number of tested verbs from Type I and Type II ICCOS verbs match one another, one of the verbs from the list of Type I ICCOS verbs was also taken out. This verb was *büyü-* 'grow'. When choosing this verb over the others, I considered its various frequently used metaphorical meaning extensions that might interfere with the results concerning transitivization in literal meaning contexts that we are mainly interested in. A full list of tested verbs together with their acceptability ratings can be found in Appendix B.

One aspect of verbs that we have classified as Type II ICCOS verbs seems to be particular to Turkish and not predicted by recent studies such as those by McCoon and MacFarland (2000), Wright (2001) or Alexiadou (2014). In Turkish, Type II ICCOS verbs can also be compatible with human causers in those cases where the human causer brings about the CoS unintentionally. The following examples were taken from TS Corpus:

(21) Orasını burasını yakmış , ezmiş , çürü-t-müş.
'S/he burned, bruised and rotted (rot-CAUS-EV/PF.3sg) various parts of her/his body.'

(22) Öğrenene kadar cihazı çok yıpra-t-tı-m ama en sonunda çözdüm.
'Until I figured out how the machine works, I wore it out (wear.out-CAUS-PST.3sg), but finally I figured it out.'

(23) Silahları paslan-dır-ma-mak için Türklerin üzerinde kullandılar.
'They used the weapons on Turks in order not the corrode (corrode-CAUS-NEG-NMLZ) them.'

In none of these examples, we get the reading that the human causer is intentionally bringing about a CoS in the theme argument of the verb. In fact, in such structures, the causer seems to encode an adversely affected participant in the event. So we could read the example in (22) as in "the machine almost died on me until I finally figured out how it works". I take this restriction on intentionality to indicate that the functional head in Turkish that projects subject causers makes a difference between intentional human causers (which I will henceforth call agentive causers) and unintentional human causers. This is going to be important for our discussions on the

syntax of Voice, which is involved in the formation of both Type II ICCOS events and EXCOS events.

4.3 Further evidence for ICCOS verbs as a heterogeneous class: Causer PPs

Further evidence to support the distinction between the two types of ICCOS verbs comes from Causer PPs. Causer PPs are a specific type of external arguments that may merge the vP as an adjunctive structure and provide insight into the systematic aspects of semantic information that is encoded in inchoative structures. Such external arguments can be agents, natural causers or instruments. This idea of causer PPs was first introduced by Alexiadou et al. (2006) to put forward the idea that all inchoatives involve a CAUS head as part of their semantico-syntactic structure. The idea was based on the observation that in causative structures, all kinds of external arguments are licensed.

(24) a. John broke the vase. (agent)

b. The earthquake broke the vase (causer)

c. Will's banging shattered the window. (causing event)

d. A stone broke the window. (instrument)

Passives of causative structures continue to realize their external arguments as PPs. Again, all types of causers are compatible:

(25) a. The window was broken by John / by the storm / with a stone

b. The window was shattered by Will's banging.

On the assumption that anticausatives do not contain a cause component in their syntactic structure (Levin & Rappaport Hovav, 1995), one would predict that anticausatives would disallow any kind of external argument theta role to be realized as PPs. Contrary to this prediction, however, in anticausatives, agents and

instruments are disallowed as in (26) b, while causers are licensed as in (26) a – as long as they are introduced by *from-phrases* and not by *by-phrases* as exemplified in (27) a and b.

(26) a. The window cracked / broke from the pressure

b. *The door opened by/from Mary/with they key.

(27) a. *The window broke by John / with a stone

b. *The window broke by the storm / by Will's banging.

Alexiadou et al. (2006) takes this as evidence that causer phrases are licensed by the anticausative syntax, more specifically by the CauseP.[32] A series of studies conducted by Alexiadou et al. (2006), Alexiadou and Anagnostopoulou (2007), Alexiadou and Schäfer (2006) and Alexiadou (2010) reveals that the distribution of causer PPs among anticausative constructions does not take place randomly. Drawing on evidence mainly from Greek, the authors conclude that in Greek, the causer PP *me* is exclusively compatible with ICCOS verbs. Consider the data in (28) with an ICCOS verb and (29) with an EXCOS verb taken from Alexiadou and Anagnostopoulou (2007).[33]

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[32] As already pointed out by Alexiadou et al. (2006) and Schäfer (2012), an alternative account would be to assume that the meaning of causation is contributed by the prepositional heads –DAn and –(y)lA. Similar to the case presented for Greek data, in Turkish, especially –DAn is used in different nominal and verbal contexts, where it can introduce a reason clause.

(1) Bunu sen-i sev-diğ-im-den söyle-di-m.
This-ACC you-ACC love-COMP-1SG.POSS-FROM tell-PST.1SG
'I told you that because I like you.'

The problem with this alternative account is that causer phrases do not co-occur with other intransitive verbs in the systematic way that they do with unaccusatives.

(2) a. ? Askerler korkudan/-ylA yürüdü.
? Soldiers marched from / with fear. (not in the sense of "started to march".)
b. ? Çocuklar sevinçten/-ylA oynadı.
? Kids played from / with happiness (not in the sense of "started to dance".)
c. ? Taşlar temizlikten/-ylA parladı.
? The stones glowed from / with cleaning.

For an extensive discussion on the syntactic licencing of causer phrases and different types thereof in anticausative contexts, please see Alexiadou et al. (2006) and especially Schäfer (2012).

[33] In Alexiadou and Anagnostopoulou (2007), the authors postulate that the causer PPs *apo* and *me* introduce direct and indirect causation respectively. Specifically, they argue that a causer that is introduced by a *me*-PP can only be introducing an indirect causer. This is reflected in the fact that ICCOS verbs that are exclusively compatible with *me* causer PPs never alternate. In other words, a

(28) To fito anthise ??apo / me tin zesti

The plant blossomed from / with the heat

(Alexiadou & Anagnostopoulou, 2007, Example 39 a)

(29) Ta ruxa stegnosan apo ton ilio / me ton ilio

The clothes dried-Act from the sun / with the sun

(Alexiadou & Anagnostopoulou, 2007, Example 13 c)

Following Alexiadou and Anagnostopoulou (2006), Balakbabalar (2014) proposed that *-DAn* and *-(y)lA* – are the Turkish counterparts of Greek *apo* and *me* – and introduce direct and indirect causation, respectively.[34]

(30) a. Kapı rüzgar-dan kapa-n-dı.

Door-NOM wind-FROM close-NACT-PST.3sg

'Door closed from the wind'

b. Ali ilaç tedavisi-yle iyileş-ti.

Ali medicine treatment-WITH recover-PST.3sg

'Ali recovered with the help of medical treatment.'

What is interesting is that according to this analysis, unlike Greek ICCOS verbs, Turkish ICCOS verbs can be compatible with both causer phrases. Specifically, Type I ICCOS verbs seem to be exclusively compatible with *-(y)lA* PPs and disallow *-DAn*.

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causer that is introduced by a *me* PP in an anticausative construction can only be a licit subject NP in a periphrastic causative construction as in (1) a and never in a sentence with a lexical causative verb as in (1) b.

(1) a. O ilios ekane tu luludi na anthisi pio grigora

The sun made the flower subj blossom-3sg more quickly

b. *O ilios anthise to luludi

*The sun blossomed the flower (Alexiadou & Anagnostopoulou, 2007,Examples 40 b and c). Obviously, the fact that ICCOS verbs have been reestablished as alternating verbs (Wright 2001; McCoon and MacFarland, 2000) calls for a revision of this assumption (For an alternative account of direct vs. indirect causation in Turkish, please see Balakbabalar [2014]).

[34]In Balakbabalar (2014), this dichotomy does not refer to the syntax or event structure of causal chains. Across both causation types, directness or indirectness of the causing event is a semantic notion and determined by the level of involvement of the theme argument in the CoS event.

(31) a. Erken gel-en *bahar-dan / bahar-la çiçek-ler aç-tı.

Early arrive-REL *spring-FROM / spring-WITH flower-PL-NOM blossom-PST.3sg

'Flowers blossomed *from/with the early arrival of the spring.'

b. Ağaç-lar *düzenli sulama-dan / sulama-yla büyü-dü.

Trees-PL-NOM regular watering-FROM / watering-WITH grow-PST.3sg

'Trees have grown *from / with regular watering.'

c. Tohum-lar Eylül yağmurları-yla/*Eylül yağmurların-dan filizlen-di.

Seed-PL-NOM September rain-WITH /*September rain-FROM germinate-PST.3sg

'Seeds have germinated *from /with September rains.'

In contrast, Type II ICCOS verbs are exclusively compatible with *–DAn* PPs, while they disallow *–(y)lA*. Consider the following examples:

(32) a. İskelenin demirleri deniz suyun-dan/*deniz suyu-yla paslan-dı.[35]

[35]At this point, a note is in order. The careful reader may come up with the following counterexamples to the PP licencing constraints observed in (69). Consider the following contrast:

(1) *İskelenin demirleri deniz suyu-yla paslan-dı.
The iron parts of the pier sea salt-WITH corrode-PST.3sg
'*The iron parts of the pier corroded with the sea salt.'

(2) İskelenin demirleri dalgalar-ın vur-ma-sı-yla paslan-dı.
The iron parts of the pier wave-PL-GEN hit-NMLZ-POSS-WITH corrode-PST.3SG
'The iron parts of the pier corroded with the pounding of the waves.'

The reason why I do not consider the example in (2) as counterevidence for the analysis proposed here goes back to a discussion of *apo* vs. *me* phrases in Alexiadou and Anagnostopoulou (2007): As discussed earlier in a footnote, Alexiadou and Anagnostopoulou (2007) argue that in Greek, *apo* and *me* causer PPs are correlated with direct and indirect causation (Bittner, 1999; Kratzer 2005) respectively. They link this distinction between direct and indirect causation to an event conflation account of English resultative constructions (Levin & Rappaport Hovav, 1999). The idea is that the complement of *me* introduces a second event to the syntax, which is temporally independent from the caused event expressed in the clause. In case of *apo*, the authors argue, we have two co-identified events. However, as we have seen, some ICCOS events can be transitivized, which means that what is classified as a syntactically bi-eventive event under Alexiadou and Anagnostopoulou (2007) may sometimes well be expressed in a simplex transitive sentence. Under these circumstances, the monoeventive interpretation of *apo* and the bieventive interpretation of *me* are not tenable any longer. However, this distinction seems to gain relevance in Turkish when the causer arguments come in a clausal form. Specifically, as the contrast in (3) a and (4) a can illustrate, the licensing constraints that hold of PP adjuncts that take NPs as complements do not hold of PPs that take clausal complements as

The iron parts of the pier sea salt-FROM / *sea salt-WITH corrode-PST.3sg

'The iron parts of the pier corroded from the / *with the sea salt.

b. Çiçekler susuzluk-tan/*susuzluk-la sol-du.

Flowers lack-of-water-FROM / *lack-of-water-WITH wilt-PST.3sg

'Flowers wilted from lack of water / *with lack of water.'

c. Bina bakımsızlık-tan/*bakımsızlık-la yıpran-dı.

Building neglect-FROM / *neglect-WITH dilapitate-PST.3sg

'The building has become dilapidated from / *with neglect.'

I take the complementary distribution among causer phrases in Turkish anticausatives as further evidence that speaks in favor of ICCOS verbs as a heterogeneous semantic class of CoS verbs.

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in (3) b and (4) b. Many such examples I have found during my study led me to the preliminary conclusion that in this case clausal complements of *–ylA* introduce a causing event that is temporally independent from the causing event expressed in the main clause, while the clausal complements of *–DAn* introduce a causing event that is temporally coidentified with the caused event, as was argued for in Levin and Rappaport Hovav (1999).

(3)a.Kaslar-ım egzersiz-le /*egzersiz-den geliş-ti.
Muscles-my exercise-WITH/*exercise-FROM shape.up-PST.3sg
'My muscles shaped up with / *from exercise.'
b.Kaslarım egzersiz yapmak.tan/*yapmak-la kaslarım geliş-ti.
Muscles-my exercise make.FROM / *make-WITH shape.up-PST.3sg
'My muscles shaped up from exercising / *with exercising.

(4) a.Dalgalar-dan/*dalgalar-la ev-in temeller-i oy-ul-du.
Waves-FROM / *waves-WITH house-GEN foundations-ACC carve-NACT-PST.3sg
'*The foundations of the house carved from/* with waves.'
b. Dalgalar-ın vur-ma-sı-yla /*vur-ma-sın-dan evin temelleri oyuldu.
Waves-GEN hit-NMLZ-POSS-WITH / *hit-NMLZ-POSS-FROM house-GEN foundations-ACC carve-NACT-PST.3sg

To sum it up, causer PPs –DAn and –(y)lA seem to select their NP complements based on their semantics (for a detailed discussion please see Balakbabalar [2014]), while they seem to select their clausal complements based on the aspectual interaction between the caused event in the main clause and the causing event introduced by the PP adjunct. This is the reason why I avoid using clausal causers in my data. For a detailed discussion of what temporal coidentification or independence mean in the context of aspectual coersion, please see Levin and Rappaport Hovav (1999).

4.4 The semantics of internal causation revisited

Now that we have analyzed the syntactic behavior of ICCOS verbs, we may move on to the next step and try to see whether there is any common thread that runs through each of the two ICCOS verb types: As it turns out, there is indeed a semantic notion that can account for the distinct behavior of the two types of events. To explain it, I will refer to an insightful characterization of ICCOS verbs that is provided in Levin (2009), who points out the following observation about internal causation:

> Internally caused COS verbs describe changes in biological entities that are inherent to their natural course of development – this is why these COSs are taken to be internally, rather than externally caused. These changes will occur in the normal course of events; however, they may be externally triggered, facilitated, or regulated by certain natural forces or other environmental phenomena. (Levin, 2009, p.244)

Following Levin (2009), I will characterize the syntactic asymmetry between ICCOS verbs in Turkish by referring to the notion of *manipulability*. Some examples of Type I ICCOS verbs, most of which have also been studied in the present thesis, are *aç-* 'blossom', 'bloom' or 'flower', *büyü-* 'grow', *filizlen-* 'germinate', *yeşer-* 'germinate', *fosilleş-* 'fossilize', *serpil-* 'grow into a young adult', *olgunlaş-* 'ripen', *boy at-* 'grow tall'. The events denoted by these verbs are characterized by two facts which also represent the two semantic aspects of Type I internal causation: First of all, they denote CoS events in biological entities that are inherent to their natural course of development, as Levin (2009) notes (p.244). To put it more specifically, the kind of CoS event that is denoted by a Type I ICCOS verb is an *inevitable part of the life cycle of an entity*. To illustrate this argument, let us consider an ICCOS event of (seeds) germinating. Such a CoS event is conceptualized as dependent on the circumstances of the nature. The circumstances such as weather conditions or the chemical changes taking place within the theme argument that bring about the germination of seeds are part of the workings of the world. Therefore, we take them

for granted. Crucially, as long as the circumstances are there, the CoS is inevitable. The second important indicator of Type I internal causation follows from the first one: Type I internally caused CoS verbs like 'germinate' *filizlen-* or *yeşillen-*, 'grow old' *yaşlan-* or 'blossom' *aç-* – as far as usage in literal sense is concerned – are generally not conceptualized as triggered, manipulated or facilitated by external forces. Neither can they be postponed. This inevitable and non-manipulated conceptualization of Type I ICCOS events is reflected in the transitivization patterns in that they seem to strongly disprefer transitivization in literal sense.

Some examples for Type II ICCOS verbs are *çürü-* 'rot', *ekşi-* 'go bad/spoil', *paslan-* 'corrode', *sol-* 'wilt', *yıpran-* 'erode'. They share with Type I the first semantic characteristic that we discussed earlier: They also denote CoS events that are inevitable in the life course of a biological entity. Similar to Type I ICCOS verbs, the causing entity is a part of the CoS event that we expect or take for granted based on our world knowledge. However, Type II ICCOS verbs differ from the first group with respect to the second characteristic property: The events that Type II verbs denote are more often facilitated by causing forces that are not an inherent part of their natural development based on our world knowledge. In other words, Type II ICCOS verbs are similar to EXCOS verbs by the virtue that they can be conceptualized as triggered, regulated or manipulated by external causers. This semantic characterization is reflected in the fact that they participate much more often in the causative-inchoative alternation than Type I ICCOS verbs do.

4.5 Conclusion

In this chapter, we reviewed the semantic characterization of internal causation under Levin and Rappaport Hovav (1995) and its implementation under further studies such as that by Alexiadou et al. (2006). We established a group of ICCOS verbs in

Turkish based on the syntactic criterion upon which there is the greatest consensus in the literature, which is the constricted ability to transitivize in comparison to externally caused verbs. We carried out a corpus search and a grammaticality acceptability task. We argued for a two-way split among the Turkish ICCOS verbs. To substantiate this claim, we discussed evidence from transitivization patterns of ICCOS verbs from corpus data and a small-scale acceptability rating task. Based on their results, we established that Type I ICCOS verbs disprefer causativization, while Type II ICCOS verbs have a higher potential of participating in the alternation. We further supported this two-way division with evidence from Causer PP distribution. Specifically, we have shown that Type I ICCOS verbs are exclusively compatible with *–(y)lA* PPs, while Type II ICCOS verbs are exclusively compatible with *–DAn* PPs. Finally, we revised the semantic characterization of internal causation. We argued that two diagnostics can be made that characterize internal causation: One of them is that an ICCOS event is a natural and hence inevitable part of the life cycle of a biological entity. The second diagnostic is related to whether or not such an inevitable CoS event can be facilitated or postponed.

CHAPTER 5

CoS EVENT AS A CONFIGURATIONALLY DERIVED SYNTACTIC CONSTRUCT

In Chapter 2, we discussed theories of the inchoative-causative alternation from the perspective of a broad range of theoretical traditions. Despite the fact that each of these approaches offers a distinct focus on the phenomenon or discusses a different aspect of it, there is one assumption that underlies each one of them: In all analyses we reviewed, the linguistic expression of causation is treated as a root-level phenomenon, i.e. each verb can be assigned to one and only one semantic subclass of CoS events once and for all. For instance, a verb such as *wilt* is always associated the semantics of internal causation and this does not change. The same holds for a prototypical example of external causation such as *split*.

The aim of this chapter is to bring a large number of examples from Turkish, where many verbs exhibit a dual behavior in the inchoative-causative alternation. This means that in Turkish, a verb may behave like an ICCOS Type I verb and fail to alternate in particular contexts, while in other contexts it behaves like an EXCOS verb and freely alternates. In other words, I will argue that unlike what is assumed in the literature, the conceptual semantic information about the CoS event does not follow from the idiosyncratic part of the verb meaning. In fact, in many cases, it is not established until the surface subject NP enters syntax.

In Section 5.1, we shall first review accounts of causative alternation, where a CoS event type is treated as a root-level phenomenon. In the subsections 5.2 and 5.3, we will be discussing the semantic subclasses of CoS verbs as compositionally derived properties. In 5.4, we shall review the advantages regarding the conceptual-

semantic classes of causation as compositionally derived properties, and in 5.5 we shall summarize the findings of this chapter.

5.1 Semantic classes of CoS events: A root-level property or a compositionally derived event?

As already indicated, analyses in the literature assume that causation type is a determining factor predicting verbal behavior in the inchoative-causative alternation. Such accounts also share the assumption that each verb is compatible with only one conceptual event type. However, many Turkish verbs can exhibit a dual behavior in the alternation. Consider the following examples:

(1) a. *Haziran ay-ı hava-lar-ı iyileş-tir-di. (ICCOS I)
June month-3SG.POSS-NOM weather-PL-ACC improve-PST.3SG
'The month of June improved the weather.'

b. Hava-lar iyileş-ti.
Weather-PL-NOM improve-PST.3SG
'The weather improved.'

c. Doktor hasta-yı iyileş-tir-di. (EXCOS)
Doctor-NOM patient-ACC improve-CAUS-PST.3SG
Doctor improved (cured) the patient.

d. Hasta iyileş-ti.
Patient-NOM improve-PST.3SG
'The patient improved (recovered).'

In (1) a and b, the verb *iyileş-* 'improve' fails to transitivize, which is the syntactic behavior reserved to Type I ICCOS verbs. In (1) c and d, however, the same verb successfully alternates between the intransitive and transitive uses. I argue that the

dual behavior of many verbs in the alternation indicates that the semantic type of causation – which is so crucial in determining a verb's potential to participate in the alternation – is not a root-level phenomenon after all. Specifically, I argue that despite what is commonly assumed in the literature, the type of causation is compositionally derived, at vP (CauseP) level. However, for reasons that shall become clearer in Chapter 6, this does not mean that any CoS verb can randomly become compatible with any semantic type of causation: For instance, we know that such a verb as *wilt* refers to the fading of a plant, which by definition is an ICCOS event in its literal meaning. I will call this the *prototypical CoS event type* that we associate a verb with. When *wilt* is used in a metaphorical meaning extension together with a theme argument such as *onions* in a sentence like "Wilt the onions for the French onion soup", the very same verb will be reconceptualized and hence become compatible with a non-prototypical CoS event type. I will call this transition from a prototypical to a non-prototypical event conceptualization as cases of *type shifting*. The availability of type shifting among CoS verbs is crucial because it gives us the answer to the question that we posed at the beginning of this thesis, i.e. the question of what determines the potentiality of a verb to participate in the alternation. The answer is that it is the theme argument co-determines the conceptual semantic classification of a CoS verb and the causal semantics of [verb+theme] complex determines the potential of a verb to participate in the alternation.

In the following sections, I will substantiate this claim by testing the [verb+theme] complexes under investigation in terms of their semantic and syntactic properties including the semantics of the event, the transitivization patterns and external argument theta role licensing patterns. However, before we discuss the shift in the event semantics and its reflection in the syntactic behavior in terms of the

potentiality of the verb to participate in the inchoative-causative alternation, let us remember the four-way conceptual semantic classification of inchoative verbs and their predicted syntactic behavior in the alternation under Alexiadou et al. (2006), which is also assumed in Alexiadou (2014):

1. Internal Causation Type I: Denotes CoS events that are part of the life cycle of a biological entity and *cannot* be facilitated, manipulated or postponed by an external force. We do not expect them to alternate between intransitive and transitive uses. *filizlen-* 'germinate'
2. Internal Causation Type II: Denotes CoS events that are part of the life cycle of a biological entity and *can* be facilitated, manipulated or postponed by an external force. *sol-* 'wilt'
3. External Causation: Denotes CoS events that are not part of the life cycle of any entity. The change of state that takes place needs to be instigated by external forces of a wider range from nature-related events, to agents and instruments. *kır-* 'break'
4. Agentive Causation: Denotes CoS events that necessarily require the involvement of an intentional, agentive force. Since inchoative verbs are characterized by the absolute absence of any intentional agentivity, such verbs are never expected to find usage in intransitive version. *kes-* 'cut'.

The evidence that motivates me to pursue a compositional approach to the semantic types of CoS verbs comes from two areas: The most important of them is related to metaphorization of CoS verbs, i.e. the metaphorical usage of CoS verbs, while the other one concerns causer modification. In what follows, we will discuss each of them in detail.

5.2 Metaphorization

In Chapter 4, we discussed cases of ICCOS verbs that only alternate when they are used in a metaphorical sense[36] but did not discuss this phenomenon any further. As we shall see below, metaphorical usage of CoS verbs provides many such examples of CoS verbs that exhibit a dual behavior in the inchoative-causative alternation. When a CoS verb is used in a metaphorical sense extension, the shift in the semantics of the event formed by the [verb+theme] complex causes the verb in question to surface in a non-prototypical syntactic environment. In the following sections, we will discuss the following type shifting phenomena (i) from ICCOS Type I to EXCOS events, (ii) from EXCOS to ICCOS Type I events, (iii) from EXCOS to agentively caused events and (iv) from ICCOS to agentively caused events.

5.2.1 Type shifting from ICCOS Type I to EXCOS events

The data in (2) a exemplifies the most prototypical sample of ICCOS verbs that tend to disprefer transitivization across all languages that have been investigated. In line with the widely known predictions, the verb *aç-* 'blossom' is not quite as in (2) b. Interestingly, however, when the same verb is used metaphorically to denote an event of bringing up hopes as in (2) d, the transitive construction is perfectly felicitous.

(2) a. Domates tohum-u filizlen-di.

Tomato seed-POSS germinate-PST.3sg

[36] We discussed in Chapter 3 what we regard as literal meaning and what we regard as metaphorical meaning. Following Wright (2001), the literal meaning of a verb refers to its sense in which it describes a physical CoS event as in (1)a. In contrast, the metaphorical meaning of a verb will be referring to a usage, where the verb does not denote a physical, but rather an abstract CoS event as in (1)b.

(1) a. Too much sugar rots the teeth.
b. Social media has rotted the minds of men.

‘Tomato seed germinated.’

b. *Ayşe domates tohum-un-u filizlen-dir-di.

Ayşe-NOM tomato seed-POSS-ACC germinate-CAUS-PST.3sg

‘*Ayşe germinated the tomato seed.’

c. Doktor-un konuş-ma-sın-ı duy-an hasta-nın iyileşme umut-lar-ı yeniden filizlen-di.

Doktor-GEN speak-NMLZ-POSS-ACC hear-REL patient-GEN recovery hope-PL-POSS again germinate-PST.3sg

‘*The patient’s hopes for a recovery germinated again after she heard the doctor’s talk.’

d. Doktor konuş-ma-sı-yla hasta-nın iyileşme umut-lar-ın-ı yeniden filizlen-dir-di.

Doctor speak-NMLZ-POSS-WITH patient-GEN recovery hope-PL-POSS-ACC again germinate-CAUS-PST.3sg

‘*With his talk, the doctor germinated the patient’s hopes for recovery again.

At this point, we have two options as to how we can interpret this phenomenon: We may follow the footsteps of Wright (2001) and Alexiadou (2014) and argue that this is yet another example of a transitively used ICCOS verb. After all, the enhanced ability to transitivize among ICCOS verbs in metaphorical contexts is a phenomenon we are familiar with from the work of Wright (2001). Moreover, from Alexiadou’s (2014) work, we know that ICCOS verbs may also surface with Voice structures, which allows them to transitivize. In this case, we would have to assume template augmentation or the Voice structure as assumed by Wright (7) and Alexiadou (8) respectively.

(3) a. [BECOME [metal <CORRODED>]]

'The metal corroded.'

b. [[acid ACT <MANNER>] CAUSE [BECOME [metal <CORRODED>]]]

'Acid corroded the metal.' (Wright, 2001, Examples 55 a and b)

(4) [VoiceP [vP [ResultP (corroded)]]]

However, analysing the verb in (6) c as an ICCOS verb is problematic for three reasons: The first problem with this assumption is related to the semantics of the CoS event in the metaphorical usage, as in (2) c and (2) d. To the best of my knowledge, no author except for Wright (2001) makes reference to metaphorical usage of CoS verbs as an important factor that co-determines a verb's potential to participate in the inchoative-causative alternation. With respect to the transitive use of ICCOS verbs, she reports on many verbs that involve the verb in its metaphorical use. Wright (2001) notes, for instance, that the transitive uses of the verb *rot* include many examples that involve the verb in its metaphorical sense (p.112).

(5) a. Sugar causes cavities, it makes kids hyper, and it rots their teeth.

(Wright, 2001, Example 23 a)

b. This I lay at the door of our spiritual teachers… who thereby incalculably rot the world. (Wright, 2001, Example 25 a)

c. He will rot your mind with his talk. (Wright, 2001, Example 25 b)

What Wright (2001) does not discuss is that in many cases, when an ICCOS verb is used in its metaphorical sense, the CoS event that it describes is not in the denotation of an internally caused event any longer. Let us reconsider the case in (2) repeated below in (6):

(6) a. Domates tohum-u filizlen-di.

Tomato seed-POSS-NOM germinate-PST.3sg

‘Tomato seed germinated.’

b. *Ayşe domates tohum-un-u filizlen-dir-di.

Ayşe-NOM tomato seed-POSS-ACC germinate-CAUS-PST.3sg

‘*Ayşe germinated the tomato seed.’

c. Doktor-un konuş-ma-sın-ı duy-an hasta-nın iyileşme umut-lar-ı yeniden filizlen-di.

Doktor-GEN speak-NMLZ-POSS-ACC hear-REL patient-GEN recovery hope-PL-POSS-NOM again germinate-PST.3sg

‘*The patient’s hopes for a recovery germinated again after she heard the doctor’s talk.’

d. Doktor konuş-ma-sı-yla hasta-nın iyileşme umut-lar-ın-ı yeniden filizlen-dir-di.

Doctor speak-NMLZ-POSS-WITH patient-GEN recovery hope-PL-POSS-ACC again germinate-CAUS-PST.3sg

‘With his talk, the doctor germinated the patient’s hopes for recovery again.

The semantic characterization for Type I internal causation that was provided earlier in Chapter 4 perfectly defines the event conceptualization in (6) a and accounts for the behavior of the verb in (6) b. However, the same semantic description does not define event conceptualization in (6) c and hence cannot account for the behavior of the verb in (6) d any longer. Below is the repeated characterization of a Type I ICCOS event as described in Chapter 4: “Such a CoS event is conceptualized as dependent on the circumstances of the nature. The nature-related circumstances that bring about the caused event are part of the workings of the world. Therefore, we take them for granted. Crucially, as long as the circumstances are met, it is inevitable

that a Type I ICCOS event takes place." For an event of *germinating* 'filizlen-' or 'yeşillen-', *blossoming* 'aç-', the circumstances are related to nature. For events such as *growing taller* 'boylan-', *growing older* 'yaşlan-', *ripening* 'olgunlaş-', the circumstances are related to time. The natural circumstances and the progression of time are events that are part of the workings of the world in the sense that they are regulated by universal physical laws. Hence they are taken for granted and as long as they occur, the CoS events denoted by blossoming, germinating, growing old, growing tall, or ripening will inevitably take place. The problem is that the same principle does not apply to the CoS event that is denoted by *aç-* 'blossom' when it is used in combination with a subject NP such as *umut* 'hope' to express the metaphorical meaning of *building up one's hopes*. A discussion on how we conceptualize what causes someone to build up one's hopes may be a philosophical one. But how we do not conceptualize it, is obvious: What causes us to build our hopes up is not a part of how the world works in the sense that the coming about of the causing event is not regulated by physical laws as it is the case with nature-related phenomena or the progression of time. In accordance with this, Turkish grammar seems to treat it as an EXCOS event, too.

The second problem with analysing (2) c as an ICCOS event comes from the subject NP licensing behavior of this verb in its metaphorical usage. Specifically, what causes a person to build up hopes can be an event or a person, in line with a wide range of causers that an EXCOS event is compatible with. Consider the following examples:

(7) a. Genç siyasetçi genç-ler-in kalbindeki umut-lar-ı yeniden filizlen-dir-di.
'Young politician germinated (germinate-CAUS-PST.3sg) the hopes in the hearts of the young people.'

b. Genç siyasetçinin konuşması gençlerin kalbindeki umutları yeniden filizlen-dir-di.
'The talk by the young politician germinated (germinate-CAUS-PST.3sg) the hopes in the hearts of the young people.'

c. Siyasette esen değişim rüzgarları gençlerin kalbindeki umutları yeniden filizlen-dir-di.
'The winds of change germinated (germinate-CAUS-PST.3sg) the hopes in the hearts of the young people.'

In the examples in (7), *filizlen-* 'germinate' is used in a transitive construction and licenses an agentive causer (7) a, a causing event (7) b and a natural causer (7) c, which is expected only from externally caused verbs.

Finally, the last problem with classifying (2) c as an ICCOS event is related to intentional agentivity. As shown in (8) a, Type I ICCOS verbs are not compatible with intentional human causers. However, in combination with the theme argument *umut* (hopes), the new [theme+verb] complex behaves not only as an EXCOS event with respect to transitivization behavior, but also in terms of intentionality as a licit feature of the human causer subject as in (8) b.

(8) a. *Ayşe bahçeye ektiği tohumlar-ı bilinçli olarak filizlen-dir-di.
'Ayşe consciously germinated (germinate-CAUS-PST.3sg) the seeds she planted in the garden.'

b. Genç siyasetçi gençlerin özgürlükçü ülke umudunu bilinçli olarak filizlendiriyor. (Asıl amacı iktidara gelmek.)
'The young politician knowingly germinates the hopes young generations for an emancipatory country. (His real aim is to come to power.)

This proves that in all three aspects that characterize EXCOS events, namely semantics, causer subject theta role licensing and intentionality as a licit feature of agentive subject causers, the prototypical ICCOS verb *aç-* 'blossom' may behave like an EXCOS verb, depending on the semantic properties of the new event formed by the new [theme+verb] complex. Based on the above discussed pieces of evidence, I conclude that in the examples in (6), the verb behaves like an ICCOS verb when used in literal sense as in (6) a and b, while the same verb behaves like an EXCOS verb when used metaphorically as in (6) c, and (7) a and (8) b. Furthermore, I take this type shift as an indicator that the linguistic expression of causation is not determined at the root level once and for all.

5.2.2 Type shifting from EXCOS to AGENTIVE CoS events

Another case of type shifting can be observed in verbs such as *kır-* 'break' that prototypically receives an EXCOS analysis. This can be observed in the examples (9) a and b. Crucially, when the very same verb combines with the theme argument 'world record' as in (9) c, the resulting [verb+theme] complex gains the meaning of breaking a world record, which obviously makes the involvement of an intentional human force, i.e. an agent, necessary. Hence, in line with our expectations, the verb fails to detransitivize as in (9) d.

(9) a. Ayşe vazo-yu kır-dı.
Ayşe-NOM vase-ACC break-PST.3sg
'Ayşe broke the vase.'

b. Vazo kır-ıl-dı.
Vase-NOM break-NACT-PST.3sg
'The vase broke.'

c. Dalış sporcusu dünya rekor-un-u kır-dı.

The diver world record-POSS-ACC break-PST.3sg

'The diver broke the world record.'

d. *Dünya rekoru (kendi kendine) kır-ıl-dı.

The world record-NOM (by itself) break-NACT-PST.3sg

'*The world record broke (by itself).

5.2.3 Type Shifting from EXCOS to Type I ICCOS CoS events

The examples in (10) a and b involve the root *boz-* 'break' in the sense of putting something out of order due to damage. The ones in (10) c and d, on the other hand, involve the same root in the sense of worsening weather conditions.

(10) a. Ayşe / yanlış kullanım makine-yi boz-du.

Ayşe-NOM / misuse –NOM machine-ACC break-PST.3sg

'Ayşe/misuse broke the machine.'

b. Makine boz-ul-du.

Machine-NOM break-NACT-PST.3sg

'The machine broke.'

c. *Ekim ay-ı hava-lar-ı boz-du.

October month-POSS weather-PL-ACC break-PST.3sg

'*The month of October broke (worsened) the weather.'

d. Hava-lar boz-ul-du.

Weather-PL break-NACT-PST.3sg

'The weather broke (worsened).'

The external argument options licensed in (10) a reveal that we must be dealing with an EXCOS verb. The intransitive version of the same verb in (10) b is therefore not surprising. However, when the same verb combines with the theme argument

havalar 'weather', the resulting [verb+theme] complex refers to weather conditions' worsening, which obviously is a non-manipulable CoS event and hence should be categorized as an ICCOS Type I event. Correspondingly, the transitive construction in (10) c is out, while the intransitive version is grammatical.

5.2.4 Type shifting from ICCOS Type I to AGENTIVE CoS events

The very last type shifting phenomenon we will discuss is exemplified by *büyü-* 'grow'. The fact that *büyü-* does not transitivize in (11) a is completely in line with our expectations since the [verb+theme] complex refers to a development towards ripeness in apples, which obviously are biological entities. However, in (11) c, the verb combines with the theme argument *yaş* 'age'; it refers to a process where an intentional human agent appeals to a court in order to have the legal information about their birth date officially changed. Needless to say, the semantics of such a CoS event can only be agentive. Therefore, we do not expect *büyü-* to be used intransitively, which is exactly what we find in (11) d.

(11) a. *Ayşe elma-lar-ı büyü-t-tü.
Ayşe apple-PL-ACC grow-CAUS-PST.3sg
'*Ayşe has grown the apples.'

b. Elma-lar büyü-dü.
Apple-PL grow-PST.3sg.
'Apples have grown.'

c. Ayşe yaş-ın-ı mahkeme kararı-yla büyü-t-tü.
Ayşe age-3sg.POSS-ACC court order-WITH grow-CAUS-PST.3sg
'Ayşe grew her age as per court order.'
(Intended reading: Ayşe filed a petition for change of birth date

information at court which accepted it.)

d. *Ayşe-nin yaş-ı mahkeme kararı-yla büyü-dü.

'*Ayşe-GEN age-POSS-NOM court order-WITH grow-PST.3sg'

'*Ayşe's age grew with court order.'

5.2.5 Some remarks on the implications of type shifting data for syntax

Before we move on to the second context in which type shifting phenomena are observed, let us draw your attention to two important implications of the examples discussed here. Basically, the examples in 5.2.3 *boz*- 'break' and 5.2.4 *büyü*- 'grow ' not only illustrate type shifting but they also illustrate something else: Namely, they illustrate that the morphosyntactic form of the verb does not determine the directionality of a verb's free vs. restricted behavior in the alternation.[37] Specifically, if we follow an iconicity principle, we would expect a verb to be always grammatical in its basic version. In other words, we would expect the restrictions on the alternation potential of a verb to apply to their derived versions only. Consider, for instance, the example above in (9). The lexical transitive verb *kır*- 'break' alternates, when it is used in its literal sense, as shown in (9) b. When the same verb is used in a metaphorical extension, it is the derived version in (9) d that becomes ungrammatical. The morphologically basic version retains its grammaticality as in (9) c. However, the examples (10) and (11) illustrate that this does not have to be the case, i.e. that this can also go the other way around: When used in a literal sense, the lexical causative form *boz*- 'break' (in the sense of inflicting damage on sth.) successfully detransitivizes, as seen in (10) b. However, when used in its

[37] Please recall from Chapter 3 that Turkish CoS verbs that we discuss in this thesis can be intransitive or transitive in their base form. Depending on the transitivity property of their base form, CoS verbs require causativizing or detransitivizing morphology in order to participate in the alternation.

sön- (deflate.INTR) → sön-dür (deflate-CAUS)
dök- (spill.TR) → dök-ül (spill-NACT)

metaphorical sense as in (10) c and (10) d, the morphologically basic version of the verb becomes ungrammatical while the derived version retains grammaticality. Another interesting case is illustrated by *büyü-* 'grow' in (11) where in both meaning extensions, a different member of the CoS verb is subject to restriction to alternate. This means that treating morphology as a syntactic reflex of external causation will not help us in our efforts to understand what governs the inchoative-causative alternation in Turkish.

The other implication that follows from the data in (9) to (11) is that the dual behavior in the alternation is not exclusively reserved for either lexical causative or lexical inchoative forms. As we can observe in the examples (9) through (11), verbs that exhibit a dual behavior can be both transitive as in (9) and (10) in their base form and intransitive as in (11). This means that in addition to morphology, the base form of a given CoS verb does not play a role in its potential to exhibit a dual behavior due to metaphorization either.

5.2.6 Interim conclusion

Up until here, we have reviewed a complex set of evidence that illustrates that a verb's potential to alternate between transitive and intransitive usage is determined at the [verb+theme argument] complex. Specifically, I hope to have shown that as long as the [verb+theme] complex denotes a conceptual-semantic type of event that is eligible for alternation from a conceptual semantic point of view, it will alternate. In other cases, it will fail to do so. In what follows, I will try to substantiate this claim by bringing further evidence from adjectival modification.

5.3 Further evidence for CoS events as configurational constructs: Causer modification

Another example of event modification as a source of event reconceptualization (type shifting) is reflected in the modification of causer NPs in subject position. In order to explain this phenomenon in such a way that makes justice to its underlying reasons, I need to go back to discussions in Alexiadou and Anagnostopoulou (2007), Levin (2009), Wright (2001) and Alexiadou (2014).

In the earlier sections, we discussed the Greek PPs *apo* and *me,* which co-occur with anticausatives and introduce causer arguments (Alexiadou & Anagnostopoulou, 2007). Consider the examples in (12) and (13).

(12) To fito anthise ??apo / me tin zesti (12, 39a)
The plant blossomed from / with the heat

(13) Ta ruxa stegnosan apo ton ilio / me ton ilio
The clothes dried – Act from the sun / with the sun
(Alexiadou & Anagnostopoulou, 2007, Example 13 c)

In their discussion on causer PP distribution among Greek anticausatives, Alexiadou & Anagnostopoulou (2007) point out that ICCOS verbs such as the one in (12) are exclusively compatible with *me* PPs. According to the authors, this follows from the encyclopedic meaning of ICCOS roots. The reason why ICCOS verbs only license *me* PPs is that the properties of the internal argument are highly involved in the bringing about the CoS. Therefore, whenever these roots are combined with causers, these can only be interpreted as indirectly facilitating the CoS of the theme. Crucially, they note that this indirect causality relation is reflected in syntax: Although ICCOS verbs do not transitivize, they can be causativized in periphrastic

causative constructions (Piñon 2001), which also express indirect causation (Bittner 1999).

(14) a. The heat caused the flowers to wilt.

b. O ilios ekane to luludi na anthisi pio grigora

The sun made the flower subj blossom-3sg more quickly.

c. *O ilios anthise to luludi

The sun blossomed the flower.

This practically means that under such a view, the licit causer of a periphrastic causative can be introduced in an intransitive use of a Greek inchoative verb only by a *me* causer PP (as opposed to being introduced by an *apo* PP marking a direct causer). However, when later ICCOS verbs were established as alternating (Wright, 2001; McCoon & MacFarland, 2000), this discovery has shown that the evidence in (14) supporting a strict distinction between the syntactic expression of direct vs. indirect causation is not tenable as it is and needs to be revised. After all, transitivization of some ICCOS verbs means that an indirect causer may sometimes occur as a subject NP in a simplex causative structure just as a direct causer can.

(15) a. Acid decays flesh.

b. The child broke the vase.

However, Wright (2001) points out to a second observation which reveals that the claim in Alexiadou and Anagnostopoulou (2007) is not completely out of date yet: Namely, she observes in naturally occurring linguistic data that in their transitive usage, many ICCOS verbs co-occur with causer NPs that do not stand alone, but are modified by intensifying adjectives. To substantiate this observation, Wright (2002) conducts a grammaticality acceptability task, where she finds out that transitive constructions with ICCOS verbs exemplified in (16) and (17) tend to be rated as

more acceptable when the subject is emphasized or highlighted.[38] Here are some of the examples taken from Wright (2002) as provided in Alexiadou (2014):

(16) a. Last July, sunlight wilted the begonias.

b. Last July, the intense sunlight wilted the begonias.

(Alexiadou 2014, Examples 16 a and b)

(17) a. This past summer, moisture rotted the tomatoes.

b. This past summer, extremely moist conditions rotted the tomatoes.

(Alexiadou 2014, Examples 16 c and d)

(18) a. Over time, pressure shattered the rock.

b. Over time, intense pressure shattered the rock.

(Alexiadou 2014, Examples 17 a and b)

Alexiadou (2014) also refers to this phenomenon in her reviewed account of the syntax of anticausatives. However, she prefers not to offer an account of enhanced acceptability of intensified causer subjects in the transitive uses of ICCOS verbs on the grounds that it represents only a tendency and judgments are not that sharp (Alexiadou, 2014, p. 880). I will argue that a configurational model of causative-anticausative alternation can actually help us explain this seemingly contradictory behavior of some ICCOS verbs in transitive contexts. Specifically, these two contradictory observations in McCoon and McFarland (2000), Wright (2001) and Wright (2002) indicate that, from a synchronic point of view, we can conceptualize ICCOS verbs via two different syntactic constructs: The first syntactic construct concerns the examples (16) a and (17) a, where causer NPs surface in transitive constructions without modifiers. This indicates that in typologically different languages like English, Greek and Turkish, speakers have started to

[38] Note that she does not observe the same pattern with the transitive uses of EXCOS verbs as in (22). For details of the grammaticality acceptability task and further discussion, please see Wright (2001: 237)

conceptualize and linguistically express nature-related events as direct causers of ICCOS events, which discredit Alexiadou and Anagnostopoulou's (2007) assumptions and data in (12). Or as Levin (2009) puts it: "The causative uses of ICCOS verbs suggests that in some instances these natural forces and environmental phenomena can be viewed as direct causers" (2009, p.244). This means that speakers who can use an ICCOS verb in a transitive construction without any modifying adjectives can do so because they conceptualize the event as a Type II ICCOS event. In other words, since Type II ICCOS events allow manipulation from external causers, speakers can employ such verbs in transitive constructions and conceptualize the transitive causer as a direct causer.

The other syntactic construct concerns the examples in (16) b and (17) b, where causer NPs in transitive constructions require adjectival modifiers to be found more acceptable than when they remain unmodified. This indicates that some ICCOS events are still conceptualized in such a way that an unmodified causer subject cannot be viewed as the direct causer of an ICCOS event. Specifically, I propose that in this case, where the intensification of the causer NP enhances the grammaticality of a transitive sentence denoting an ICCOS CoS event, the verb originally receives a Type I ICCOS verb interpretation in the speakers' mind. Therefore, they may have difficulty associating the verb with causative syntax in which case they recuperate the sentence with the help of an intensifying adjective. When modified by an intensifier, the causing qualities of the causer subject NP become intensified and hence can be re-conceptualized as a direct causer. Within a configurational model of the causative-anticausative alternation, the cases in (16) b and (17) b can be accounted for by arguing that the verbs in the related sentences are originally conceptualized with Type I ICCOS syntax. With the help of the adjectival modifier,

the verb undergoes a type shift and receives a re-interpretation as a Type II ICCOS verb.

Overall, this discussion and the examples in (16) and (17) prove that verbs can be associated with more than only syntactic structure. It further shows that when a CoS event is reconceptualized; it may become compatible with a corresponding new syntactic environment.[39]

5.4 What is possible to see if we look at the causative-inchoative alternation from the point of view of a compositional account

In this chapter, so far, I have argued that the conceptual semantic properties of a CoS event and therefore its behavior in the causative-inchoative alternation are determined configurationally at a phrase level in the syntactic hierarchy – and not at the root level as widely assumed in the literature (Levin & Rappaport Hovav, 1995; Levin 2009; Alexiadou 2014; Wright 2001; McCoon & MacFarland 2000;

[39]There is one more observation that indicates a further source of type shift in CoS verbs in Turkish. Specifically, the use of Type I ICCOS verbs in transitive contexts shows that although such verbs strongly disprefer transitivization, they may become compatible with a transitive construction when the CoS verb is modified by a so-called agent-oriented modifier or, for instance, a reason clause that indicates volitional agentivity. Below in (1) we provide one of many examples. Consider the grammaticality contrast in the following sentence pairs:

(1) a. ?Bonsai, ağaçları büyü-t-erek estetik bir görüntü kazandırma sanatıdır.
?Bonsai is the art of growing trees in such a way as to give them an esthetic look.
b. Bonsai, ağaçları özel saksılarda özel tekniklerle budayarak, şekillendirerek ve bodurlaştırıp büyüterek estetik bir görüntü kazandırma sanatıdır.
Bonsai is the art of giving trees an esthetic look by growing them in special pots using special techniques like pruning, shaping and chopping down.

The example in (1) b illustrates the original data taken from TS Corpus, while (1) a illustrates a case, where the agent-oriented modifier has been removed. What is striking in this sentence pair is that the agent-oriented modifier contributes significantly to the grammatical acceptability of the sentence in (1) b and renders a Type I ICCOS verbs felicitious in a transitive construction that would otherwise fail to transitivize in Turkish. This observation leads me to the conclusion that when Type I ICCOS verbs are modified by agent-oriented modifiers or intentionality denoting reason clauses, this allows the Type I ICCOS verbs to be reconceptualized as CoS events in entities, which can be manipulated by volitional agentive causers. In other words, I argue that agent-oriented adverbs cause ICCOS events to be reconceptualized as EXCOS events. Again, please note that the CoS event denoted by a sentence like (1) b is incompatible with the semantics of ICCOS events as described in the earlier sections of this study. However, since the modelling of this data requires further research, we will not be discussing this phenomenon any further.

Ramchand 2008). In what follows, I would like to shortly discuss the advantages of assuming a configurational model of inchoative-causative alternation.

One advantage of a configurational theory of anticausative alternation is that it helps us explain the phenomenon, which is discussed in Levin and Rappaport Hovav (1995) under subject selectional restrictions. In this work, the authors argue that CoS verbs are subject to more restrictions in their intransitive versions than when they are used transitively.

(19) a. He broke his promise/the contract/the world record.

b. *His promise/the contract/the world record broke.

In this chapter, we hope to have shown that such restrictions cannot be considered indicative of derivational directionality, because similar selectional restrictions can apply to CoS verbs that are either intransitive (20) or transitive (21) in their base form.

(20) a. *Ayşe mango-lar-ı olgunlaş-tır-dı.

Ayşe mango-PL-ACC ripen-CAUS-PST.3sg

‘*Ayşe ripened the mangos.’

b. Mango-lar olgunlaş-tı.

Mango-PL ripen-PST.3sg.

The mangos ripened.

(21) a. Okul Ayşe-yi olgunlaş-tır-dı.

School-NOM Ayşe-ACC ripen-CAUS-PST.3sg

‘School ripened (matured) Ayşe.’

b. Ayşe olgunlaş-tı.

Ayşe ripen-PST.3sg

‘Ayşe ripened (matured).’

(22) a. Ayşe vazo-yu kır-dı.

Ayşe-NOM vase-ACC break-PST.3sg

'Ayşe broke the vase.'

b. Vazo kır-ıl-dı.

Vase.NOM break-NACT-PST.3SG

'The vase broke.'

(23) a. Dalış sporcusu dünya rekor-un-u kır-dı.

The diver world record-POSS-ACC break-PST.3sg

'The diver broke the world record.'

b. *Dünya rekoru (kendi kendine) kır-ıl-dı.

The world record-NOM (by itself) break-NACT-PST.3sg

'*The world record broke (by itself).

More importantly, a configurational account of the anticausative alternation enables us to explain why many verbs exhibit such a dual behavior in the causative-inchoative alternation.

(24) a. Su don-du.

Water-NOM freeze-PST.3sg

'Water froze.'

b. Ayşe su-yu don-dur-du.

Ayşe-NOM water-ACC freeze-CAUS-PST.3sg

'Ayşe froze the water.'

(25) a. *Ayşe-nin okul kayd-ı don-du.

Ayşe-GEN school enrollment-ACC freeze-PST.3sg

'*Ayşe's studied suspended.'

d. Ayşe okul kayd-ın-ı don-dur-du.

Ayşe-NOM school enrollment-POSS-ACC freeze-CAUS-PST.3sg

'Ayşe suspended her studies.'

Specifically, we have argued that as far as their literal usage is concerned, a verb can be associated with one of the following semantic-conceptual classes: internally caused, externally caused or agentively caused. As far as the data in (24) are concerned, we argued that the verb *don-* (freeze) receives an EXCOS interpretation. Consequently, it exhibits the predicted syntactic behavior and transitivizes successfully, as in (24) b. However, when the same verb co-occurs with the subject NP *kayıt* (enrollment), the new [verb+theme] complex means to suspend one's enrollment (at an institute of education, for instance) and therefore denotes a CoS event that requires an agentive force to be involved. In line with this conceptual-semantic characteristic associated with the [verb+theme] complex, the verb *don-* (freeze) becomes unable to transitivize.

The most interesting evidence that supports the idea of causation as a compositionally derived event comes from examples such as (24) and (25): The contrast in the syntactic behavior that can be observed in (24) and (25) shows that if we want to understand what governs the inchoative-causative alternation in Turkish, we need to look beyond the relations of morphological derivation. That is, if we want to make a correct prediction about a verb's potential to participate in the alternation, the causative or anticausative marking on the verbs will not be of much help. Rather, we need to see the verb together with its theme argument as one unit that corresponds to one conceptual-semantic type of causation. The transitive version may morphologically be the derived version. However, as far as the conceptual semantics of the CoS event as a predictor for syntactic behavior is concerned, it

definitely acts together with the subject NP as the starting point for event conceptualization.

The second advantage of assuming a configurational account of the anticausative-inchoative alternation is that unlike the preceding approaches to the alternation, this approach helps us find a theoretical explanation for the enhanced grammaticality effect contributed by modifiers in Greek, English or Turkish. Within the scope of this study, we have discussed the adjectival modification in Type II ICCOS verbs:

(26) a. Last July, sunlight wilted the begonias.

b. Last July, the intense sunlight wilted the begonias.

c. Nem demir-i paslan-dır-ır.
Humidity-NOM iron-ACC corrode-CAUS-AOR.
'Humidity corrodes iron.'

d. Aşırı nem demiri paslandırır.
Excessive humidity-NOM iron-ACC corrode-CAUS-AOR.
'Humidity corrodes iron.'

The phenomenon in (26) is discussed in the crosslinguistic literature. With respect to the second phenomenon, Wright (2001) only offers a descriptive explanation without offering an explanation as to how this stronger-than-normal causer can be represented in the lexical semantic template augmentation operation that she proposes. Alexiadou (2014), on the other hand, also points out to the same observation in Greek but prefers to leave it unaccounted for, since "the data only represents a tendency and judgments are not that sharp." (Alexiadou, 2014, p. 888)

5.5 Conclusion

To conclude, looking at the grammar of causation as a configurational construct, we see that in order to represent a CoS event, a language makes available a certain set of semantic event conceptualizations that are realized by different constellations of syntactic features. CoS verbs that are typically associated with a given semantic conceptualization and a given constellation of syntactic features can be reconceptualized with the help of modifiers and thus undergo a type shift. As a result of this type shift, the verb receives a re-interpretation and becomes compatible with a new semantic and syntactic structure made available by the given language. In the next chapter, we shall first discuss the implications of the phenomena for the syntactic representation of CoS verbs and then lay out a syntactic model that can account for the phenomena discussed in the last two chapters.

CHAPTER 6

A CONFIGURATIONAL SYNTACTIC ANALYSIS OF TURKISH CoS VERBS IN THE INCHOATIVE-CAUSATIVE ALTERNATION

In Chapters 3 and 4, we have analyzed verbs based on a set of grammatical properties such as transitivization patterns, (transitive) subject theta role licensing as well as intentionality and explored which semantic characterizations underlie CoS verbs. In Chapter 5, we tested these semantic characterizations against new data that were unpredicted given that they exhibit a dual syntactic behavior. This led us to the conclusion that a specific verb can be compatible with more than one event conceptualization and the dual behavior in syntax is nothing but a reflection of it.

(1) a. Mango-lar olgunlaş-tı.
Mango-PL-NOM ripen-PST.3sg
'Mangos ripened.'

b. *Ayşe/Bahar (mevsimi) mango-lar-ı olgunlaş-tır-dı.
Ayşe/spring mango-PL-ACC ripen-CAUS-PST.3sg
'Ayşe/The spring ripened the mangos.'

(2) a. Ayşe okul yıllarında/yeni erkek arkadaşıyla olan ilişkisinde çok olgunlaş-tı.
'Ayşe-NOM in her school years / in her relationship with her new boyfriend a lot ripen-PST.3sg
'Ayşe ripened a lot in her in her school years / in her relationship with her new boyfriend.

b. Okul yılları/Yeni erkek arkadaşı Ayşe-yi çok olgunlaş-tır-dı.
Her school years-NOM / her relationship with her new boyfriend-NOM

Ayşe-ACC a lot ripen-CAUS-PST.3sg

'Her school years / her relationship with her new boyfriend ripened (matured) Ayşe a lot.'

Earlier in Chapter 3, we posited that the nonderivational syntactic account under Alexiadou (2014) is the most feasible account to analyze the Turkish data. It is therefore the aim of the chapter at hand to explore how the aspects of inchoative-causative alternation in Turkish could be accommodated under the model in Alexiadou (2014). It is also the aim of this chapter to pinpoint the aspects of this syntactic model that fails to account for the findings in Chapters 3, 4 and 5. By doing so, I aim to draw attention to novel data that a crosslinguistically valid theory of inchoative-causative alternation has to take into account. The present chapter is organized as follows: In 6.1, we shall point out three aspects of Alexiadou's (2014) study in which this account falls short of explaining the behavior of Turkish CoS verbs. These are i) the syntax of ICCOS events, as discussed in 6.1.1, ii) the conceptual-semantic type of CoS events as a root-level property, as discussed in 6.1.2 and iii) the locus of nonactive morphology in inchoative structures, as discussed in 6.1.3. With the help of the discussions in this section, I hope to point out the formal properties that a crosslinguistically valid version of Alexiadou's (2014) study should exhibit. Then in 6.2, we will explore how we could accommodate the findings of this study under Alexiadou (2014) in such a way that would do justice to the empirical facts of Turkish, as discussed in 6.1. Finally, in 6.3, we will conclude with a summary of the findings of this chapter.

6.1 Problems under Alexiadou (2014)

This section is devoted to a thorough discussion of the three problems we have outlined above that emerge when we consider how to apply Alexiadou's (2014) account to explain the findings of this study.

6.1.1 The syntax of ICCOS verbs

The first problem with Alexiadou's (2014) account is related to the representation of ICCOS events. As you will recall from Chapter 2, the author proposes a two-way division among CoS verbs. Like Wright (2001) or McCoon and MacFarland (2000), she argues that this division is characterized by different transitivization patterns among ICCOS verbs. In Chapter 4, we provided additional evidence from Turkish in support of such a division. In what follows, let us consider this division as a common ground and illustrate the big picture that emerges when we try to explain the findings that we have discussed so far with the model made available in Alexiadou (2014).

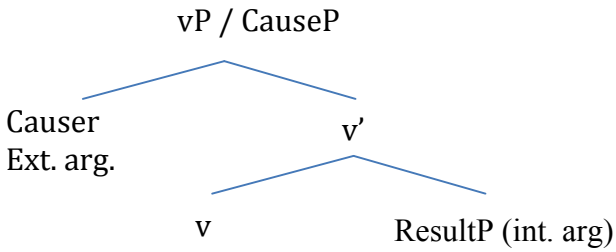
6.1.1.1 Non-transitivizing ICCOS verbs

The first step towards this goal is a comparison of those ICCOS verbs that are less likely to transitivize under both accounts. Alexiadou calls this group of verbs *blossom*-type verbs. According to her, this type of verbs participate rather seldom in the alternation. And when they do, they only license natural causers as causer subjects of transitive constructions. Alexiadou (2014) takes this exclusive licensing of natural causers as transitive subjects as evidence that such verbs can be represented with a CauseP. She argues that in those cases in which they transitivize successfully, they project their causer from the Spec,CauseP position. An example

for a transitive *blossom*-type ICCOS event is provided in (3), while the syntactic representation of such verbs is repeated below in (4).

(3) A new artist would come to Paris and blossom these new movements.

(4)



Due to their inability to transitivize, I consider what we have called the Type I ICCOS in Chapter 4 as the equivalent of Alexiadou's (2014) *blossom*-type verbs. However, there are a number of reasons why the representation in (4) cannot correctly represent Type I ICCOS verbs in Turkish.

The first one concerns the classification of ICCOS verbs. Specifically, as you will recall from Chapter 4, we posited that Turkish Type I ICCOS verbs refer to events that take part as a natural phase within the life cycle of a biological entity that can be neither facilitated nor postponed. However, the examples that Alexiadou provides for this class of ICCOS verbs, such as the one in (3), rather refer to CoS events that are brought about by unexpected external causers. Therefore, we conclude that such events are best characterized as EXCOS events even if the verbs in question have traditionally received an ICCOS verb interpretation. Furthermore, the fact that in the same example, the *blossom*-type ICCOS verb can license an agentive causer also supports our claim that both semantically and syntactically, (3) has more in common with EXCOS events and hence should be classified as such. The second reason why the representation in (4) cannot be entirely correct in order to represent Turkish is that Turkish Type I ICCOS events do not transitivize. Specifically, we argued that the semantic description of Type I ICCOS events as

disallowing manipulation from outside is reflected in their inability to be transitivized. This is supported by the results of the grammaticality acceptability rating task in Chapter 4, where 11 native speakers of Turkish rated the following transitive ICCOS events as infelicitous with a rating of 2.00 out of 5.00.

(5) a. *Ayşe fidan-lar-ı büyü-t-tü.

Ayşe-NOM young.tree-PL-ACC grow-CAUS-PST.3sg

'*Ayşe has grown the young trees.'

b. *Ayşe bitki-ler-i fosilleş-tir-di.

Ayşe-NOM plant-PL-ACC fossilize-CAUS-PST.3sg

'*Ayşe fossilized the plants.'

This comparison shows that any sensible revision of the representation of ICCOS events needs to consider the fact that there is a subset of ICCOS events that do not alternate. This means that Alexiadou (2014) correctly predicts their structure as a CauseP projection. However, the feature make-up of the Spec, CauseP position as licensing natural causers will have to be revised. The detailed discussion of the feature make-up of CauseP representing Type I ICCOS events will be dealt with in 6.2 in detail.

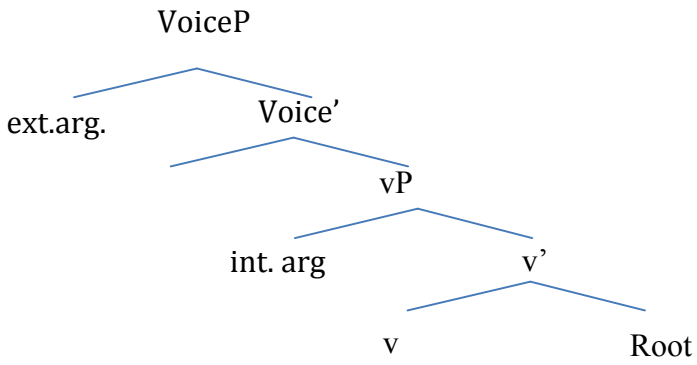
6.1.1.2 Transitivizing ICCOS verbs

A similar diagnosis applies to the second type of ICCOS events that are characterized by their enhanced ability to transitivize, which Alexiadou (2014) calls *ferment*-type ICCOS verbs. Please consider the examples in (6) and (7) as well as the syntactic representation of such verbs in (8).

(6) You may also want to remove the meat and veggies and hold them in the oven while you wilted some sort of cabbage in the broth. (Alexiadou, 2014, Example 12 c)

(7) The onset of temperatures of 100 degrees or more, on top of the drought, has withered crops. (Wright, 2002, Example 6)

(8)



Alexiadou (2014) argues that such verbs project a VoiceP for two reasons: first, because they are able to participate in the alternation more often than *blossom*-type ICCOS verbs and second, they license both agent and causer external arguments in transitive contexts. As I argued above within the context of *blossom*-type verbs, these properties are typically associated with EXCOS events. In fact, the only indication of internal causation among examples such as those in (6) and (7) is the chemical reaction that comes about in the theme argument during the CoS event. Presumably, Alexiadou (2014) takes this as an indication of inherent involvement in the event, which is typically associated with ICCOS events under this account and the work that precedes it. However, as we have shown in our discussion on the semantics of internal causation in Chapter 4, chemical reactions or inherent involvement in a CoS event is not a reliable indicator of internal causation. After all, if it were, other verbs such as *melt*, *dissolve* or *thicken* that also require a similar way of involvement of the

theme argument in the event would not be among the prototypical examples of EXCOS verbs.

6.1.1.3 Interim conclusion

All in all, a thorough investigation of Turkish ICCOS events reveals that Alexiadou (2014) can only partially account for the syntax of ICCOS events in Turkish. Specifically, her two-way division seems to apply to Turkish. Nevertheless, according to the semantic characterization of internal causation developed in this study, the cases that she refers to as transitive uses of ICCOS verbs seem to be more consistent with the syntax and semantics of EXCOS events. Additionally, her observation that *blossom*-type ICCOS verbs only license natural causers are in line with the behavior of Turkish Type II ICCOS verbs. Remember that in Chapter 4, we showed that Type II ICCOS verbs are only compatible with natural causers as well as agentive causers that necessarily have to be unintentional.

This leaves us with two different verbal behaviors that need to be syntactically represented within a revised syntactic account of ICCOS events:

1. Type I ICCOS events that never transitivize as long as their usage in literal meaning is concerned.
2. Type II ICCOS events that do transitivize but only allow natural causers and unintentional human causers while disallowing intentional agents.

6.1.2 Semantic classification of CoS events as a root-level phenomenon

Unsurprisingly, the second problem that emerges when we try to explain the Turkish data based on Alexiadou (2014) concerns the conceptual semantic classes of causation including unspecified causation, external causation, agentive causation and

internal causation as a root-level property. As you remember from the literature review, Alexiadou (2014), like all other authors, assumes the semantic classes of CoS verbs as a kind of semantic information that follows from the syntactic properties of roots. Together with the syntactic heads such as Cause or Voice that a language makes available for CoS verbs to combine with, these conceptual-semantic classes of roots determine a verb's potential to participate in the alternation.[40] However, I argued in Chapter 5 that unlike what is assumed in the literature, the conceptual semantic information about the CoS event does not follow from the encyclopedic properties of a root. In fact, the content of the encyclopedic properties does not emerge until, minimally, the surface subject NP enters the syntax. This is exemplified below in (9), where the same verb may successfully participate in the alternation in a combination with certain theme arguments, while it fails to do so in a combination with another.

(9) a. Su don-du.
Water-NOM freeze-PST.3sg
'Water froze.'

b. Ayşe su-yu don-dur-du.
Ayşe-NOM water-ACC freeze-CAUS-PST.3sg
'Ayşe froze the water.'

c. *Ayşe-nin okul kayd-ı don-du.
Ayşe-GEN school enrollment-ACC freeze-PST.3sg
'*Ayşe's studied suspended.'

[40] To briefly summarize the predicted behavior of each conceptual semantic class, let us note that cause unspecified verbs are expected to alternate in all languages, while ICCOS verbs are relatively restricted in their potential to alternate. While a verb like *blossom* is rather unlikely to transitivize, a verb like *wilt* can alternate more easily in English. EXCOS verbs alternate only in languages such as Greek, which make not only a Cause head but also a Voice head available for alternation, while agentive verbs *per definitonem* should not alternate between transitive and intransitive uses.

d. Ayşe okul kayd-ın-ı don-dur-du.

Ayşe-NOM school enrollment-POSS-ACC freeze-CAUS-PST.3sg

'Ayşe suspended her studies.'

Depending on the encyclopedic properties of a [verb+theme] complex, a specific verb can surface in the syntactic template for an externally caused event, internally caused event or an agentively caused event. For instance, in (9) the verb *freeze* surfaces with the syntactic template of an EXCOS event in (9) a and (9) b, while it occurs with the syntactic template of an agentively caused event in (9) c and (9) d.

6.1.3 The locus of nonactive morphology

The third aspect of Alexiadou (2014) that is discredited by the findings of this study concerns the Voice head as the locus of nonactive morphology. As already pointed out in Chapter 2, Alexiadou (2014), following Embick (1998), argues that nonactive morphology in intransitive CoS verbs indicates the non-existence of an external argument.[41] One typical example from Alexiadou (2010) in (10) was first introduced in Chapter 3 and is repeated below:

(10) a. To spiti katastrafike me tin fotia

The house destroyed –Nact with the fire.

'The house got destroyed from the fire'

(Alexiadou, 2010, Examples 13a and b)

[41] Please recall from earlier discussions that under this analysis, nonactive morphology indicating a lack of external arguments only holds of verbal forms in languages like Greek or Turkish that make special morphology available. In languages like English where no morphological marking is available, EXCOS verbs are not expected to alternate.

However, based on the following examples from Turkish, Balakbabalar (2015) suggests that surface morphology cannot be taken as a solid indicator of external causation.

(11) Küçük kız serp-il-di, güzel bir genç kadın oldu.
Little girl bloom-NACT–PST beautiful one young woman become-PST
'The little girl grew into a beautiful young woman.'
(Balakbabalar, 2015, Example 6)

(12) Lotus çiçeği dört yön-e aç-ıl-ır
Lotus flower four direction-DAT open-NACT-AOR
'Lotus leaves blossom in four directions' (Balakbabalar, 2015, Example 7)

Balakbabalar (2015) argues that since ICCOS verbs do not project a Voice structure, it makes sense to assume that nonactive morphology has to enter syntax as part of the root. I agree with Balakbabalar (2015) in so far as the observation is concerned that nonactive morphology is not uniformly projected from Voice. However, I will depart from her with respect to where to locate this morphology: Namely, further data that we shall discuss in the following section indicate that there is another and more plausible option to accommodate the nonactive morphology. Crucially, as we have seen in Chapter 5, some verbs in their dual behavior surface with the syntactic event template of an ICCOS Type I event, although they surface with nonactive morphology. This is completely unexpected under Alexiadou (2014) because such an event template does not even project a VoiceP to accommodate nonactive morphology in the first place. Consider the data in (13) in addition to (11) and (12).

(13) a. Sonbahar-ın gelişi-yle hava-lar boz-ul-du.
Autumn-3sg.POSS arrival-WITH weather-PL break-NACT-PST.3sg
'The weather broke with the arrival of the autumn.'

b. *Sonbahar-ın gelişi havalar-ı boz-du.

Autumn-GEN arrival weather-ACC break-PST.3sg

'Autumn's arrival broke the weather.'

What is more, drawing back on two morphologically distinct types of verbs that prototypically surface with an EXCOS event structure, I will argue that nonactive morphology is not always morphologically overt whenever a Voice layer is involved in the formation of an EXCOS event. Specifically, in Chapter 3, we noted that EXCOS verbs may come in two forms: The first type includes verbs that are transitive/causative in their base form and hence need to combine with nonactive morphology to form anticausatives. This first type of verbs is correctly predicted by Alexiadou et al. (2006), Alexiadou (2010) and hence also by Alexiadou (2014) since this study builds upon Alexiadou et al. (2006).

However, the second type intransitive CoS verbs are inchoative in their base form. It is therefore surprising that even if they are EXCOS verbs by all the syntactic criteria that are typical for such verbs, they do not bear any morphology at all. Some examples are *çök-* 'collapse', *dol-* 'fill up', *düş-* 'fall', *kop-* 'tear', *patla-* 'explode', *iyileş-* 'recover'.

(14) a. Yağmur baraj-lar-ı dol-dur-du.

Rain water-NOM water.dam-PL.ACC fill.up-CAUS-PST.3sg

'Rain water filled water dams.'

b. Baraj-lar dol-du.

Water.dam-PL-NOM fill.up-CAUS-PST.3sg

'Water dams filled up.'

(15) a. Ali su-yu (şişe-ye) dol-dur-du.

Ali-NOM water-ACC (bottle-DAT) fill-CAUS-PST.3sg

'Ali filled the water (into the bottle).'

b. Şişe dol-du.

Bottle-NOM fill.up-CAUS-PST.3sg

'The bottle filled up.'

The data in (11) through (15) has two consequences for a theory of inchoative-causative alternation: i) Nonactive morphology is not uniformly projected from Voice and ii) Voice does not have to be occupied by nonactive morphology whenever it is involved in the formation of a CoS event.

6.1.4 Conclusion

Up until here, we discussed three aspects of Alexiadou (2014) that cannot account for the empirical findings of this study in the Chapters 3, 4 and 5. The discussions throughout 6.1 reveal that any revision of this non-derivational account needs to take into consideration the following:

1) Membership to any of the four semantic classes of CoS events can be minimally determined at vP level.
2) Nonactive morphology is not uniformly projected from Voice. Voice does not have to be occupied by nonactive morphology whenever it is involved in the formation of a CoS event – even if the CoS event in question is an EXCOS event.
3) ICCOS events form both semantically and syntactically a heterogeneous class in terms of offering the verb the potential to transitivize. The non-transitivizing members of this class need to find a separate representation from those that can be transitivized and exclusively allow natural causers and unintentional human causers.

The next section of this chapter is devoted to accounting for these aspects of the Turkish inchoative-causative alternation within a syntactic model.

6.2 Deriving CoS events compositionally

In the previous sections, we have outlined the requirements that a revised version of Alexiadou (2014) needs to fulfill in order to represent Turkish CoS verbs in the inchoative-causative alternation. In the preceding chapter, we argued against the common view in the literature that the conceptual semantic types of CoS verbs follow from the idiosyncratic part of verbal meaning – called root in Distributed Morphology. Instead, we argued for a compositional derivation of event types based on the encyclopedic properties of the [verb+theme] complex.

Proposing that the derivation of CoS events takes place in a compositional fashion may lead us into thinking that verbs can surface with different syntactic structures in a random fashion. However, despite their potential to exhibit a dual behavior, verbs exhibit certain tendencies as to how frequently they may project a specific syntactic structure. This tendency and how strong it is seems to be determined by the extent to which a verb is used in metaphorical extensions. As already pointed out, modification of causers may also cause a verb to become compatible with a new syntactic structure.

Crucially, it is not the case that a verb such as *break* that has been shown to exhibit dual behavior will surface with an EXCOS structure 50% of the time and with an agentive event structure in the rest of the cases. This explains why a corpus search for prototypical ICCOS verbs such as *filizlen-* 'germinate' or *aç-* 'blossom' primarily yields intransitive examples although it can transitivize when used in a metaphorical extension. This means that it would make sense to assume the existence

of a prototypical syntactic structure as opposed to a non-prototypical one that a verb may project. The uses of the same verb that are less frequent than the default use will be referred to as cases of *type shifting*.

Bearing this picture in mind, let us now turn to the syntactic representation of Turkish CoS verbs in the inchoative-causative alternation. To this end, let us start with the following question: How should we understand the semantic categories of internal or external causation? If these are not properties of verbal roots stored in the encyclopedia as we claimed in Chapter 5, how can we best describe them? I propose that categories such as internal or external causation refer to specific event conceptualizations – each with their own event semantics. Take, for instance, a Type I ICCOS event. The event semantics of Type I ICCOS events – for instance, the fact that they cannot be manipulated or facilitated – leads to a specific set of syntactic properties such as the inability to transitivize or the lack of intentionality that we observed in Chapter 4 during our corpus search. These sets of syntactic properties become grammaticalized in the form of specific syntactic configurations – which in the case of Type I ICCOS events is a Cause P. Crucially, this syntactic configuration that a verb surfaces in ultimately determines whether a specific verb may or may not participate in the inchoative-causative alternation in that given case.

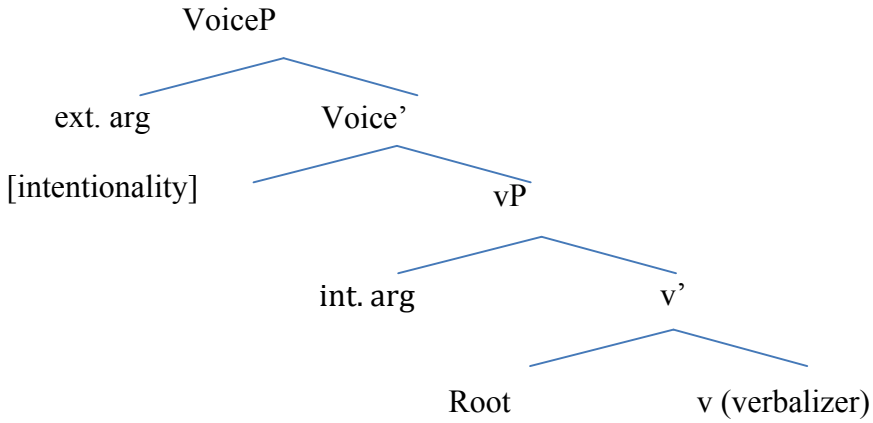
Our investigation has revealed four types of CoS event conceptualizations that are grammaticalized in Turkish. These are Type I ICCOS events, Type II ICCOS events, EXCOS events and Agentive events. Crucially, they differ from one another in two respects: one of them is the functional heads they combine with (CauseP and VoiceP); the second one is the feature content of the available functional heads. Now that we have briefly outlined what we mean by semantic categories as conceptual

semantic event types, let us move on to the next question, which is how we derive a specific CoS event in syntax.

6.2.1 The syntax of CoS events

Following Alexiadou et al. (2006) and Alexiadou (2010), I assume that a CoS event is decomposed into three layers: a Voice layer, a Cause/vP layer and a Root layer.

(16)



Following Alexiadou (2010, 2014), I assume that Voice introduces the external argument. Alternative to her analysis, however, I argue that in Turkish, Voice bears features relating to intentionality (for a similar analysis, see Kalluli 2006) and not agentivity. Different [intentionality] feature specifications of Voice are involved in the formation of Type II ICCOS events, EXCOS events, and agentively caused CoS events. Specifically, in Type II ICCOS events, the Voice head is endowed with a [-intention] feature. In EXCOS events, the Voice head is underspecified as to intentionality. In agentive CoS events, this feature is specified as [+intentional]. A table that provides an overview of the syntactic heads involved in the formation of CoS events in Turkish as well as the feature specifications of these syntactic heads is provided below in Table 6.

Table 6. Voice Specifications of Turkish CoS Verbs.

Event Type	vP	VoiceP	Voice Specification
Type I ICCOS	+	NA	NA
Type II ICCOS	+	+	- intention
EXCOS	+	+	+/- intention
Agentive	+	+	+ intention

Unlike in Alexiadou (2014), the semantic type of CoS events is not determined at the root level. Rather the semantic types of CoS events are derived compositionally by the [verb+theme] complex which may correspond to different encyclopedic semantics, i.e. agentively caused CoS events, Type I ICCOS events, Type II ICCOS events or EXCOS events. Specifically, as soon as the root and the theme argument enter syntax, the semantic type of the specific CoS event is determined by the encyclopedia component of grammar. Depending on the event type, the syntax decides whether or not to merge a Voice projection on top of the Cause projection and what features this Voice head is to be endowed with. As for the morphology for v and Voice heads, the following can be said: Following Alexiadou et al. (2006) and Alexiadou (2010), I assume that denominal or deadjectival suffixes which derive verbs realize the verbalizing head v. Two examples from the inventory of verbs we investigate in this study are as below:

(17) olgun (adj) 'ripe' → olgun-laş 'ripen' (verb)

yaş (noun) 'age' → yaş-lan 'age/grow older' (verb)

As opposed to Alexiadou et al. (2006) and Alexiadou (2010), who argue that nonactive morphology is located in Voice only, nonactive morphology can be located at two distinct levels of syntax such as at Voice, as assumed in Alexiadou (2010), and also at v head. Specifically, I argue that if a nonactive morphology bearing CoS verb surfaces with an event template that makes a Voice head available

(Type II ICCOS events or EXCOS events), the nonactive morphology will be projected from the Voice head.

(18) Vazo rüzgar-dan devr-il-di.
Vase-NOM wind-FROM knock.over-NACT-PST.3sg
'The vase knocked over from the wind.'

Alternative to Alexiadou et al. (2006) and Alexiadou (2010), I also argue that nonactive morphology does not have to be overtly realized in the form of morphology whenever it is syntactically present. Evidence for this claim comes from a number of verbs that are associated with an EXCOS event in their literal meaning and yet do not bear any morphology at all.

(19) Baraj-lar dol-du.
Water.dam-PL-NOM fill.up-CAUS-PST.3sg
'Water dams filled up.'

(20) Tişört-üm çek-ti.
T-shirt-1sg.POSS-NOM shrink-PST.3sg
'My t-shirt shrank.'

What is more, in some cases the same nonactive morphology may also realize the verbalizing v head. This is the case with a number of nonactive morphology bearing verbs that surface with the event template of Type I ICCOS events and hence make no Voice projection available.

(21) a. Ekim ay-ın-da hava-lar boz-ul-du.
October month-3sg.POSS-LOC weather-PL break-NACT-PST.3sg
'In the month of October, weather broke.'
Intended reading: In October, temperatures dropped.

b. *Ekim ay-ı hava-lar-ı boz-du.

October month-3sg.POSS weather-PL-ACC break-PST.3sg

‘*The month of October broke the weather.’

‘Intended reading: *October dropped the temperatures.

(22) a. Sonbahar-da yaprak-lar dök-ül-ür.

Autumn-LOC leaf-PL spill-NACT-AOR

‘In autumn, leaves spill.’

Intended reading: In autumn, leaves fall.

b. *Sonbahar yaprak-lar-ı dök-tü.

Autumn leaf-PL -ACC drop-PST.3sg

‘*Autumn dropped the leaves.’

6.2.2 The syntax of individual CoS event types

As far as the structure of individual CoS events is concerned, we propose that four structures are available, corresponding to Type I ICCOS events, Type II ICCOS events, EXCOS events and agentively caused CoS events. In what follows, let us discuss them in further detail.

6.2.2.1 Type I ICCOS events

Some example constructions that surface with the structure of Type I ICCOS events are as follows:

(23) a. Petunya-lar aç-tı.

Petunia-PL-NOM blossom-PST.3sg

‘Petunias blossomed.’

b. *Güzel hava petunya-lar-ı aç-tır-dı.

Nice weather-NOM petunia-PL-ACC blossom-CAUS-PST.3sg

'*Nice weather blossomed the petunias.'

(24) a. Çocuklar 3 ile 5 yaş arasında uzar (boy atar).

Children-NOM 3 and 5 age between grow.tall-AOR.3sg

'Children grow taller between the ages of 3 to 5.'

b. *Yıl-lar çocuk-lar-ı 3 ile 5 yaş arasında uza-t-ır.

Year-PL-NOM child-PL-ACC 3 and 5 between grow.tall-CAUS-AOR.3sg

'*Years grow children taller between the ages of 3 and 5.'

(25) a. Geçen yıl ek-tiğ-imiz çam fideleri büyü-dü.

Last year plant-SUB-1PL.POSS pine seedlings grow-PST.3sg

'The pine seedlings we planted last year have grown.'

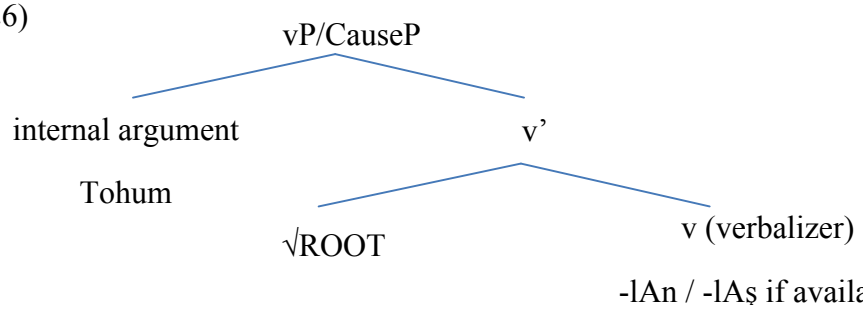
b. *Düzenli sulama geçen yıl ek-tiğ-imiz çam fidelerin-i büyü-t-tü.

Regular watering last year plant-SUB-1PL.POSS pine seedlings grow-CAUS-PST.3sg

'Regular watering grew the pine seedlings we planted last year.'

The structure that the above examples surface with is represented below in (26):

(26)



The structure in (26) is identical to the structure of ICCOS verbs under Alexiadou et al. (2006) and Alexiadou (2010). It differs from the structure of *blossom*-type ICCOS verbs under Alexiadou (2014) in that Cause does not project a transitive Causer since – based on the results of the grammaticality acceptability rating task – we concluded that Type I ICCOS events are only construed intransitively. This is, of course, also

reflected in the fact that the structure in (26) lacks a Voice layer, which in turn reflects the semantic characterization that we posited in Chapter 4: Type I ICCOS events denote CoS events that take place within the natural course of biological entities. Crucially, they are generally conceptualized as non-manipulated by external causers. As exemplified above in (26), the verbalizer in v is realized by denominal or deadjectival suffixes like *–lAn* or *–lAş* that derive CoS verbs amongst others.[42] As illustrated in (21) and (22), the verbalizer v can also be realized by –Il/-In, which are typically known as nonactive nonactive morphology under Alexiadou et al. (2006) and Alexiadou (2010, 2014). We shall come back to this issue in the further sections.

Finally, as for the syntactic representation of causer phrases in Type I ICCOS events, the following can be said: We argued in Chapter 4 that causer phrases *–DAn* and *–(y)lA* are in complementary distribution among ICCOS events. Specifically, Type I ICCOS events are exclusively compatible with *–(y)lA* phrases which introduce indirect causers, while Type II ICCOS events are exclusively compatible with *–DAn* phrases.

(27) a. Bitki-ler *düzenli sulama-dan / düzenli sulama-yla büyü-dü.
Plant-PL-NOM regular watering-FROM / watering-WITH grow-PST.3sg
'Plants have grown *from/with regular watering.'

b. İskelenin demirleri deniz suyundan/*deniz suyuyla paslandı.
The iron parts of the pier sea salt-FROM / *sea salt-WITH corrode-PST.3SG
'The iron parts of the pier corroded from the / *with the sea salt.'

Since Type I ICCOS events surface with CauseP, I conclude that the indirect causer indicating *–(y)lA* is projected from CauseP/vP .

[42] As Nakipoğlu and Üntak (2008) note, the affixes –lAn and –lAş have multiple semantic meaning extensions. As far as this study is concerned, we are only interested in their meaning extension as denoting CoS verbs. For further discussions, please refer to Nakipoğlu and Üntak (2008).

6.2.2.2 Type II ICCOS events

Some example constructions that surface with the structure as follows:

(28) a. Yoğurt dolap-ta ekşi-di.

Yoghurt-NOM fridge-LOC sour-PST.3sg

'Yoghurt turned sour in the fridge.'

b. Ayşe yoğurd-u dolap-ta unut-unca ekşi-t-miş.

Ayşe-NOM yoghurt-ACC fridge-LOC forget-SUB sour-CAUS-EV/PF.

'*Ayşe accidentally spoiled the yoghurt when she forgot it in the fridge.'

c. Sıcak hava dışarıda dur-an yoğurd-u ekşi-t-ebil-ir.

High temperature-NOM outside stand-REL yoghurt-ACC sour-CAUS-PSB-AOR.3sg.

'High temperatures may spoil yoghurt when placed outside.'

(29) a. Petunya-lar sol-du.

Petunia-PL wilt-PST.3sg

'The petunias wilted.'

b. Çocuklar anne babaları tatildeyken çiçekleri sulamayı unutunca petunyaları hep sol-dur-muş.

The kids unintentionally wilted (wilt-CAUS-EV/PF) the petunias when they forgot to water them, while their parents were on vacation.

(30) a. Parke-ler eski-di.

Parquet-PL old-PST.3sg

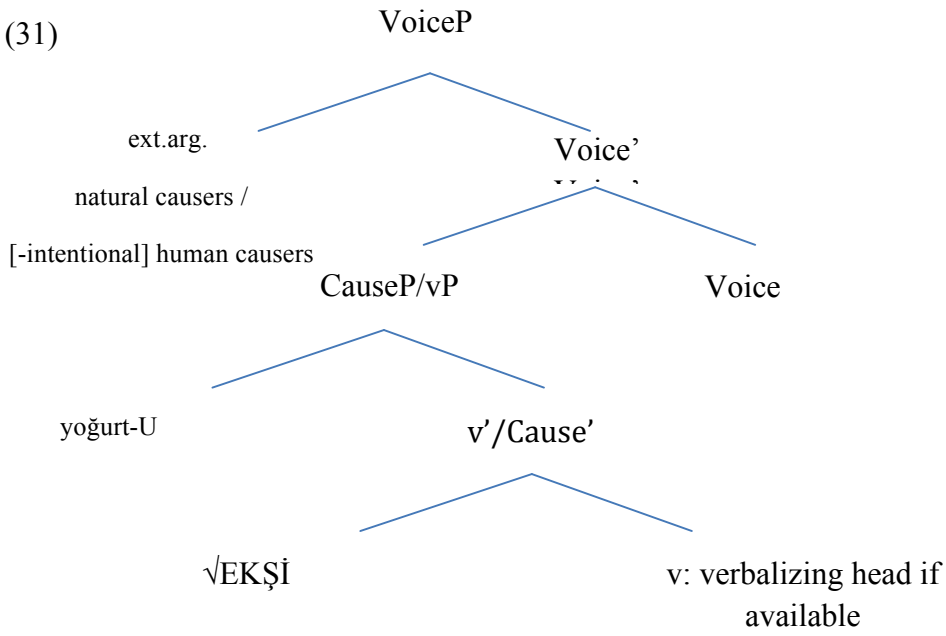
'Parquet wore.off-PST.3sg.'

b. Güzelim parke-yi üst-ün-de ayakkabı-yla gez-e gez-e eski-t-tik.

Beautiful parquet-ACC top-3SG.POSS-LOC shoe-WITH walk-DAT walk-DAT old-CAUS-PST.3SG.

‘We wore the beautiful parquet out by walking around on it constantly with shoes on.’

(31)



The structure in (31) is similar to the representation of *ferment*-type ICCOS verbs under Alexiadou (2014). In contrast to (27), this structure makes a Voice layer and hence transitivization available. One piece of evidence that supports the existence of a Voice head in the structure of Type II ICCOS events is that when verbs surface with this structure, they can be passivized. Please note that this is not possible with verbs that surface with the structure of a Type I ICCOS event.

(32) Yoğurt peynir yap-mak için ekşi-t-il-ir.
Yoghurt-NOM cheese make-NMLZ for sour-CAUS-NACT-AOR.3sg
‘Yoghurt is soured in order to make cheese.’

(33) *Mango reçel yap-mak için olgunlaş-tır-ıl-ır.
Mango-NOM jam make-NMLZ for ripen-CAUS-NACT-AOR.3sg
‘*Mango is ripened in order to make jam.’

Another implication of Voice projection is that Voice assigns accusative case to the theme argument merged in Spec, CauseP/vP.

(34) a. Fesleğen sıcak-tan sol-du.

Basil-NOM heat-FROM wilt-PST.3sg

'Basil wilted from the heat.'

b. Sıcak hava saksı-da-ki fesleğen-i sol-dur-du.

High temperature-NOM pot-LOC-INFL basil-ACC wilt-CAUS-PST.3sg

'High temperatures wilted the basil in the pot.'

The proposed structure in (31) differs from Alexiadou's *ferment*-type verbs in the sense that the external argument theta role is restricted to natural causers and in some cases unintentional human causers. The ability to transitivize on the one hand and the restriction to license unintentional causers only on the other hand reflect the event semantics that we associated with this structure, which is that the type of an event refers to CoS events that take place within the natural life course of a biological entity which can be facilitated/manipulated.

With respect to the syntactic projection of causer PPs in a structure like (31), it follows from the discussion in the preceding section that Type II ICCOS events that surface with a Voice P introduce the direct causer through *–DAn* causer phrase.

6.2.2.3 EXCOS events

Some examples that illustrate EXCOS events as well as their proposed syntactic structure are as follows:

(35) Ali / aşırı basınç / büyük cam parçası lastiğ-i patla-t-tı.

Ali / excessive pressure / a large piece of glass tire-ACC blow.out-CAUS-PST.3sg

'Ali / excessive pressure / a large piece of glass blew out the tire.'

(36) Doktor / ilaçlar hasta-yı iyileş-tir-di.

Doctor / medical treatment patient-ACC heal-CAUS-PST.3sg

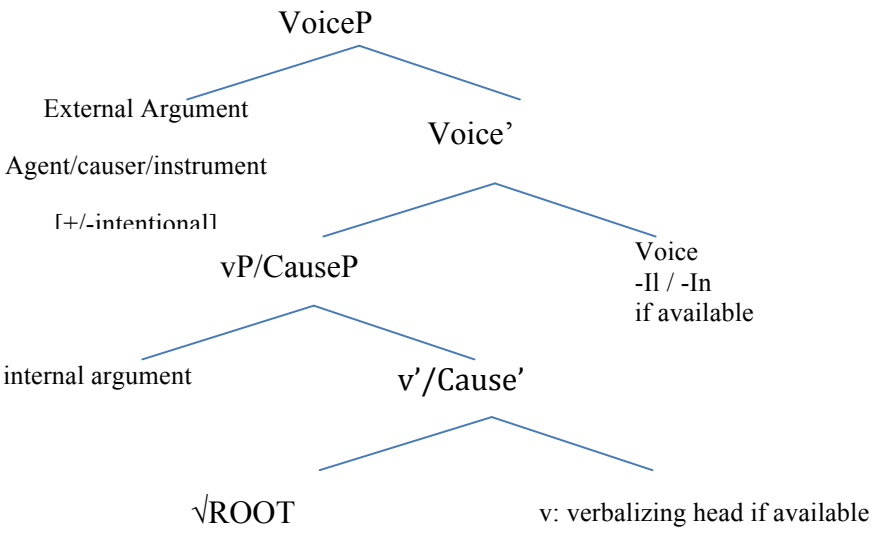
'Doctor / medical treatment healed the patient.'

(37) Araplar / ekonomik kriz emlak fiyat-lar-ın-ı art-tır-dı.

Arabs / economical crisis real estate price-PL-3PL.POSS-ACC increase-CAUS-PST.3sg

'Arabs / the economic crisis increased the real estate prices.'

(38)



The structure in (38) differs from the first two structures in such a way that when verbs surface with this structure, they license all kinds of subject theta roles including intentional human causers (agents) or unintentional human causers, natural causers or instrument causers. The crucial difference between the proposed structure of EXCOS verbs under Alexiadou (2014) and the proposed structure of EXCOS events lies in the nature of nonactive morphology. In Chapter 3, we drew attention to the fact that Turkish verbs, which receive an EXCOS interpretation under Alexiadou et al. (2006) and Alexiadou (2010), can surface either with nonactive morphology or in bare form. As noted before, this is in conflict with Alexiadou's (2014) proposal

that EXCOS verbs necessarily surface with nonactive morphology. Hence, under this analysis, intransitive externally caused verbs such as *çök-* 'collapse'*, don-* 'freeze'*, eri-* 'melt'*, sön-* 'deflate'*, yüksel-* 'rise' are not accounted for. These verbs lead me to the conclusion that Voice does not have to be occupied by nonactive morphology when this head is involved in the formation of EXCOS events. Crucially, what seems to make the availability of a Voice projection necessary are transitivization and accusative case-checking.

6.2.2.4 Agentively caused events

Some examples for CoS verbs that prototypically surface with the syntactic template of an agentive event are as follows:

(39) a. Ayşe kahve-yi öğüt-tü.
Ayşe-NOM coffee-ACC grind-PST.3sg
'Ayşe ground the coffee.'

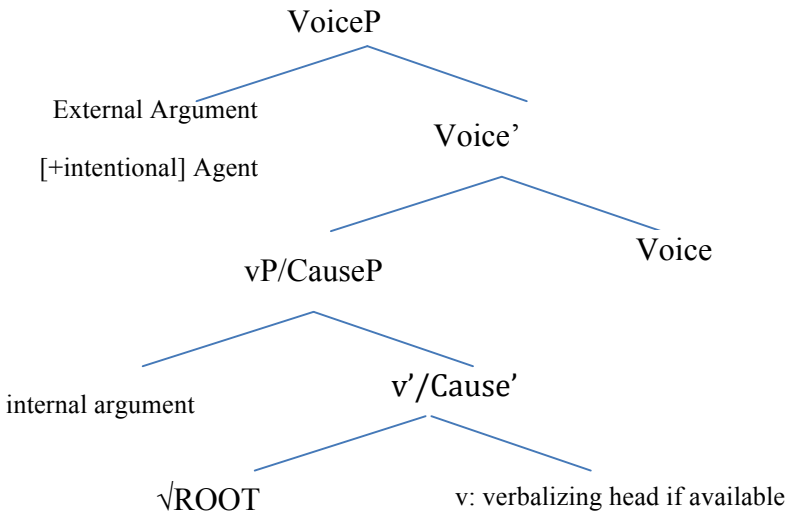
b. *Kahve (kendi kendine) öğüt-ül-dü.
Coffee (by itself) grind-NACT-PST.3sg
'*Coffee ground by itself.'

(40) a. Ayşe çamaşır-ı katla-dı.
Ayşe-NOM laundry-ACC fold-PST.3sg
'Ayşe folded the laundry.'

b. *Çamaşır (kendi kendine) katla-n-dı.
Laundry (by itself) fold-NACT-PST.3sg
'*Laundry folded by itself.'

Below in (41) is the syntactic structure agentive CoS events surface with.

(41)



As already discussed in Chapter 3, the event semantics of an agentively caused CoS event necessarily requires the involvement of an intentional agent. Therefore, we do not expect verbs that surface with the structure in (41) to have intransitive variants. It follows from this definition that the theta role of the agent external argument can only be [+intentional].

So far, we have presented an overview of the four types of CoS events that Turkish syntax seems to differentiate. Yet, we know from Chapter 5 that CoS verbs that are associated with a default event structure can undergo a type shift and become compatible with one of the other three event structures. The aim of the next section is to illustrate these type shifting events with some examples.

6.2.3 The syntax of type shifting in CoS events

In what follows, I will discuss in more detail the derivation of CoS events when the representation of the new event deviates from the default structure that a CoS verb surfaces with. To this end, I will look at three cases that exemplify cases of type shifting from ICCOS to an EXCOS event, from an EXCOS event to an Agentive event respectively.

We argued in Chapter 5 that in the example in (42), the [verb+theme] complex expresses an ICCOS Type I event. Therefore, we proposed that the syntactic representation of this event should be as in (43) repeated below.

(42) a. Domates tohum-lar-ı filizlen-di.

Tomato seed-PL-POSS germinate-PST.3S

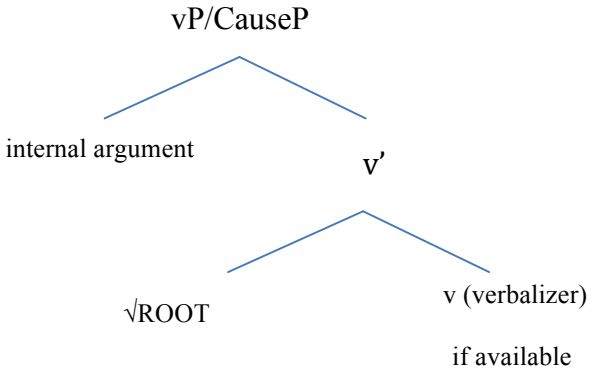
'Tomato seeds germinated.'

b. *Ayşe tohum-lar-ı (kasten) filizlendir-di.

Ayşe seed-PL-POSS (knowingly) germinate-PST.3SG

'*Ayşe knowingly germinated the seeds.'

(43)



Conversely, based on evidence from subject theta role licensing behavior of the verb as well as intentionality as an available feature of the external argument, we argued that in (43), the metaphorical meaning extension of the verb as expressed by the new [verb+theme] complex is more accurately described as an EXCOS event.

(44) a. Genç siyasetçi/ Genç siyasetçinin konuşması /

Siyasette esen değişim rüzgarları gençlerin kalbindeki umutları yeniden filizlendirdi.

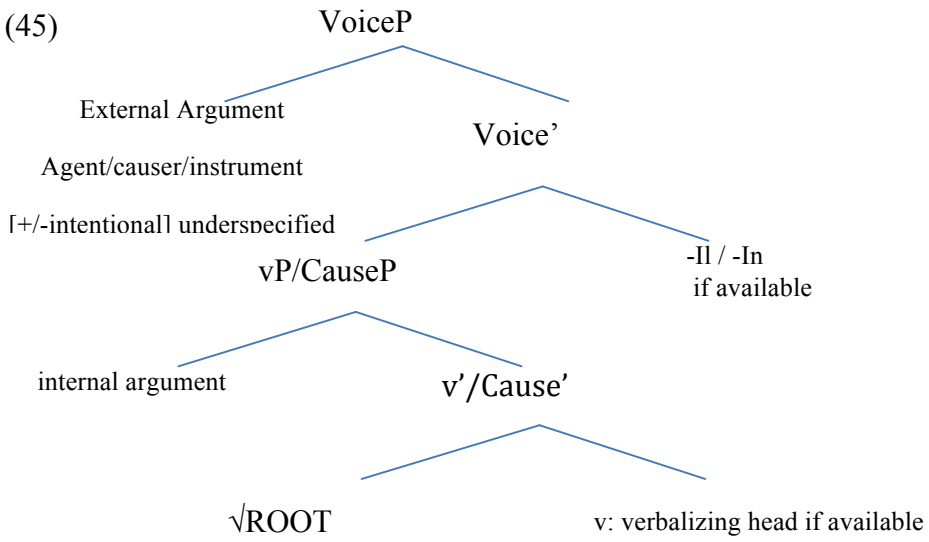
'The young politician / The talk by the young politician / The winds of change in politics germinated (germinate-CAUS-PST.3sg) the hopes in the hearts of the young people.'

b. Genç siyasetçi gençlerin özgürlükçü ülke umudunu bilinçli olarak

filizlendiriyor. (Siyasetçinin asıl amacı iktidara gelmek.)

'The young politician knowingly germinates the hopes of young people for an emancipatory country. (His real aim is to come to power.)'

(45)



I argue that what causes the same verb to appear in two different structures depending on the theme argument is the encyclopedic semantics each complex corresponds to. Specifically, the complex [filizlen- + tohum] corresponds to an ICCOS event that disallows manipulation from external causers. Therefore, the CauseP structure without the Voice layer will suffice to yield the statement grammatical. With the complex [filizlen- + umutlar], things are different. As discussed in detail in Chapter 5, an event of building up hopes does allow facilitation from a wide range of external sources such as natural causers, instrument causers, or agentive forces as in (44). Therefore, I conclude that the event semantics of the [theme+verb] complex in question corresponds to that of an EXCOS event. As a consequence, the Voice layer will have to form a part of the correct syntactic representation of the event. Moreover, the external argument position will have to be specified as [+/- intentional] as to allow both intentional and unintentional causers in

addition to natural causers and instrument causers. The same principle also accounts for the dual behavior of the verb *don-* 'freeze'.

(46) a. Su don-du.
Water-NOM freeze-PST.3sg
'Water froze.'

b. Ayşe su-yu don-dur-du.
Ayşe-NOM water-ACC freeze-CAUS-PST.3sg
'Ayşe froze the water.'

c. *Ayşe-nin okul kayd-ı don-du.
Ayşe-GEN school enrollment-ACC freeze-PST.3sg
'*Ayşe's studied suspended.'

d. Ayşe okul kayd-ın-ı don-dur-du.
Ayşe-NOM school enrollment-POSS-ACC freeze-CAUS-PST.3sg
'Ayşe paused her studies.'

An event of water freezing is usually conceptualized as externally caused.[43] Hence, once the verb and its theme enter syntax, the further layer of Voice is built upon the CauseP layer in order to correctly represent the structure.

However, a temporary suspension of one's studies as expressed by the complex [don- + kayıt] as in (46) d necessarily requires the intentional action of an agentive force (for instance, by filling out forms etc.). It is therefore true that the syntactic representation of it at VoiceP level is yet ungrammatical. In order to

[43] I am aware of the fact that the freezing of water can also come about as an ICCOS event as in a utterance, "The winter of 1979 was so cold that the waters of Bosphorus froze". What this indicates may be that the encyclopdia component of grammar has to have access to discourse. Otherwise, syntax would have no other resources to differentiate between the two event templates that [su+don] is compatible with. This being said, this does not go beyond a speculation at this stage of the research, which is why I am not discussing it any further.

recuperate the statement, a Voice layer becomes necessary in which the Spec position is endowed with the feature [+intention].

In this section, we discussed how we construe the shift in event types as conditioned by the encyclopedic semantics of the [verb+theme] complex in question. In what follows, I aim to discuss further cases of type shifting. What is special about them is that in addition to exemplifying type shifting between CoS events, they also illustrate the non-unified nature of the locus of nonactive morphology in Turkish, which is one of the main aims of the thesis at hand.

6.2.4 The locus of voice in Turkish

In Chapter 5, I drew attention to the observation that in many cases where verbs become compatible with a non-prototypical syntactic template due to metaphorization, it is the morphologically derived version of the verb that becomes restricted in its potential to participate in the alternation.

(47) a. Ayşe vazo-yu kır-dı.
Ayşe-NOM vase-ACC break-PST.3sg
'Ayşe broke the vase.'

b. Vazo kır-ıl-dı.
Vase-NOM break-NACT-PST.3sg
'The vase broke.'

c. Dalış sporcusu dünya rekor-un-u kır-dı.
The diver world record-POSS-ACC break-PST.3sg
'The diver broke the world record.'

d.*Dünya rekoru (kendi kendine) kır-ıl-dı.
The world record-NOM (by itself) break-NACT-PST.3sg

'*The world record broke (by itself).

However, I also drew attention to the observation that interestingly, it can go the other way around as well: In some cases, when a verb becomes compatible with a non-prototypical syntactic template, the morphologically derived version of the verb may remain grammatical while the morphologically basic version becomes ungrammatical.

(48) a. Ayşe / yanlış kullanım makine-yi boz-du.
Ayşe-NOM / misuse –NOM machine-ACC break-PST.3sg
'Ayşe/misuse broke the machine.'

b. Makine boz-ul-du.
Machine-NOM break-NACT-PST.3sg
'The machine broke.'

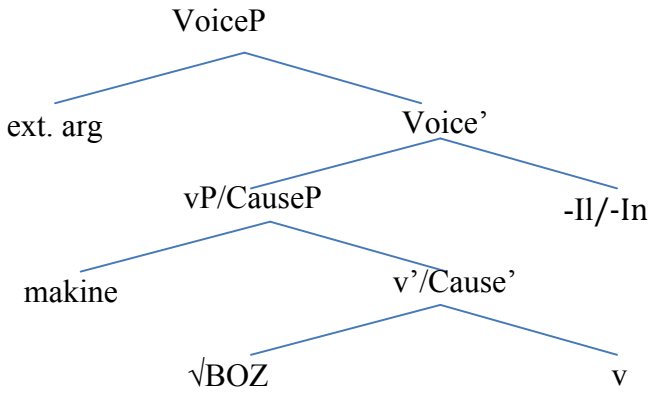
c. *Ekim ay-ı hava-lar-ı boz-du.
October month-POSS weather-PL-ACC break-PST.3sg
'*The month of October broke (worsened) the weather.'

d. Hava-lar boz-ul-du.
Weather-PL break-NACT-PST.3sg
'The weather broke (worsened).'

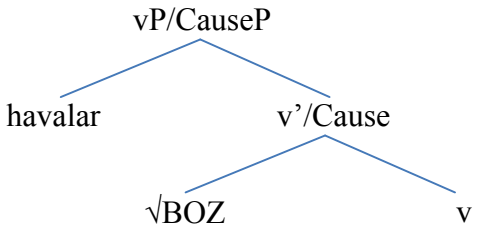
When we take a close look at cases such as (48), it becomes clear that such cases have interesting implications in terms of the locus of nonactive morphology. Specifically, the verb *boz-* 'break' is a lexical causative CoS verb. The usage in (48) a and (48) b where it co-occurs with the theme argument *makine* 'machine' expresses the literal meaning of the verb. Therefore, we can assume that it is prototypically associated with the event structure and syntax of an EXCOS event. However, when the same verb combines with the theme argument *havalar*, meaning 'weather', the

resulting [verb+theme] complex to express the worsening of weather conditions as in (48) c and (48) d becomes compatible with the event structure and syntax of a Type I ICCOS event, as the ungrammaticality in (48) d expresses. Since we know from earlier discussions that Type I ICCOS events project a CauseP while they lack a VoiceP, this means we have ended up with a verb that carries nonactive morphology and yet projects no Voice layer to accommodate it.[44] This is illustrated in the structures in (49) and (50). The structure in (49) represents the syntax of (48) b while (50) represents the problem with (48) d.

(49)



(50)



As we discussed earlier, Alexiadou et al. (2006) as well as Alexiadou (2010, 2014) argue that nonactive Voice is always projected from Voice. The case represented in (48), however, is a clear case against this claim.

[44] I would like to thank Balkız Öztürk Başaran for the observation that proposing to locate the nonactive morphology in (48) d under little v implies that we treat the root *boz-* on par with roots such as *ekşi-* 'turn sour' or *acı-* 'go bitter', that is, we argue it is also totally category neutral unlike what has been claimed in the literature for Turkish (cf. Uygun 2009). A detailed theory-internal discussion of this claim requires further research, which is why we will not discuss this issue any further at this stage. For a detailed discussion on the properties of Turkish roots, please see Uygun (2009).

We can observe a similar case with the verb *boz-* 'break'.

(51) a. Ayşe makine-yi kasten /kazayla boz-du.

Ayşe-NOM machine-ACC (un)intentionally break-PST.3sg

Ayşe broke the machine (un)intentionally.

b. Yanlış kullanım makine-yi sonunda boz-du.

Misuse-NOM machine-ACC finally break-PST.3SG

'Misuse finally broke the machine.

c. Makine bozuldu.

Machine-NOM break-NACT-PST.3sg

'The machine broke.'

d. *Ayşe / sonbahar hava-lar-ı boz-du.

Ayşe / autumn weather-PL-ACC break-PST.3sg

'*Ayşe / autumn broke (worsened) the weather.'

e. Havalar bozuldu.

Weather-PL break-NACT-PST.3sg

'The weather broke (worsened).'

The verbal root *boz-* is also a lexical causative verb, which we prototypically associate with the event semantics of an EXCOS event. The ability to transitivize, as in (51) a and (51) b, the licensing of both intentional or unintentional human causers, as in (51) a, as well as the licensing of natural causers, as in (51) b, is a reflection of it. However, when the same verb combines with the theme argument *havalar* 'weather', the resulting [verb+theme] complex expresses the event of weather conditions worsening. Based on how we characterized ICCOS events, I assume that a CoS event that signifies weather conditions worsening can be best characterized as an ICCOS Type I event. The inability to transitivize, as shown in the example (51) d,

is a reflection of this. Similar to (48) d, we end up with a verb that carries nonactive morphology and yet projects no VoiceP to accommodate it. The question is, then, where to locate nonactive morphology in cases such as (48) d or (51) d, if not in Voice? Given that the only functional projection we could locate it under is CauseP, as illustrated above in (49), we seem to have only two options: One of them is to argue that the morphology has become a fixed part of the root, while the other one is to propose that it is projected from the verbalizing head v. The first option seems to be rather improbable because the verbal roots in question do alternate in other contexts as long as the syntactic structure they surface with is not that of an agentively caused event. As you will recall from the example in (48) b, roots such as *boz-* 'break' are prototypically used in transitive constructions since it is a lexical causative form.[45] This means that even if such cases fail to project their nonactive morphology from VoiceP, the morpheme boundaries seem to be rather clear. This speaks against the idea of the nonactive morphology merging syntax as part of the root, which reconfirms that the only possible position for the nonactive morphology is the eventive v head.

6.2.5 Conclusion

In this Chapter, we first outlined the shortcomings of Alexiadou (2014) with respect to the findings throughout the Chapters 3, 4 and 5 which are related to the

[45] Please note that other examples like *kes-* 'cut' or *serp-* 'scatter' do not detransitivize. But crucially, this is not because they discredit our claim but because they are primarily associated with the structure of an agentively caused CoS event. The behavior of the verbal root *kes-* 'cut' is exemplified in (39) while the behavior of the root serp- 'scatter' can be observed below in (1).

(1) a. Ayşe, gül yaprak-lar-ın-ı masa-ya serp-ti.
Ayşe-NOM rose leave-3PL-POSS-ACC table-DAT scatter-PST.3SG
'Ayşe scattered the rose leaves on the table.'

b. *Gül yaprak-ları masa-ya (kendi kendine) serp-il-di.
Rose leave-3PL.POSS table-DAT (by themselves) scatter-NACT-PST.3SG
'*Rose leaves scattered on the table by themselves.'

Please note that I treat the root *serp-* as being associated with the structure of an agentively caused event. However, some native speakers may associate it with an EXCOS event in which case (1) b becomes grammatical.

representation of ICCOS events, the compositionality of CoS event types and the locus of nonactive morphology. We then moved on to the syntactic representation of CoS events as compositionally derived events. We first established that even though verbs can be compatible with multiple event semantics (and hence syntactic structures) depending on the theme argument they co-occur with, from the point of view of frequency, it makes sense to assume prototypical vs. non-prototypical syntactic structures each verb occurs with. We proposed the syntactic structures associated with each of the CoS event types including Type I ICCOS events, Type II ICCOS events, EXCOS events and agentively caused events. We proposed that the distinction between those event types is expressed in terms of (i) the functional heads they combine with and (ii) the feature make-up of the Spec Voice position, since the Voice head is involved in the formation of both Type II ICCOS events and EXCOS events. Additionally, I illustrated how type shifting between different CoS event types comes about. Lastly, we discussed the locus of nonactive morphology. We brought evidence against two ideas under Alexiadou (2014): One of them is that the existence of nonactive morphology necessarily leads to overt morphology and the other one is that nonactive morphology used in the formation of intransitive CoS verbs is always projected from the Voice head.

CHAPTER 7

CONCLUSION

In this study, we explored the principles that govern the behavior of Turkish CoS verbs in the inchoative-causative alternation. In the face of a non-unified morphological derivation of causative and anticausative forms in this language, we decided to represent the alternation phenomena based on a non-derivational account by Alexiadou (2014).

In Chapter 2, we discussed a wide range of accounts that provide a model of the inchoative-causative alternation. In Chapter 3, following many authors such as Fillmore (1970), Dowty (1979) or Levin (1993), we used the semantics of CoS verbs as a window into the nature of their syntactic behavior. To that end, we adopted the four-way semantic classification of CoS verbs under Alexiadou et al. (2006) and tested whether each subtype shows a distinct syntactic behavior in Turkish. Based on evidence from morphosyntax and semantics, we concluded that the subclass of unspecified causation is not particularly interesting for Turkish. In the same chapter, we explored the EXCOS verbs, arguing that the following three types of syntactic behavior characterize them: 1. the regular ability to alternate between intransitive and transitive usage, 2. the ability to license all kinds of external argument theta roles in transitive constructions and 3. the underspecification of external arguments in terms of intentionality.

Chapter 4 was devoted to understanding the semantics and syntax of the heterogeneous class of ICCOS verbs. We first drew attention to the existing problem with respect to the characterization of this semantic verb class under Levin and Rappaport Hovav (1995) and much subsequent work. Following McCoon and MacFarland (2000), we pursued the strategy of first exploring the transitivization

patterns of verbs that receive an ICCOS interpretation. To that end, we first carried out a corpus search and a small-scale grammaticality acceptability rating task. Based on their results, we argued for a two-way split among ICCOS verbs, which was characterized by the varying ability of verbs to find a transitive counterpart. We then revised the definition of internal causation under Levin and Rappaport Hovav (1995) by characterizing the common semantic traits that apply across either of the subgroups, which is the ability to allow manipulation. Following the principle that semantic meaning determines syntactic behavior (Wright 2001), we further argued that the ability to allow manipulation correlates with a given verb's ability to transitivize.

In Chapter 5, we tested the findings we had derived thus far against a new set of data that exhibits a dual and hence unpredicted behavior. The investigation of this dual behavior led us to the conclusion that unlike what Alexiadou et al. (2006) or Alexiadou (2010, 2014) assume, the semantic categories such as internal, external or agentive causation do not refer to the semantics of verbal roots. Rather, such semantic categories correspond to the semantics of [verb+theme] complexes. Based on evidence from metaphorization and causer modification, we substantiated our claim that semantic categories can only be represented at a phrasal level in syntax.

Finally in Chapter 6, we proposed a configurational model of the inchoative-causative alternation in Turkish. Specifically, we proposed that what determines a verb's potential to participate in the alternation minimally depends on the theme argument it selects and the syntactic structure that follows from the encyclopedic semantics of that specific [verb+theme] complex. Bearing in mind the empirical observation that verbs exhibit certain tendencies as to how frequently they may project a specific syntactic structure independently of potential to exhibit a dual

behavior, we proposed four types of prototypical syntactic structures for CoS verbs, which are Type I and Type II ICCOS events, EXCOS events and Agentively Caused CoS events. We further argued that what differentiated them from one another is expressed in i) whether they project with a Voice head and ii) the feature specifications that the given Voice heads make available. The idea here is that when the encyclopedic semantics of the [verb+theme] complex involve the literal meaning of a verb, the given verb will surface with the prototypical CoS event structure it is associated with. However, when the [verb+theme] complex denotes the metaphorical meaning of a verb, the given verb may surface with one of the other three syntactic structures, depending on the encyclopedic semantics of the [verb+theme] complex. Finally, drawing back on evidence from type shifting phenomena, we illustrated that unlike what Alexiadou (2014) assumes, nonactive morphology is not uniformly projected in Voice but it can also be located under the eventive v head.

The implications of this study for syntax have been extensively discussed. However, it also seems to have implications in terms of the mental processing of verbs in the human mind. In terms of the mental processing of verbs, the two-way split among ICCOS events and especially type shifting phenomena seem to indicate that the mental processing differences among ICCOS and EXCOS verbs may not turn out to be as clear cut as argued by McCoon and MacFarland (2000). Such a psycholinguistic study that takes into account the occurrence probability of a verb in a given prototypical vs. non-prototypical syntactic environment would most certainly help put the findings of this and many other studies in perspective by assessing the psychological reality of their findings.

Finally, I would like to draw attention to a very recent analysis by Alexiadou, Anagnostopoulou and Schäfer (2015) that largely revises Alexiadou et al. (2006) as

well as Alexiadou (2010, 2014). In this work, the authors recognize the compositional nature of the encyclopedic semantics of CoS events. Specifically, they adopt the expletive Voice analysis of Schäfer (2008). Under Schäfer (2008) and Alexiadou et al. (2015), expletive Voice refers to the nonactive morphology found with certain verbs, although the verbs in question denote unspecified or internally caused events. In other words, the authors argue for a nonactive morphology that is only syntactically there, although it is semantically inactive. Due to space considerations, we will not be able discuss their findings thoroughly. However, I would like to briefly note why parts of this study are still in conflict with this recently revised theory. First, as we discussed in Chapter 3, some Turkish verbs bear no nonactive morphology in intransitive contexts, although they prototypically surface with the syntactic structure of an EXCOS event.

(1) a. Su don-du.
Water-NOM freeze-PST.3SG
'Water froze.'

b. Dışarıdaki soğuk /Ali su-yu don-dur-du.
Outside cold-NOM / Ali-NOM water-ACC freeze-CAUS-PST.3SG
'The cold outside / Ali froze the water.'

The fact that this verb behaves like an EXCOS event and yet carries no detransitivizing morphology indicates that a Voice layer is both semantically and syntactically there, but the Voice head does not project any morphology, which is the opposite of what Expletive Voice predicts.

The second evidence is provided by lexical causative verbs that can surface with the structure of a Type I ICCOS event and hence bear nonactive morphology,

although syntactically they do not project a VoiceP to locate this morphology under in the first place.

(2) a. Genç kız büyü-yüp serp-il-di.
Young girl grow-CONJ scatter-NACT-PST.3SG
'Young girl has grown into a beautiful woman.'

b. *Yıllar genç kız-ı büyü-t-üp serp-il-t-ti.
Years young girl-ACC grow-CAUS-CONJ scatter-NACT-CAUS-PST.3SG
'Years have grown the young girl into a beautiful woman.'

What is crucial here is that a Voice layer is neither semantically nor syntactically available. In fact, the only motivation to assume a Voice layer in this example would be to accommodate the morphology, which, in turn, would be an ad hoc solution. Evidence from both areas suggests that an expletive account analysis would not be without its problems either. Needless to say, only a thorough investigation can show what this data may reveal about the expletive Voice account. We leave this question to further research.

APPENDIX A

COMPLETE LIST OF COS VERBS INVESTIGATED IN THIS THESIS BASED ON PROTOTYPICAL COS EVENT TYPE / LITERAL MEANING

Type I ICCOS Verbs

aç- (intr)	blossom
büyü- (intr.)	grow
filizlen- (intr.)	germinate
fosilleş- (intr.)	fossilize
öl- (intr.)	die
olgunlaş- (intr.)	ripen
uza- (intr.)	grow tall
yaşlan- (intr.)	age

Type II ICCOS Verbs

çürü- (intr.)	rot
ekşi- (intr.)	(turn) sour/spoil
paslan- (intr.)	corrode
sol- (intr.)	wilt
yıpran- (intr.)	wear away

EXCOS Verbs

böl- (tr.)	divide
çatla- (intr.)	crack
çök- (intr.)	collapse
devir- (tr.)	knock down
dol- (intr.)	fill up

don- (intr.)	freeze
dök- (tr.)	spill
düş- (intr.)	fall down
eri- (intr.)	melt
eski- (intr.)	wear away
geliş- (intr.)	develop
ger- (tr.)	stretch
iyileş- (intr.)	recover
kapa- (tr.)	close
kır- (tr.)	break
kop- (intr.)	rip (apart)
oy- (tr.)	carve
parçala- (tr.)	tear into pieces
patla- (intr.)	explode
sars- (tr.)	shake
serp- (tr.)	scatter
sön- (intr.)	deflate
yırt- (tr.)	tear (apart)
yüksel- (intr.)	rise

Agentive CoS Verbs

katla- (tr.)	fold
kes- (tr.)	cut
öğüt- (tr.)	grind

APPENDIX B

SAMPLE OF TEST ITEMS IN THE GRAMMATICALITY ACCEPTABILITY RATING TASK

Merhaba,

Aşağıda çeşitli cümleler okuyacaksınız. Gündelik yaşamda kullandığımız Türkçe'de bu cümlelerden hangilerinin kabul edilebilir olduğunu tespit etmeye çalışıyorum, sizden ricam bana bu konuda yardım etmeniz. Lütfen her cümlenin kabul edilebilirliğini 1 ile 5 arasında değişen bir skalada değerlendirin. Bir cümleyi 1 ile değerlendirmeniz, cümleyi Türkçe'de KABUL EDİLEMEZ bulduğunuzu ifade eder. Bir cümleyi 5 ile değerlendirmeniz, o cümleyi TAMAMEN DOĞAL VE KABUL EDİLEBİLİR bir Türkçe cümle olarak gördüğünüzü ifade eder. Bu notların arasında kalan herhangi bir değerlendirme (2, 3 ya da 4), cümlenin kabul edilebilirliğini ara bir düzeyde bulduğunuzu gösterir. Bu cümlelerin doğru ya da yanlış bir cevabı yok. Sonuçların kişiye göre belli bir ölçüde değişebileceğini biliyorum ve bekliyorum. Bu nedenle lütfen karar verirken sadece anadil sezgilerinize güvenin, bu gayet yeterli. Değerli desteğiniz için şimdiden teşekkür ederim!

Test Sentences	Acceptability rating broken down by participants											Avr.
	A	B	C	D	E	F	G	H	I	J	K	
Çiftçi fasülye tohumunu filizlendirdi.	5	3	2	5	4	2	5	1	5	4	4	3.64
Çiçekler çürüdü.	1	5	5	5	4	5	5	5	5	5	1	4.18
Selin erkek kardeşini ağlattı.	5	5	5	5	5	5	5	5	5	5	5	5.00
Parkeler kabardı.	5	5	5	5	5	5	5	5	5	5	5	5.00
Gardenyalar açtı.	5	5	5	1	5	5	5	5	5	5	5	4.64
Yük ipi kopardı.	5	5	5	5	2	2	2	5	4	4	1	3.64
Bahçevan fidanları büyüttü.	3	4	5	4	3	2	3	4	5	2	3	3.45
Cam kırıldı.	5	5	5	5	5	5	5	5	5	5	5	5.00
Genç baba bebeğini parkta gezdirdi.	5	5	5	5	4	5	5	3	5	5	5	4.73
Kemikler fosilleşti.	5	5	3	5	5	5	5	2	5	4	5	4.45
Noel baba çocukları sevindirdi.	5	5	5	5	5	5	5	5	5	5	5	5.00
Rüzgar seçim afişini parçaladı.	4	5	5	5	4	5	5	5	5	4	5	4.73
Seçmen seçim afişini parçaladı.	4	5	5	5	4	5	5	3	5	5	5	4.64
Bahar gardenyaları açtırdı.	4	2	2	3	1	2	1	3	2	2	4	2.36
Bahçevan çiçekleri çürüttü.	3	5	2	4	2	2	4	5	5	3	3	3.45
Sevgi Anıl'ı atlı karıncaya bindirdi.	5	5	5	5	5	5	5	5	5	5	5	5.00
Toprak fasülye tohumunu filizlendirdi.	3	3	2	2	2	5	4	1	3	2	3	2.73
Selim'in dişleri sarardı.	5	5	5	5	5	5	5	5	5	4	5	4.91
Gönül mektubu Kerim'e gönderdi.	5	5	5	5	5	5	5	5	5	5	5	5.00
Fidanlar büyüdü.	5	5	5	5	5	5	5	5	5	5	5	5.00
Satışçı müşteriyi kandırdı.	4	5	2	5	2	2	5	4	5	5	5	4.00
Su boruyu patlattı.	1	4	5	5	3	4	1	2	4	4	5	3.45
Sürücü kazayı bildirdi.	4	5	5	5	5	5	5	5	5	5	5	4.91
Zeliha gardenyaları açtırdı.	1	3	1	2	2	2	2	4	2	1	2	2.00
Rutubet demiri paslandırır.	3	5	5	5	5	5	5	5	5	2	5	4.55
İşçiler boruyu patlattı.	5	5	5	5	5	5	4	5	5	5	5	4.91
Balkon demiri paslandı.	5	5	5	5	5	5	5	5	5	4	5	4.91
Gönüllüler tüketicileri bilgilendirdi.	5	5	5	5	5	5	5	5	5	5	5	5.00
Yüzyıllar kemikleri fosilleştirdi.	5	5	5	3	2	2	4	2	5	2	5	3.64
Seyisler iyileşen atı koşturdu.	3	5	5	3	5	5	1	5	5	4	5	4.18
Yağmur fidanları büyüttü.	4	4	5	3	5	5	4	4	3	4	4	4.09
Ayşe camı kırdı.	5	5	5	5	5	5	4	5	5	5	5	4.91
Fasülye tohumu filizlendi.	4	5	5	5	5	5	5	5	5	5	5	4.91
Arkeolog kemikleri fosilleştirdi.	4	2	5	5	2	2	3	1	5	4	5	3.45
Hatice yıllar boyunca meditasyon öğretmiş.	4	5	5	5	3	2	5	5	4	3	5	4.18
Boru patladı.	5	5	5	5	5	5	5	5	5	5	5	5.00
Mehmet ipi kopardı.	5	5	5	5	5	5	5	5	5	5	5	5.00
Ahmet balkon demirlerini paslandırdı.	4	2	5	5	2	2	3	2	2	2	3	2.91
Polis, aracı durdurdu.	5	5	5	5	5	5	5	5	5	5	5	5.00
Seçim afişi parçalandı.	5	5	5	5	5	5	5	5	5	5	5	5.00
Uğur gömleklerini ütüledi.	5	5	5	5	5	5	5	5	5	5	5	5.00
İp koptu.	5	5	5	5	5	5	5	5	5	5	5	5.00
Fırtına camı kırdı.	2	5	5	4	5	5	5	5	4	4	5	4.45
Annem parkeleri kabarttı.	4	2	4	3	2	2	2	3	3	1	1	2.45
Toprak çiçeği çürütür.	3	2	5	5	2	2	1	1	4	4	4	3.00
Sigara Selim'in dişlerini sararttı.	4	5	5	5	4	4	5	5	5	5	5	4.73
Nem parkeleri kabarttı.	4	5	5	4	5	2	5	5	5	5	5	4.55
Selim dişlerini sararttı.	5	2	5	4	2	2	2	3	2	3	5	3.18

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